Consumer
Challenge
Panel

CCP23

Advice to the AER on the Powerlink Transmission Regulatory Proposal for the Regulatory Determination 1 July 2022 to 30 June 2027

AER Consumer Challenge Panel – Sub-Panel CCP23

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24 May 2021

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Acknowledgement of country

We recognise the traditional owners of the lands on which Powerlink operates. We respect the elders of these nations, past and present along with the emerging leaders.

Acknowledgements

CCP23 wishes to thank and acknowledge the staff from Powerlink, who have been generous with their time, always willing to share insights into the business, and to include us in their engagement activities leading up to the Regulatory Proposal, and subsequent post lodgement engagement.

We also extend our gratitude to the AER staff for their support and guidance throughout this process.

Confidentiality

We wish to advise that to the best of our knowledge this Advice neither presents any confidential material nor relies on confidential information for any aspect of this Advice.

About the Consumer Challenge Panel sub-panel CCP23

The AER established the Consumer Challenge Panel (CCP) in July 2013 as part of its Better Regulation reforms. These reforms aimed to deliver an improved regulatory framework focused on the long-term interests of consumers.

The CCP assists the AER to make better regulatory determinations by providing input on issues of importance to consumers. The expert members of the CCP bring consumer perspectives to the AER to better balance the range of views considered as part of the AER's decisions.

CCP23 is a sub-panel of the AER's Consumer Challenge Panel. The AER established the sub-panel to focus specifically on the AER's regulatory determinations for the Victorian and Queensland electricity transmission business for 2022-2027.

1 Executive summary

The AER is guided by the National Energy Objective (NEO): "to promote efficient investment in, and efficient operation and use of, energy services for the long-term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy".

Consumer Challenge Panel sub-panel 23 has been observing Powerlink's engagement with customer and stakeholder groups since August 2019. We provide this Advice to the AER based on our observation of Powerlink's engagement, and our views about key aspects of the regulatory proposal that Powerlink lodged in January 2021.

Key issues and Themes

- Price impacts

Powerlink is proposing an 8.5% reduction in costs for the 2022-27 regulatory period, compared to the current period. While some of this reduction is due to low interest rates, there has been a strong focus in bringing prices down for consumers. The approach, outcome and continuing vigilance are all welcome.

- Consumer engagement

Through co-design, Powerlink has developed, and then delivered, a responsive consumer engagement program. Powerlink has engaged closely with a Revenue Proposal Reference Group (RPRG) that was drawn from Powerlink's Customer Panel, to engage directly with its regulatory proposal. An Iterative approach has been applied, with Powerlink presenting latest thinking about key expenditure areas to the RPRG and Customer Panel, and workshopping areas for improvement. We have applied the AER issues paper Table 3 engagement assessment criteria, and conclude that the engagement has been collaborative and detailed, and that Powerlink has applied the advice received.

- Capability of acceptance

We observe that Powerlink has been the most forthright of any network business from the beginning of the process in stating that it wanted a proposal that was capable of acceptance. We have given considerable attention to this question, and conclude that at time of lodgement, consumer interests need to provide conditional responses because key regulatory checks have not yet been applied.

The CCP23 response is that the AER's decision on whether the proposal is capable of acceptance should be conditional on:

- AER models testing;
- Further review of capex, noting ongoing changes in energy market and policy (federal, state and territory jurisdictions);
- Ongoing review of opportunities of opex productivity;
- Resolution of contingent project triggers;
- Revised forecasts and rate of return updates; and
- Continued engagement (as already committed).

With these conditions being met, we anticipate that the AER would be able find the proposal capable of acceptance.

- Uncertain environment

The energy market is in a process of transitioning at an unprecedented rate. These changes are occurring across the energy supply value chain, from changes in generation mix, changes in energy flows within and between states, changes in the patterns of demand, and changes in consumer expectations and energy decisions. Government policies sometimes lead these changes, sometimes follow these changes, and often lack consistency.

These uncertainties coupled with some impacts of COVID-19 still being experienced mean that this proposal has been developed in a period of uncertainty. This uncertain environment is expected to continue during the 2022-27 regulatory period. Therefore, managing uncertainty and sharing risk fairly between investors and consumers are important themes through this Advice and for this regulatory process.

- Capital expenditure

Powerlink has reduced its Capex expenditure proposal between the draft and final proposal in response to consumers' concerns. This must be a continuous process, along with a focus on capital productivity as Powerlink continues to face the overhang of excess capital investment pre-2015, and in the face of a rapidly changing energy market and expansions to the transmission network (including interconnectors). Powerlink's "hybrid+" capex forecasting approach, with some 70% of the total capex involving a bottom-up analysis, represents an appropriate blend of detailed project analysis and trend forecasting.

- Contingent project triggers

Contingent projects are one means of managing uncertainty, particularly for large capex projects. Powerlink proposes one contingent project, the "Central to North Queensland Reinforcement Project" (CNQRP). The project comprises the stringing of a second circuit on an existing double circuit line between Stanwell and Broadsound.

Powerlink claims that this additional circuit may be required in the event there is significant demand growth in central/north Queensland. Powerlink also states that the indicative cost of the proposed contingent projects is $52.3m ($ real, 2021/22) or $57.2m ($ nominal), which is above the contingent project threshold. The NER defines 'trigger events' that enable a project to be considered as a contingent project and outside of the standard ex-ante regulatory process.

CCP23 therefore requests the AER to consider whether this trigger event should be defined more specifically, such that an increase of 250 MW of demand anywhere on the CNQRP network does not automatically initiate the contingent project (in conjunction with the other two trigger events). We also recognise that the AER's recent amendments to the Transmission Regulatory Investment Test (RIT-T) will enhance the transparency in the analysis of alternative options for resolving the constraints and for the overall quality of the cost-benefit analysis of the contingent project proposal prior to its initiation.

- Operating costs

Powerlink is proposing that real operating costs remain unchanged from the current period, for 2022-27, with no new 'step change' proposals. We are satisfied that the operating cost proposal is reasonable and will help Powerlink's operating cost efficiency to improve.

- Productivity – operating expenditure and capital expenditure

We have highlighted the need for Powerlink to set capex productivity improvement targets, particularly in the face of the challenges that will emerge over the next 10 years. Over this period, the energy market will undergo profound changes, and new costs will emerge as a result of these challenges, while it is likely that utilisation of the existing network will decline in most zones.

For operating costs, Powerlink has proposed a 0.5% productivity improvement target which the business has clearly stated is challenging. Given that there are likely cost increases that will need to be absorbed into the opex allowance, creating cost pressures, we are satisfied that the productivity 'dividend' proposed for customers is reasonable, and that it will take effort for Powerlink to achieve it.

2 Consumer and stakeholder engagement

AER Issues Paper Questions regarding Consumer Engagement and Capability of Acceptance

2. What are your views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period?

Consumer engagement approach

3. Given Powerlink's overarching goal to deliver a revenue proposal that is capability of acceptance, is Powerlink's 2022–27 proposal acceptable to you in its current form? Please give reasons. If the proposal is not acceptable to you, what changes would be required to make it acceptable?

4. Do you agree with Powerlink's three key consumer drivers for the 2022–27 period (i.e. affordability, price signals and customer choice)? Are there other key drivers that are important to you?

5. Do you think Powerlink has engaged meaningfully with consumers on all key elements of its 2022-27 proposal? Are there any key elements that require further engagement?

6. To what extent do you consider you were able to influence the topics engaged on by Powerlink? Please give examples.

7. With regard to IAP2 Spectrum, do you think Powerlink selected an appropriate level of participation in the engagement program for its 2022–27 proposal (see Table 4)? Please provide examples of engagement activities that Powerlink conducted very well, and not as well?

8. To what extent do you consider Powerlink's 2022–27 proposal ties to your expressed views as a consumer?

9. Are there any aspects of Powerlink's consumer engagement that could have been done better? If yes, what opportunities are there for Powerlink to act on your feedback?

10. What are your views on Powerlink's self-assessment of its consumer engagement approach under the AER's consumer engagement framework (see Table 5)? Is it an accurate assessment of Powerlink's consumer engagement on its 2022–27 proposal, or would you assess Powerlink differently?

11. Do you consider the AER's consumer engagement framework is appropriate for assessing Powerlink's 2022–27 proposal? Are any criteria not appropriate, or absent but relevant to an accurate assessment of Powerlink's proposal?

12. Do you have views on the statement on engagement submitted by Powerlink's Customer Panel? For example, you may have thoughts on the breadth of Powerlink's engagement, or whether you ever felt led/coerced in your engagement with Powerlink.

2.1 Powerlink engagement

Our observations suggest that there are two significant aspects to the Powerlink consumer engagement in the lead-up to this regulatory proposal:

- The iterative methodology that has been applied to the engagement, which has included clear focus and depth in regard to major topics, over the better part of two years.
- The upfront intent of Powerlink to lodge a proposal that was capable of acceptance.

We consider capability of acceptance, and appropriate and responsive consumer engagement to be inextricably linked. Open testing of a proposal through active, high trust consumer engagement is a

significant pre-requisite for that proposal to be capable of acceptance. We consider the subject of capability of acceptance in more depth in section 2.5 below.

Central to the consumer engagement process undertaken by Powerlink has been the Customer Panel (CP), an ongoing forum of customer representatives who meet with Powerlink on an ongoing basis. Then a Revenue Proposal Reference Group (RPRG) has been appointed from the CP to engage with the regulatory process in greater depth. This has been a highly effective group, with significant commitment from each member. We estimate that over 30 hours per person has been contributed by RPRG members, which is probably more hours per person of engagement than any process that the CCP has observed outside of the AusNet Services distribution business NewReg trial.

The engagement commenced with a co-design process, which we did not observe, because it occurred before CCP23 was formed. However, we have been able to infer its effectiveness from subsequent dialogue and action. The co-design process meant that from the beginning Powerlink's engagement approach was informed by strong customer input into the topics to be considered and the process to be undertaken. This co-design initiation for the process appears to have been an important driver of its effectiveness.

Coming from the co-design was agreement about a clear engagement focus, with both parties able to concentrate on the aspects of the proposal that were open to influence, and important to the future functioning of the business. Chart 2.1 identifying engagement focus is given below and identifies an appropriate subset of potential engagement topics for consideration.

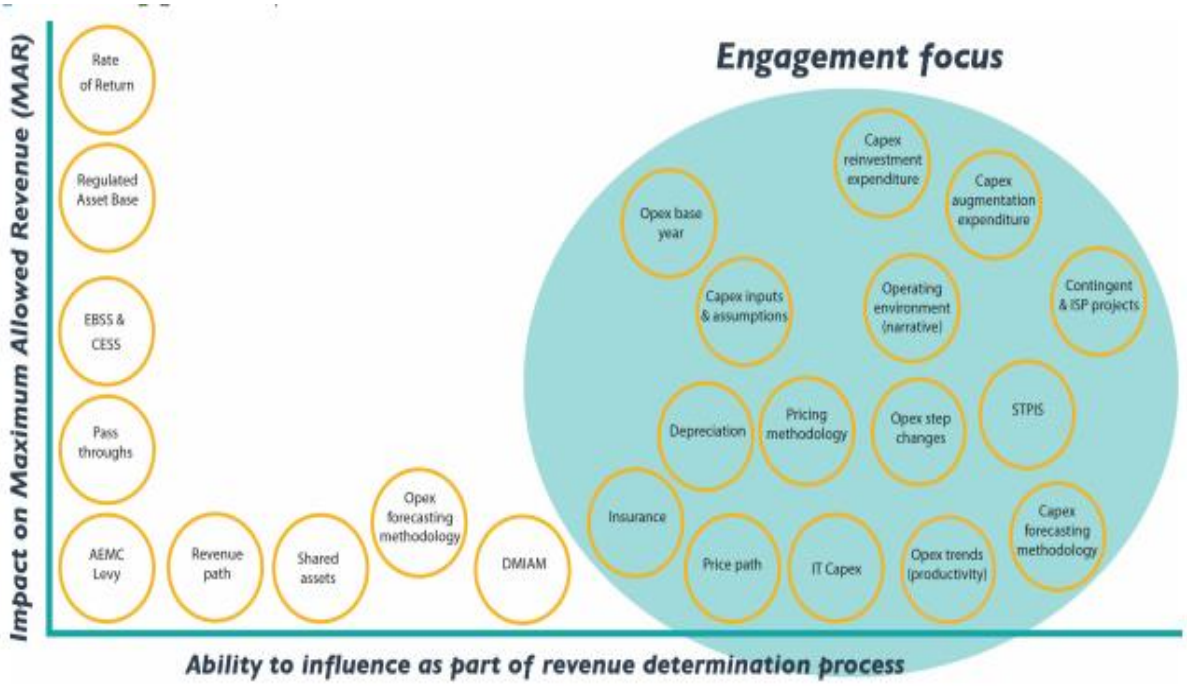
An iterative approach was applied, with the CP / RPRG travelling with Powerlink for the duration of the engagement process. In practice this meant that Powerlink regularly provided the latest internal thinking about major expenditure items, particularly operating costs, capital expenditure and maximum allowed revenue. All parties were able to identify areas of potential saving, so that the final proposal that was lodged included expenditure proposals that were below initial estimates. It is clear to us that the consumer input was important in focusing Powerlink's budgetary considerations.

On the IAP2 spectrum for public participation, we observe that the engagement was much more at the "involve and collaborate" levels rather than "inform and consult". We concur with the Powerlink self-reporting of its level of engagement given in table 3.3 on page 24 of its revenue proposal.

A draft plan was developed and circulated for debate and to inform the final proposal. This was very much a draft plan rather than a discussion paper about what might be in the regulatory proposal. It included the latest iterations of expenditure proposals, and detail about major proposed expenditures. CCP23 provided some advice to the AER about the draft plan, which was made available to Powerlink.

The revenue proposal is lodged included clear documentation about aspects of the Revenue Proposal that had been influenced by consumer input over the course of the engagement process.

Chart 2.1 Powerlink and Consumer agreement about areas of engagement focus



Source: Powerlink Revenue Proposal, page 22

2.2 CCP23 involvement with Powerlink engagement

CCP23 members first met with Powerlink staff in July 2019 to share views about engagement approaches and the role of CCP23. Since this time, at least one member of the sub-panel has observed every meeting of the CP and the RPRG (Revenue Proposal Reference Group). We have also met on a monthly basis with relevant Powerlink staff, and have observed Powerlink's 2019 and 2020 Transmission Network Forums.

We made a submission to Powerlink in response to the Preliminary Positions and Forecasts Paper (PPFP) in September 2020. This submission draws on our response to Powerlink at that time, as well as our submission to Powerlink's draft plan.

Notwithstanding the limits due to COVID-19 of moving to online meeting with all Powerlink processes from March 2020, CCP23 considers that it has had excellent access to the Powerlink engagement process and Powerlink staff. We are thereby well placed to provide this advice to the AER regarding Powerlink's engagement and customer attitudes to the regulatory proposal.

The engagement activities that CCP23 observed included:

- Customer Panel meetings and briefings, for example insurance;
- Revenue Proposal Reference Group (RPRG) meetings;
- Draft revenue proposal;
- Powerlink Transmission Network Forum (held annually); and
- Direct discussions with the AER and ourselves

While the CP and RPRG were the focus of our observations, we recognise that other effective engagement has also occurred to help inform the Powerlink regulatory proposal, including:

- Co-design process to develop engagement strategy and areas of focus;

- Powerlink Board meetings (about annually) in a regional location with local discussion and forums;
- Regular meetings, one to one, with direct connect Commercial and Industrial customers;
- Regional Engagement through a broad network of interests;
- Website;
- Feedback though customers in the course of day to day activity; and
- Informal network feedback.

Subsequent to lodgement of the regulatory proposal, we have observed the continuation of the consumer engagement that we observed before lodgement. While the RPRG will likely be wound up at the conclusion of the regulatory process, it is apparent to us that the CP will continue as business as usual. For now, engagement on topical aspects of the revenue proposal continues in the same manner as before lodgement.

2.3 AER engagement assessment

The AER provided a framework for assessment of consumer engagement in the Victorian distribution regulatory processes.[1] The AER has again indicated its application of this table, now Table 3 in the issues paper for the Powerlink determination, as a means of assessing the effectiveness of Powerlink's consumer engagement.

[1] See, for example, Draft Decision Powercor Distribution Determination 2021 to 2026 Overview September 2020, available at https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/powercor-determination-2021-26/draft-decision

Table 2.1 "Chart 3" from AER Powerlink Issues Paper

Element	Examples of how this could be assessed
Nature of engagement	• Consumers partner in forming the proposal rather than asked for feedback on distributor's proposal • Relevant skills and experience of the consumers, representatives, and advocates • Consumers provided with impartial support to engage with energy sector issues • Sincerity of engagement with consumers • Independence of consumers and their funding • Multiple channels used to engage with a range of consumers across a distributor's consumer base
Breadth and depth	• Clear identification of topics for engagement and how these will feed into the regulatory proposal • Consumers consulted on broad range of topics • Consumers able to influence topics for engagement • Consumers encouraged to test the assumptions and strategies underpinning the proposal • Consumers were able to access and resource independent research and engagement
Clearly evidenced impact	• Proposal clearly tied to expressed views of consumers • High level of business engagement, e.g. consumers given access to the distributor's CEO and/or board • Distributors responding to consumer views rather than just recording them • Impact of engagement can be clearly identified • Submissions on proposal show consumers feel the impact is consistent with their expectations

Proof point	• Reasonable opex and capex allowances proposed
	  ○ In line with, or lower than, historical expenditure
	  ○ In line with, or lower than, our top down analysis of appropriate expenditure
	  ○ If not in line with top down, can be explained through bottom up category analysis

Source: AER Issues Paper[2] page 9

2.4 CCP23 application of AER Assessment – Table 3

The following table is a summarised CCP23 view about the extent to which the various assessment criteria apply to the current Powerlink process.

[2] https://www.aer.gov.au/system/files/AER%20-%20Draft%20decision%20-%20Powercor%20distribution%20determination%202021-26%20-%20Overview%20-%20September%202020.pdf

Table 2.2 CCP23 application of "Table 3" top Powerlink engagement

Element	Possible Assessment	CCP23 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 business engagement, e.g. 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; note CP submission
Proof Point	Reasonable opex and Capex proposed	Yes
	In line with or lower than historical costs	Yes

Element	Possible Assessment	CCP23 Powerlink Assessment
	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

Source: AER Issues paper with CCP23 analysis

The columns in ochre colour refer to processes which are outside of the direct control of Powerlink, particularly under the "proof point" category, which largely relates to the AER assessment of the regulatory proposal. The paler green colour refers to assessment criteria that were offered but not required, to the best of our knowledge.

This assessment is a strong endorsement of the integrity and effectiveness of the Powerlink consumer engagement design and implementation from the perspective of CCP23.

2.5 Capable of acceptance

At the beginning of section 2.1 above, we wrote: "We consider capability of acceptance, and appropriate and responsive consumer engagement to be inextricably linked." This means that the AER's consideration of whether a proposal is capable of acceptance must take into account the consumer engagement that helped to form the proposal.

In our consideration of capability of acceptance, we refer to the process through which a proposal is developed, as well as the proposal that is lodged with the AER; i.e. we consider both process and product.

In our experience to date, Powerlink has been the most forthright of any network business, in claiming from early in its engagement that it was intending to lodge a proposal that was capable of acceptance. This is not to say that other network businesses have not applied the same stated intent, with AGN recently proposing a gas Access Arrangement that it wanted to be capable of acceptance. Other networks, including TasNetworks and ElectraNet, have also lodged proposals that they openly said they intended as being capable of acceptance. Powerlink has simply, to our observations, been more overt in naming its intent and in consistently exploring what the concept means in practice.

In its proposal, Powerlink said:[3]

> *Our overarching goal has been to deliver a Revenue Proposal that is Capable of acceptance by our customers, the AER and Powerlink.*
>
> *This goal targeted acceptance of our Revenue Proposal as an overall package by relevant stakeholders at the time we lodged our Revenue Proposal with the AER in January 2021. Importantly, it has been the guiding objective for our engagement and built on the strong foundations we undertake in the normal course of business.*
>
> *We have undertaken extensive engagement with our customers, stakeholders, the AER and the AER's Consumer Challenge Panel (CCP23) on all key elements of our Revenue Proposal during its development. We recognised the need to adapt our engagement approach in light of stakeholder*

[3] Powerlink Queensland Regulatory Proposal 2023-27, page iii, https://www.aer.gov.au/system/files/Powerlink%20-%20TRP%202022-27%20-%20Revenue%20Proposal%20-%20January%202021.pdf

feedback, particularly where it would provide meaningful value to our customers. As it turns out, a key milestone in our engagement was one that was not on our plan at the start. That is, the development and publication of our draft Revenue Proposal in September 2020. While not a formal requirement of the National Electricity Rules (the Rules), we decided to prepare and publish a draft version of our Revenue Proposal for input based on the constructive engagement we had with our customers and the AER during 2020.

While we have actively encouraged input and participation every step of the way, the draft Revenue Proposal provided another, perhaps more formal opportunity for feedback. In hindsight, we consider that this was an important step (albeit unplanned and challenging to deliver at the time), which demonstrated that we were serious about our Capable of acceptance goal. It also reinforced our commitment to take a 'no surprises' approach to our engagement. Our view is that overall, our Revenue Proposal is Capable of acceptance.

In our response to the Powerlink PPFP, we provided that CCP24 suggested criteria for a proposal that was capable of acceptance:

Table 2.3 CCP24 capable of acceptance criteria

Criteria
Demonstrated customer support
Engagement was meaningful and the business was responsive to feedback
A clear business narrative was provided
Affordability was considered and addressed
The business assessed options available to it and sought to provide value to customers
The Revenue Proposal is reasonable comparative to past performance and Transmission Network Service Provider (TNSP) peers
Follows relevant AER guidelines and regulatory models (AER to assess)
Forecast capital and operating expenditure is prudent and efficient (AER to assess)

Source: quoted by Powerlink in regulatory proposal, page 17

The following criteria were also proposed by CCP24 regarding its consideration of capable of acceptance for AGN's SA Access Arrangement proposal.

… we suggest that a business could expect the AER to ratify the following aspects of an acceptable revenue proposal:

- *the proposal is compliant with the rules*
- *the forecasts for demand and other relevant factors are reasonable*
- *the expenditure proposed is regarded as efficient and sufficient to provide necessary services*
- *the outcomes for customers, including indicative price paths are in line with reasonable expectations and benchmark favourably with peers and with historical performance of the business*

In summary we suggest that in practice, a proposal that is Capable of acceptance means that the initial proposal lodged by the business with the AER is mainly deemed to be reasonable by the AER in their draft Determination. The main expenditure categories over which the business has control; Capex, opex, and total revenue requirement will be within a couple of percent (as a 'rule of thumb', with maybe a narrower margin for opex) of what the AER would consider as appropriate final determination outcomes. This would only be achieved with active and informed consumer engagement influencing the regulatory proposal.

This is the understanding of "capable of acceptance" on which CCP23 has based its consideration of the Powerlink regulatory proposal for 2022-27.

2.5.1 Why does Powerlink want its proposal to be capable of acceptance?

Powerlink said that it wanted its 2018-23 proposal to be capable of acceptance, and that for the next regulatory period (2023-27) the intent of capability of acceptance is now more tangible.

CCP23 commenced its thinking about why a network business would want a proposal to be capable of acceptance by suggesting that the benefits of a proposal being capable of acceptance are that there is not significant further work to be done, so a lighter regulatory 'touch' reduces the costs that it needs to bear, the business can get on with earlier planning for new projects, and there is also 'reputational capital' for the business in being able to go to customers and the public more generally as being credible and trustworthy – attaining a 'social licence to operate'.

We tested this thinking with Powerlink a couple of times, most recently during a discussion on 14 May 2021. The benefits that we heard were:

a. More time to get on with the job of running the network. Powerlink said that lodging an initial proposal that was "Capable of acceptance" had the main advantage of them being able to get on with the job of running the network and dealing with the current stresses and strains of an energy market in transition, rather than spending time/effort/resources on a protracted regulatory process.

   Thus there is a time and cost saving from not spending considerable effort in developing and Revised Revenue Proposal and responding to a significant number of AER information requests, which all come at a cost.

   Powerlink was clear that many staff contribute significant time and effort toward the reset process. Many staff are taken off other work over this time. Reducing the time and effort required for regulatory purposes leaves more time for improving the business.

   Powerlink also said that (near) acceptance of the initial proposal gives the business a 6-month head start to prepare how Powerlink will manage and implement the outcomes of the determination process.

b. Enhanced trust from consumer groups
   - For a proposal to be Capable of acceptance, the process would have required sound consumer engagement with both breadth of consumer interests and depth of engagement on the key topics. Powerlink has also said that from its perspective building this trust is important not just for the Revenue Proposal, but also as part of its overall social licence to operate and delivery of BAU activities outside of the reset

c. Greater staff confidence
   - Acceptance of an agreed proposal by consumers and ratification by the AER also gives staff of the network a stronger sense of confidence that that they are working on the right things and so can feel more confident about their work and how it fits in with the overall direction of the business. An accepted proposal gives all involved in the business "psychological confidence".

d. Other businesses are watching too
   - Other network businesses are watching the Powerlink approach to seek to lodge a proposal that is "capable of acceptance". Acceptance by the AER of an engagement process and the

consequent proposal, at initial lodgement, will from Powerlink's perspective also set a standard for other networks that Capable of acceptance is achievable and there is real benefit for all parties – AER, networks and customers – to target this goal. CCP23 shares this perspective.

In short, capability of acceptance builds trust.

We are satisfied that there are tangible benefits for Powerlink (and other network businesses) in their striving to prepare and lodge a proposal that is capable of acceptance – the approach has bona fide legitimacy for Powerlink.

2.5.2 What is in it for consumers?

Accepting that there is clear benefit for Powerlink in a proposal that is capable of acceptance, a next question is whether there are advantages for consumers, because there needs to be benefits for all parties from a capable of acceptance proposal.

We are not aware of any Australian documentation that is consumer-based that overtly identifies likely benefits of a regulatory proposal that is capable of acceptance. Therefore, we provide our perspective that is inferred from our observations of the Powerlink engagement to date, without reference to other sources.

Our perspective is that consumers benefit from an approach leading to a proposal that is capable of acceptance in the following ways:

a. Consumer perspectives are explored, heard and applied.
b. There is a solid base of support for the balance between price, reliability, and sustainability. This is most likely achieved through a good level of 'depth' in the consumer voice, because, in our view, a capable of acceptance proposal can only come through consumer identification of the major topics that are of interest, and over which appropriate briefings and debate occurs in developing a consumer perspective.
c. Price impacts for customers are accepted as being as fair and reasonable.
d. The capacity for the network business to 'get on with the job'
e. Certainty. A Capable of acceptance approach provides consumers with as much predictability about the present and future costs and challenges as possible.
f. No time is wasted being drawn into "gaming consumers and the regulator" by the business. It is recognised that active engagement in developing an acceptable proposal is time consuming for the consumer advocates directly engaged. This is fine where there are high levels of trust, the consumer representatives consider that their time is well spent, and they are adequately resourced to participate.

In the Powerlink process we also observe that

a. Point b above was embedded in the Powerlink process because of a co-design approach to agenda setting for the entire reset process. This is "Collaboration level" engagement as per the IAP2 spectrum.
b. The iterative engagement approach meant that the consumer representatives on the RPRG were able to provide input to cost – efficiency – sustainability trade-offs at each stage of the proposal development process. They were also asked throughout the process to evaluate how engagement was going, allowing for engagement to adapt to topics of interest/influence.
c. More time for Powerlink to focus on achieving 'productivity' savings improves the likelihood of them being achieved and even exceeded.

d. Powerlink was up front about factors that are outside of its control (cyber security, AEMO licence fees) and sought to demonstrate how the business had taken account of factors within its control, in customer interests, Insurance costs and risk sharing is a good example.
e. The scope of engagement allowed for intense discussion on key areas that directly impacted positions proposed for the Revenue Proposal

We conclude that there are tangible benefits for both customers of a network business and for that business from the development of a regulatory proposal, informed by the process elements summarised above, and associated MAR (maximum allowed revenue) that is capable of acceptance, there are also less tangible but important benefits too, including building and strengthening trust. Consequently, we are convinced that pursuit of a proposal capable of acceptance has been an appropriate Powerlink objective, and that there are discernible benefits for customers and for the business in taking this approach.

2.5.3 What can consumers say about capable of acceptance?

Some general observations

How far can customer groups and advocates go in making comments about the extent to which a proposal is capable of acceptance, before it is lodged with the regulator?

The timing is important here, because consumer representatives are increasingly confident in commenting as the regulatory process approaches finalisation.

We said at the public forum that before lodgement there is an element of "who blinks first" at play. In part, this is because:

- There is interplay between consumer engagement and capability of acceptance;
- The regulator gives consumer engagement due attention in its regulatory decision making; and
- Consumer representatives look to the regulator's technical expertise in helping to consolidate their thinking.

A network business asking whether a proposal is capable of acceptance is reasonable, but it is awkward to be the first to say so, because of:

- The weight of representing a broad consumer base.
- Concern about what may have been missed.
- Good vs Perfect proposal for consumers – No proposal is ever perfect, and individual consumers cannot necessarily be certain about whether a proposal is "good enough".
- What if the regulator finds inefficient proposal elements?
- Fear of "No going back" for an extended period of time.
- Trust levels are crucial.

From a customer representative perspective, if they 'blink first', saying that they consider a proposal to be capable of acceptance, and subsequent regulator analysis finds significant expenditure elements that the regulator does not consider to be fully in the best interests of customers (in aggregate), then the customer representatives can feel caught out, embarrassed, or even a little trapped. Customer representatives do not want to feel like "rabbits in the spotlight" (to change the metaphor).

Members of an advisory or reference group are mainly drawn from organisations, government departments or other businesses. As individuals, they bring the perspective of the organisation base /

constituency to the proposal formation process, but are unlikely to be able to ratify formally a regulatory proposal from a network business on behalf of their organisation, let alone other organisations.

This point was made by the Powerlink Customer Panel in its statement:

> *Finally, the Panel members note in this statement that we are responding as individuals who happen to be members of our home organisations. We cannot ratify statements like this on behalf of our individual organisations or industry sectors without a much longer lead time and extensive internal negotiation.*

We suggest that consumer interests can make the following sort of observations:

- The process leading to the proposal was constructive.
- What is proposed is consistent with extended engagement.
- All aspects of the process were transparent.
- What's proposed is consistent with a bigger picture narrative.
- Uncertainties are clearly identified, and in the near future there is commitment to an engagement process in response.
- Consumer groups can say: "We are satisfied that the NSP responded to our advice / concerns".
- Consumer representatives trust the information, including financial (actual) costs and estimates.
- In regard to Table 3 assessments, consumer representatives can state that it is their view that the assessment criteria proposed by the AER in this table, have been met.

Comments or conclusions will almost certainly be conditional on expert (most likely the AER) review and may be conditional on further exploration of issues that have not yet been resolved (but there is a sense that they are close to resolution) or where more up-to-date data that needs to be applied in the process beyond lodgement.

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

- "Table 3" assessment elements being considered to have been met (and exceeded);
- AER assessment tools applied;
- Conditional issues identified and addressed;
- Commitment to engagement process to resolve conditional elements; and
- Future adjustments of known variables.

We suggest that statements about capability of acceptance before lodgement and through to draft determination are likely to include some conditions. This probably does not weaken the extent of acceptance indicated, but rather reflects the 'best intent' that can be provided at or prior to lodgement.

To achieve formal acceptance or endorsement for a regulatory proposal would require a high level of negotiation, and would most likely have higher legal standing and consequences. Capability of acceptance is an opinion of an informed individual or group of individuals that can probably be regarded as a lower cost and lower personal energy acceptance of the direction and merits of a proposal without the formality and cost of a more binding agreement or negotiated understanding.

We suggest that capability of acceptance serves as a very useful proxy for (near) agreement about the merits, intent and direction of a proposal, without the formality and likely extended process required for a more formal agreement.

Powerlink's Question

Powerlink staff asked the Customer Panel, before lodgement, if they thought that the regulatory proposal was capable of acceptance.

The Powerlink Customer Panel responded with the following comments about capability of acceptance in its statement that was included as an attachment to the Powerlink regulatory proposal: Appendix 3.03 – PUBLIC Customer Panel Statement on Engagement:[4]

> *Some Panel members feel they don't have the skills or grounding to be able to make a formal judgement about whether the PQ proposal is "capable of acceptance" as per the AER terminology. There's a suggestion that we can't make a real judgement until we have seen the full proposal. We also considered whether the "capable of acceptance" judgement could be made only once, either when we see the January 2021 proposal, or even after the AER Draft Decision. It would have been really useful for the AER to have explained specifically to us what they mean by capable of acceptance", because some of us perceive it may be 'tighter' and more declaratory that the 'looser' definition that seemed to be proposed by Powerlink. There is a feeling among Panel members that the CRP may provide a statement that PQ's proposal is "capable of acceptance, subject to some conditions are met or clarified". We do not have any suggestions yet for what such conditions might be; at this stage we are suggesting a likely format.*

2.5.4 Implications of capable of acceptance?

Given the probable limits and conditionality on pre-lodgement views about the capability of acceptance of a proposal, it is germane to consider what the implications of capable of acceptance may be?

The CCP23 opinion is that the following are likely pragmatic implications of a proposal being (near) capable of acceptance, and we consider these to be in line with the benefits outlined above.

- Draft Determination is intended to be similar to the Final Determination, with relevant adjustments, e.g. rate of return parameters, demand forecasts.
- Further engagement to finalise 'conditional elements'.
- Low numbers of AER information requests.
- The network business can confidently plan for the next period, e.g. longer lead time for major capex projects.
- Greater predictability for shareholders / owners.
- The network business can "get on with the job".

CCP23 is also aware that there are implications for the AER in its considerations of the Powerlink proposal, and the capable of acceptance discussions that have been an upfront and important part of the proposal. This is because other network businesses are also closely watching the process and of course the AER's determinations, so there are likely to be some longer term impact of this decision on future regulatory proposals.

[4] Appendix 3.03 – PUBLIC Customer Panel Statement on Engagement, as part of the Powerlink Regulatory Proposal, page 4

Our view is that this is constructive and is another very useful step in the significant transformation of Australian energy network regulatory process that has occurred over the last say five to seven years.

2.5.5 CCP23 view about capable of acceptance and Powerlink's approach

We are satisfied that, in general, there are tangible as well as important but less tangible benefits to the development of a regulatory proposal that is capable of acceptance "at first pass" for both the network business and its customers.

This gives rise to consideration of the form of capability of acceptance and whether the Powerlink proposal is capable of acceptance.

It is clear to CCP23 that before the AER has had the chance to assess that a proposal is within the rules and is within the bounds determined by various, established AER assessment models and tools, consumers or other stakeholders are not well placed to deem whether a proposal is capable of acceptance, for the reasons outlined in section 2.3.3. Commentary on capability of acceptance, at least before the AER's Draft determination, must consequently be conditional.

CCP23 has considered the question of capability of acceptance carefully as it has closely observed an extended engagement process that was conducted with high levels of trust, including active, open critique.

We also contend that the nature of the iterative engagement process and involvement of the RPRG, in particular, in detail of important topics has been significant in shaping the regulatory process. Of merit too is that that Powerlink released a draft proposal for scrutiny, which included the current iteration at the time, of key costs and the proposed maximum allowed revenue. This draft revenue allowed for final revisions of the proposal from customer perspective. Our opinion is that the proactive consumer engagement undertaken by Powerlink and its RPRG and Customer Panel have created a process that has enabled the question of capability of acceptance of the lodged proposal to be given active consideration.

We advise the AER that with regard to the question of the capability of acceptance of the Powerlink revenue proposal our view is that the AER's decision on whether the proposal is capable of acceptance should be conditional on:

- AER models testing;
- Further review of capex, noting ongoing changes in energy market and policy (federal, state and territory jurisdictions);
- Ongoing review of opportunities for opex productivity;
- Resolution of contingent project triggers;
- Revised forecasts and rate of return updates; and
- Continued engagement (as already committed).

With these conditions being met, we anticipate that the AER would be able find the proposal capable of acceptance.

Summary response to the AER questions

2. What are your views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period? ***See detailed answers to questions below.***

Consumer engagement approach

3. Given Powerlink's overarching goal to deliver a revenue proposal that is capable of acceptance, is Powerlink's 2022–27 proposal acceptable to you in its current form? Please give reasons. If the proposal is not acceptable to you, what changes would be required to make it acceptable? ***Answer: We have opined that excellent consumer engagement is crucial for a proposal to be capable of acceptance and that at this stage of the process any consumer or stakeholder perspective will need to be conditional because there are clear AER roles and tests to be undertaken on the proposal as lodged. Consequently, we have concluded that:***

The CCP23 response is that the AER's decision on whether the proposal is capable of acceptance should be conditional on:

- ***AER models testing;***
- ***Further review of capex, noting ongoing changes in energy market and policy (federal, state and territory jurisdictions);***
- ***Ongoing review of opportunities of opex productivity;***
- ***Resolution of contingent project triggers;***
- ***Revised Forecasts and rate of return updates; and***
- ***Continued engagement (as already committed).***

With these conditions being met, we anticipate that the AER would be able find the proposal capable of acceptance.

4. Do you agree with Powerlink's three key consumer drivers for the 2022–27 period (i.e. affordability, price signals and customer choice)? Are there other key drivers that are important to you? ***Answer: "yes" we are comfortable with the three 'consumer drivers' proposed by Powerlink and tested with customers groups. An important perspective for these 'drivers' is the need to have future looking as well as current situation perspectives and for Powerlink to be clear about where current and future risks are likely to be and for consumers to be engaged with considering options. This has happened in the development of the 2022-27 regulatory proposal.***

5. Do you think Powerlink has engaged meaningfully with consumers on all key elements of its 2022–27 proposal? Are there any key elements that require further engagement? ***Answer: "Yes" Powerlink has undertaken meaningful engagement, commencing with co-designing the process to be undertaken, with customer representatives. The areas requiring ongoing consideration are mainly aspects of capex, and how risk is managed with changing market and government policy settings.***

6. To what extent do you consider you were able to influence the topics engaged on by Powerlink? Please give examples. ***Answer: we observed active engagement on all major aspects of the proposal, with the iterative process meaning that engagement was influential, including for capital expenditure, opex productivity, insurance and ISP responses.***

7. With regard to IAP2 Spectrum, do you think Powerlink selected an appropriate level of participation in the engagement program for its 2022–27 proposal (see Table 4)? Please provide examples of engagement activities that Powerlink conducted very well, and not as well? ***Answer: "Yes" we consider that the appropriate levels of the IAP2 spectrum were applied, with some parts of the engagement process, including necessary briefings, at the "Inform" level to the left of the IAP2 spectrum. Much of the engagement that we observed was at the "Involve" and "collaborate" levels, towards the right of the spectrum. The RPRG process in particular was predominantly at the "collaborate" level, from our observation.***

8. To what extent do you consider Powerlink's 2022–27 proposal ties to your expressed views as a consumer? ***Answer: from our observation, we anticipate that consumer representatives engaged would say that much of the proposal reflected views expressed by customer representatives.***

9. Are there any aspects of Powerlink's consumer engagement that could have been done better? If yes, what opportunities are there for Powerlink to act on your feedback? ***Answer: we regard consumer engagement as a 'continual improvement process,' meaning that there is always room for improvement. The influence of COVID-19 for much of the engagement period significantly limited face to face interaction, particularly with customer groups and stakeholders outside of the south east corner of the state. More in person and regional engagement would have been better, it was however much more difficult due to COVID-19.***

10. What are your views on Powerlink's self-assessment of its consumer engagement approach under the AER's consumer engagement framework (see Table 5)? Is it an accurate assessment of Powerlink's consumer engagement on its 2022–27 proposal, or would you assess Powerlink differently? ***Answer: We think that Powerlink's self-assessment is honest and we understand that it is supported by the Custom Panel and RPRG***

11. Do you consider the AER's consumer engagement framework is appropriate for assessing Powerlink's 2022–27 proposal? Are any criteria not appropriate, or absent but relevant to an accurate assessment of Powerlink's proposal? ***Answer: CCP17 has responded to the AER's consumer engagement assessment framework, Table 3 in the Powerlink Issues Paper. They have suggested some gaps, particularly about the extent to which the framework is forward looking, we support the comments made by CCP17 in response to the Victorian electricity distribution assessment framework, table 7 in that process but the same as table 3. CCP23 is satisfied with the appropriateness of the framework in considering Powerlink's engagement.***

12. Do you have views on the statement on engagement submitted by Powerlink's Customer Panel? For example, you may have thoughts on the breadth of Powerlink's engagement, or whether you ever felt led/coerced in your engagement with Powerlink. ***Answer: we consider the statement from the Customer Panel to be a fair and considered response to Powerlink's proposal. We observed that the Customer Panel met separately from Powerlink staff to consider their response and was offered resourcing to assist with their response. We did not observe any behaviour that we considered leading or coercive. We observed an eighteen-month, high trust, considered and respectful process.***

3 Pricing Methodology and Impacts

3.1 Discussion in the AER's Issues Paper

AER issues paper questions 1 and 2

1. Do you consider Powerlink's proposed changes to its pricing methodology for the 2022–27 period are appropriate and give effect to the pricing principles for prescribed transmission services?
2. What are your views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period?

Issues paper reference: section 2.2, p6-7

As stated in the AER's Issues Paper, 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 transition locational charges to be based on peak demand only. This transition would occur progressively over the next two regulatory periods (or 10 years).[5]

Powerlink submits that the proposed amendment is better aligned with the locational price calculation principles in the Rules. That is, that they be based on demand at times of greatest utilisation of the transmission network for which network investment is most likely to be contemplated. Powerlink submits that peak, rather than average, demand is a key consideration in network investment.[6]

Powerlink proposes other minor amendments to its pricing methodology, including adjusting non-locational prices by the advised National Transmission Planner costs each year.[7]

Powerlink submits that it engaged extensively with consumers and stakeholders in developing its proposed pricing methodology for the 2022–27 period.[8]

3.2 CCP23 discussion

The engagement that Powerlink has undertaken is important. As set out in its Revenue Proposal, the customer and stakeholder engagement that Powerlink undertook regarding its pricing methodology included Powerlink's Customer Panel, Energy Queensland (Energex and Ergon Energy), and customers connected directly to its distribution networks, other TNSPs and other directly-connected customers.

Key engagement milestones included a transmission pricing webinar, a consultation paper, and draft and final positions papers. The Revenue Proposal sets out the customer input and response that Powerlink received at each engagement stage, Powerlink's response to each input and how Powerlink arrived at the proposed amendments to its pricing methodology that are in its Revenue Proposal.

3.3 CCP23 conclusion

CCP23 accepts the rationale that Powerlink has put forward for its proposed amendments to its pricing methodology for the 2022-27 period.

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[5] Powerlink, *2023–27 Revenue proposal – Appendix 16.01, Proposed pricing methodology*, January 2021, pp.13-14, 22

[6] Powerlink, *2023–27 Revenue proposal*, January 2021, p. 163

[7] Powerlink, *2023–27 Revenue proposal*, January 2021, p. 158

[8] Powerlink, *2023–27 Revenue proposal*, January 2021, p. 159-164

Our answer to question 1 in the AER's Issue Paper is affirmative. We do consider that Powerlink's proposed changes to its pricing methodology for the 2022–27 period are appropriate and give effect to the pricing principles for prescribed transmission services.

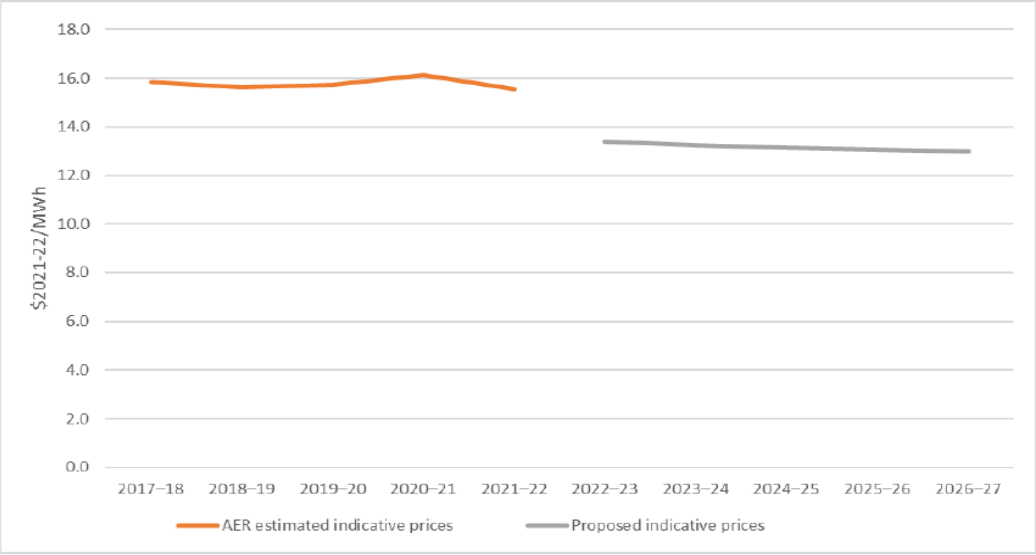
In answer to question 2 in the AER's Issue Paper, our views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period are based on the information set out in the Revenue Proposal, given that we did not observe all the engagement ourselves. Our review of the relevant information in the Revenue Proposal leads us to conclude that Powerlink comprehensively canvassed consumer input in various engagements, summarised and fed back consumer views, and showed how they were taken into account in the final proposal. We commend this thoroughness as evidence of effective and appropriate engagement.

3.4 Transmission price impacts

AER issues paper question
13. Do you have views on the estimated transmission price impacts arising under Powerlink's 2022-27 proposal?
Issues paper reference: section 4.1, p20-21

Figure 4 in the AER's Issues Paper shows that, to date, real prices have remained relatively stable over the 2017–22 period. Powerlink's 2022–27 proposed revenue, if accepted, would translate to an estimated 14 per cent real decrease in transmission prices in 2021–22, resulting in a stable real price level of around $13 per megawatt hour (MWh) over the 2022–27 period for Queensland consumers.

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

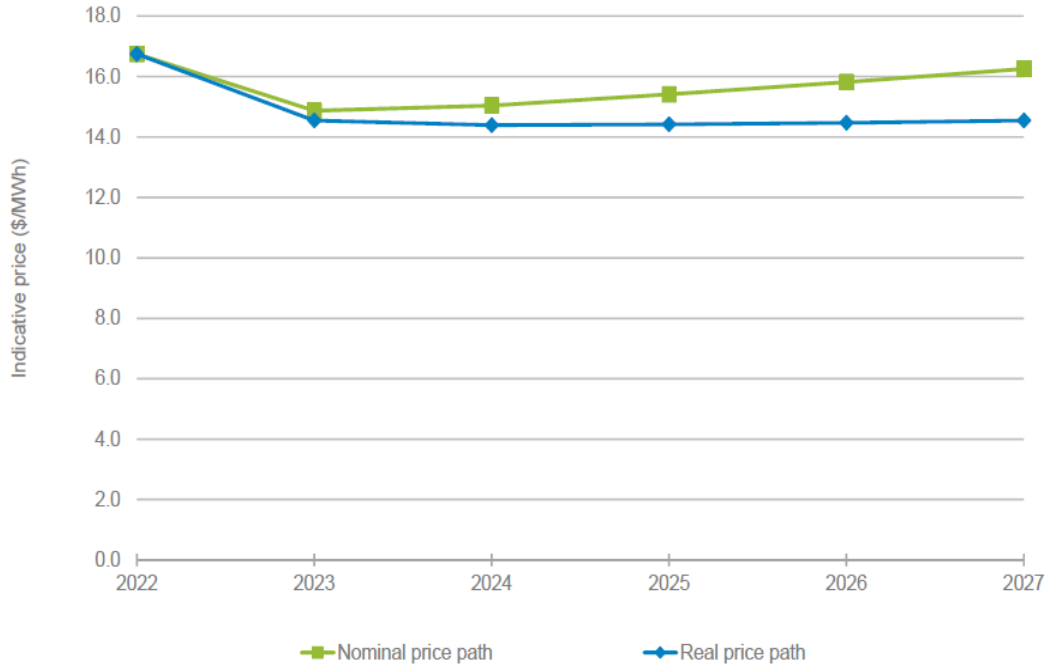


Source: AER, *Final decision PTRM for 2017–22*; Powerlink, *2022–27 PTRM*, January 2021; AEMO, *2020 Electricity Statement of Opportunities (ESOO)*.

Source: AER Issues Paper, page 21

Customers generally think of the nominal prices that appear on bills rather than real prices referenced to a particular point in time. We therefore note also Figure 11.3 in the Powerlink Revenue Proposal which shows the indicative nominal and real price paths for 2021-22 to 2026-27.

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



Source: Powerlink Revenue Proposal – January 2021

We also note Table 11.8 in the Powerlink Revenue Proposal that shows that there is not a material difference between each year's unsmoothed revenue requirement in the Powerlink proposal and the proposed smoothed MAR.

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

In answer to the AER's Issues Paper question 13, our view is that the estimated transmission price impacts arising under Powerlink's 2022-27 proposal show a reasonable smooth price path for transmission charges for 2022-27. To the extent that there are adjustments made to the allowed revenue in the AER's Draft Decision, Powerlink's Revised Proposal and the AER's Final Decision, we expect the smooth shape of the revenue recovery to be reasonably maintained, and not material differing from each year's unsmoothed revenue requirement.

Summary response to the AER questions:

3. Do you consider Powerlink's proposed changes to its pricing methodology for the 2022–27 period are appropriate and give effect to the pricing principles for prescribed transmission services? ***Answer: Our answer to question 1 in the AER's Issue Paper is affirmative. We do consider that Powerlink's proposed changes to its pricing methodology for the 2022–27 period are appropriate and give effect to the pricing principles for prescribed transmission services.***

4. What are your views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period? ***Answer: Our review of the relevant information in the Revenue Proposal leads us to conclude that Powerlink comprehensively canvassed consumer input in various engagements, summarised and fed back consumer views, and showed how they were taken into account in the final proposal. We commend this thoroughness as evidence of effective and appropriate engagement.***

13. Do you have views on the estimated transmission price impacts arising under Powerlink's 2022-27 proposal? ***Answer: The estimated transmission price impacts arising under Powerlink's 2022-27 proposal show a reasonable smooth price path for transmission charges for 2022-27. To the extent that there are adjustments made to the allowed revenue in the AER's Draft Decision, Powerlink's Revised Proposal and the AER's Final Decision, we expect the smooth shape of the revenue recovery to be reasonably maintained, and not material differing from each year's unsmoothed revenue requirement.***

4 Regulatory asset base, depreciation and income tax

AER Issues Paper questions

Regulatory asset base and depreciation

14. Do you have views on Powerlink's proposed RAB, as set out in its 2022–27 proposal?

15. Do you have views on Powerlink's proposed depreciation approach, as set out in its 2022–27 proposal?

Corporate income tax

25. Do you have views on the approach to corporate income tax in Powerlink's 2022–27 proposal?

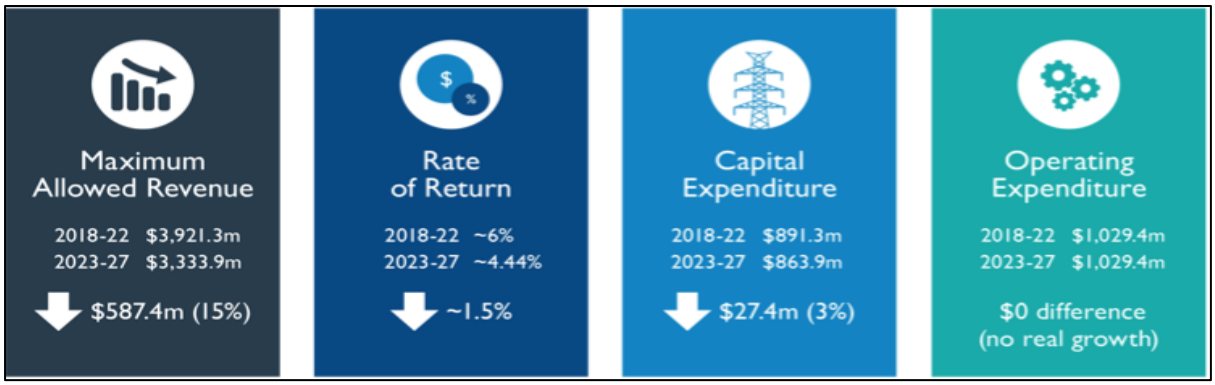
4.1 Overall changes in revenue and costs 2017-22 to 2022-2027

The total return on capital is the single largest component of Powerlink's allowed maximum allowed revenue (MAR). The return on capital includes two components: the allowed rate of return and the regulatory asset base (RAB).

Powerlink's allowed rate of return is determined under the AER's binding Rate of Return Instrument. As a result, Powerlink has very limited control over the rate of return allowance.[9] As illustrated in Figure 4.1 below, at the time of the proposal Powerlink anticipated that the allowed rate of return for 2022-27 would be some 1.5% lower than the 2018-2022 current allowed rate of return. Powerlink estimates that this reduction in the allowed rate of return is equivalent to an estimated decrease of $780m ($2021/22) in its MAR for 2022-27.[10]

This allowance will be recalculated in the draft and final determinations to reflect, inter alia, changes in the Commonwealth Government Securities 10-year bond rates (for equity) and the commercial 10-year bond rates for BBB+ Australian businesses. Updated inflation estimates will also impact on the estimated real rate of return.

Figure 4.1: Powerlink's proposed changes in MAR, Rate of Return, and capital and operating expenditures



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

[9] The exception is that Powerlink has some discretion over the averaging period selected for the return on debt and equity calculations.

[10] See Powerlink, *Revenue Proposal* 2022-27, p 116.

The AER prescribes a methodology for estimating expected inflation, a component in the calculation of the real rate of return, the indexation of the RAB, and the calculation of both opex and capex over the forecast period.

Powerlink has usefully provided some modelling for its consumer representatives to identify the impact of changes in the RoR and inflation on the expected MAR.

While Powerlink has little direct control over the allowed rate of return and the estimation of expected inflation, it does have some control over the size of the RAB. Each year, the RAB is adjusted by the net capital expenditure and inflation. Figure 4.2 illustrates the steep increase in the RAB between 2008 and 2015 (in real and nominal dollar terms), that parallels the significant capital investment during that period. Section 4.2 below provides some further detail on the forecast RAB and on Powerlink's approach to calculating depreciation of its asset base.

4.2 RAB and depreciation

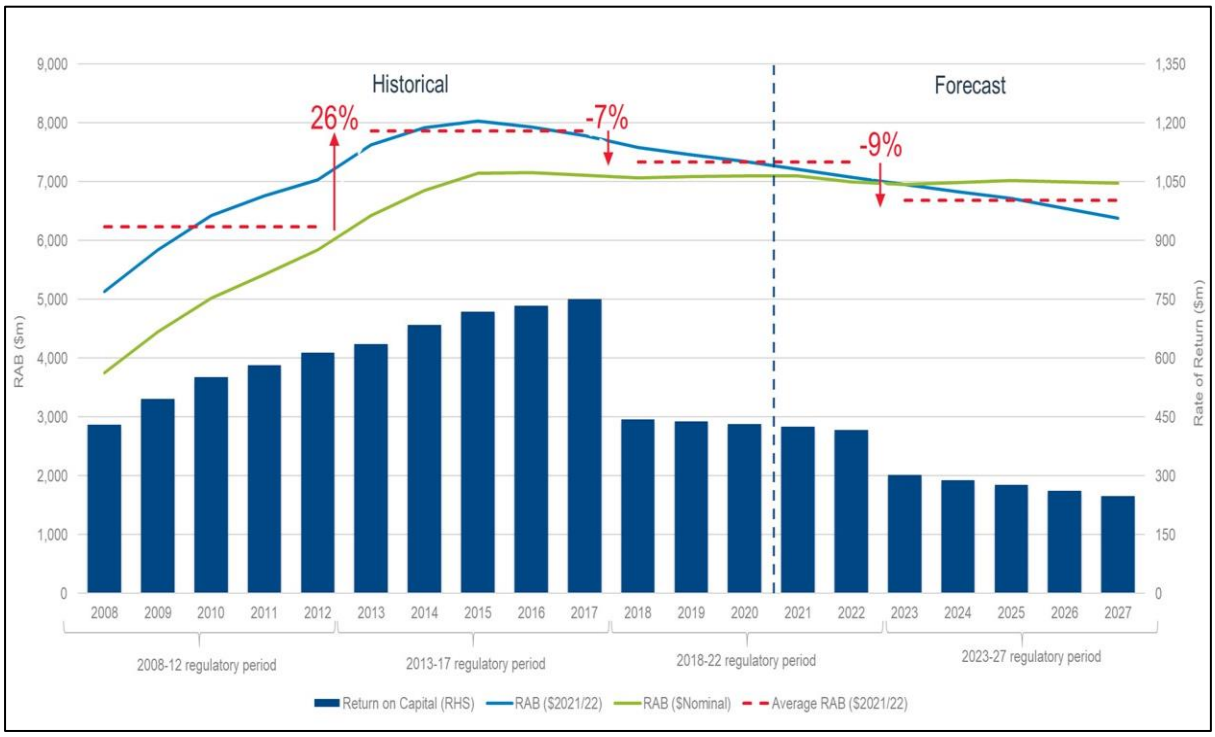
4.2.1 Regulatory Asset Base (RAB)

As noted above, while Powerlink has little direct control over the allowed rate of return and the estimation of expected inflation, it does have some control over the size of the RAB. Each year, the RAB is adjusted by the net capital expenditure and inflation.

Figure 4.2 illustrates the steep increase in the RAB between 2008 and 2015. This increase in RAB parallels the increases in the return on capital over the period. The current regulatory control period has seen a real dollar decline in the RAB as a result of lower new capital expenditure and lower rate of return on the RAB. Powerlink estimates a reduction in the value of the RAB for the current period of $621.9m (real dollar) or $110.0m (nominal dollars) compared to the previous regulatory period.[11]

[11] Ibid, p 112

Figure 4.2: Historical return on capital and RAB growth ($ real 2021/22 and $nominal)



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

Powerlink suggests that one factor in the decline in the RAB since 2014/15 is its "prudent asset management and reinvestment approach".[12] CCP23 agrees that Powerlink's approach to asset management has undergone significant improvement since 2014/15, including adapting its approach from augmentation/replacement to a more mature assessment of options that also recognises the reality of declining demand growth.

The value of the RAB is forecast to continue to decline in the 2022-27 period. Powerlink states that the real dollar value of the RAB is forecast to decline by 9% (or $749.6m) in real dollar terms and by $19.4m in nominal terms.[13] There are several factors driving this decline in the forecast RAB, including:

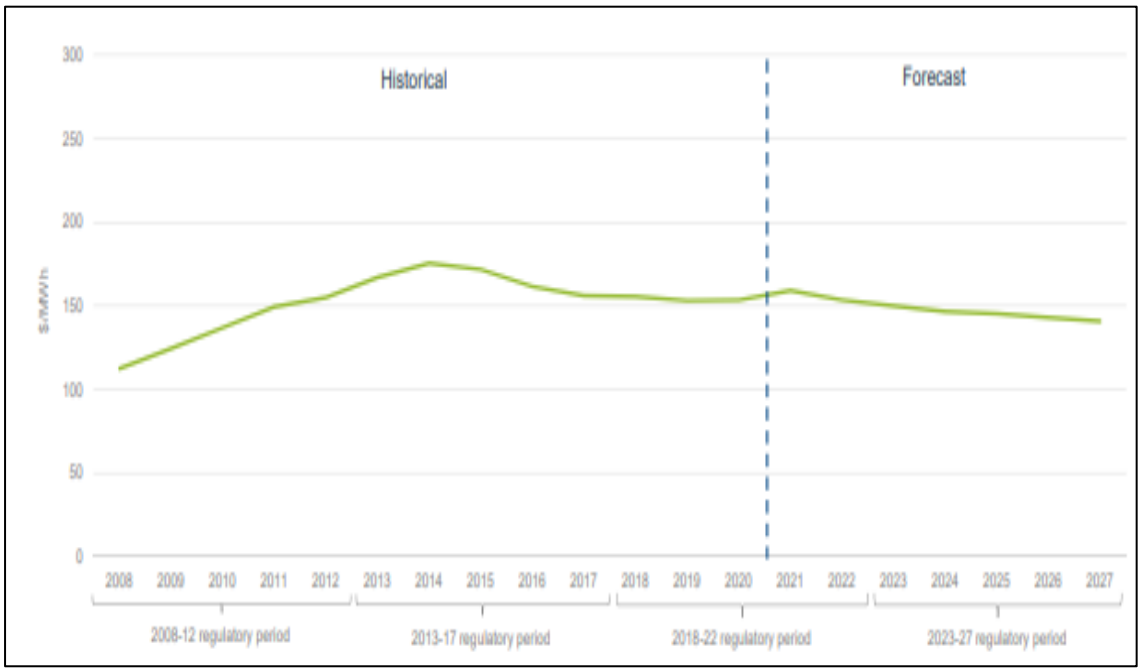
- Small reduction in new capex (in real $ terms) compared to the current period; and
- Change in depreciation methodology (discussed below).

Importantly, the decline in the RAB value in the current period and in the forecast period is resulting in improvements in in metrics such as the RAB per customer and RAB per MWh ($real, 2021/22). Figure 4.3 illustrates the decline in the RAB per MWh.

Over time, this will facilitate real reductions in the average price of Powerlink's transmission services (all other things being equal). As we discuss in the capex section of this advice, it will also contribute to improvement in Powerlink's other capex productivity measures.

[12] Ibid, p 114
[13] Ibid, p 112

Figure 4.3: RAB per MWh ($ real, 2021/22)



Source: Powerlink, *Revenue Proposal*, Figure 8.3, p 115

4.2.2 Depreciation

Powerlink's proposed total regulatory depreciation cost for the 2022-27 regulatory period is $881.3m, which is $261.2m (42%) higher than Powerlink's allowance for the 2017-22 regulatory control period. Table 4.1 summarises Powerlink's depreciation forecast.

Table 4.1: Forecast regulatory depreciation 2022-27 regulatory control period ($m real, 2021/22)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Straight-line depreciation(1)	318.6	322.7	325.1	325.0	325.4	1,616.8
Less inflation(2) adjustment on Opening RAB	(153.0)	(150.2)	(147.8)	(144.1)	(140.3)	(735.5)
Regulatory depreciation	**165.5**	**172.5**	**177.3**	**180.9**	**185.1**	**881.3**

(1) We have adjusted for forecast capital expenditure and asset disposals in each year of the regulatory period. Depreciation is calculated on these adjusted RAB values.

(2) Based on an inflation estimate of 2.25% (refer Chapter 9 Rate of Return, taxation and inflation).

Source: Powerlink, *Revenue Proposal*, Table 10.1, p 120

The increase in depreciation costs arises despite the decline in the RAB noted above. Powerlink states that this increase in depreciation cost is a result of:[14]

- Change in depreciation forecasting approach;
- Lower forecast inflation reducing the inflation adjustment; and
- Increase in depreciation from the recovery of prior years' indexation.

[14] Ibid, p 120

The inflation/indexation adjustments are 'automatic' adjustment factors in the AER's revenue model. The discussion below therefore focuses on the change in depreciation forecasting methodology.

Powerlink has proposed to change its depreciation forecasting methodology from the AER's 'traditional' weighted average remaining life (WARL) approach to what Powerlink describes as "the more accurate year-by-year depreciation tracking approach".[15]

Both methodologies are designed to enable recovery of the cost of the regulated assets over the life of these assets. The year-by-year tracking approach has been previously approved by the AER, albeit a disadvantage of this approach is that it changes the profile of recovery of these assets (compared to the WARL), and brings forward additional depreciation charges into the 2022-27 regulatory control period. Given that the outcome is NPV-neutral over the life of the assets, future energy users should see a reduction in depreciation charges (relative to the WARL approach) as a result of this change, as well as reduced aggregate depreciation as a result of the progressive decline in the value of the RAB, as highlighted above.

CCP23 also recognises that Powerlink consulted extensively with its CAP and RPRG as well as CCP23 on this proposed change to the depreciation schedule, given the significant impact on the overall revenue allowance.

As a result, Powerlink and its consumer groups agreed that some form of smoothing of the impact of this change over two regulatory periods would be beneficial to consumers and in line with concerns about affordability. Given this agreement between Powerlink and its CP/RPRG, CCP23 considers that the change in methodology is acceptable under the current Rule requirements.

4.3 Corporate Income Tax

Powerlink has applied the expected 30% statutory income tax rate for each year of the regulatory control period. In addition, Powerlink has made adjustments for immediate expensing of certain costs and applies the diminishing value approach to the majority of new capex. This is consistent with the AER's 2018 Regulatory Tax Review.

Powerlink has applied its new year-by-year depreciation approach to the tax depreciation calculation consistent with its changes to the regulatory depreciation allowance.

Overall, CCP23 advises the AER that in its opinion, Powerlink has applied the correct approach to estimating its tax allowance. However, we are not in a position to assess whether the detailed calculations for tax, tax depreciation and imputation credits are correct.

[15] Ibid

Summary response to the AER Questions

Q14: Do you have views on Powerlink's proposed RAB, as set out in its 2022-27 proposal? ***Answer: CCP23 supports Powerlink's reduction in the RAB both in the current and forecast period. This should be an ongoing focus for Powerlink because of its impact on productivity measures and on affordability of transmission services for consumers, including large direct customers.***

Q15: Do you have views on Powerlink's proposed depreciation approach as set out in its 2022-27 proposal? ***Answer: CCP23 accepts that the changes to the depreciation approach are consistent with the Rules, and the AER's decisions on this matter in previous determinations. We recognise and support Powerlink's consultation with its CAP and RPRG on these changes, and its willingness to make some adjustments to reduce the impact of the change in depreciation schedule on consumers in the 2022-27 regulatory control period***.

Q25: Do you have views on the approach to corporate income tax in Powerlink's 2022–27 proposal? ***Answer: in our opinion, Powerlink has applied the correct approach to estimating its tax allowance. However, we are not in a position to assess whether the detailed calculations for tax, tax depreciation and imputation credits are correct.***

5 Future Network

There were no specific questions about the future network in AER Issues Paper about future network issues. However, some discussion is warranted given the future uncertainties that we have mentioned elsewhere in this Advice. We also note the usefulness of Powerlink's "Business Narrative",[16] which we discussed in our response to the Powerlink Draft Proposal.

The changing energy market

The energy market is in a process of transitioning at an unprecedented rate. These changes are occurring across the energy supply value chain, from changes in generation mix, changes in energy flows within and between states, changes in the patterns of demand and changes in consumer expectations and energy decisions. Government policies sometimes lead these changes, sometimes follow these changes, and often lack consistency. For example, while state governments have set ambitious targets, and provided financial support and pathways for renewable energy and net zero carbon emissions, the Federal Government has been reluctant to do so.

Absent strong national direction, each state is increasingly 'going it alone'. Meanwhile, the Energy Security Board (ESB) and the Australian Energy Market Operator (AEMO) are attempting to map out a national plan for reform of the wholesale market, the efficient development of renewable energy supply zones and associated transmission networks across states while maintaining security of supply in all states. In parallel, the Australian Energy Market Commission (AEMC) is introducing a suite of rule changes to respond to and to drive these changes. Powerlink's proposals, including its proposed capex and opex forecasts, have been made in the midst of these operational and policy challenges.

CCP23 expects that further changes will have to be made between the January 2021 proposal and the revised proposal due in November 2021. For example, and as we explain in Section 6, the NSW Energy Infrastructure Roadmap (EIR) has consequences for the flows of energy between Queensland and NSW. Traditionally, the majority of energy flows have been from Queensland to NSW, but if the EIR proceeds according to the current plan, then there may be many occasions when energy will flow from NSW to Queensland with the potential for constraints on the Queensland network.

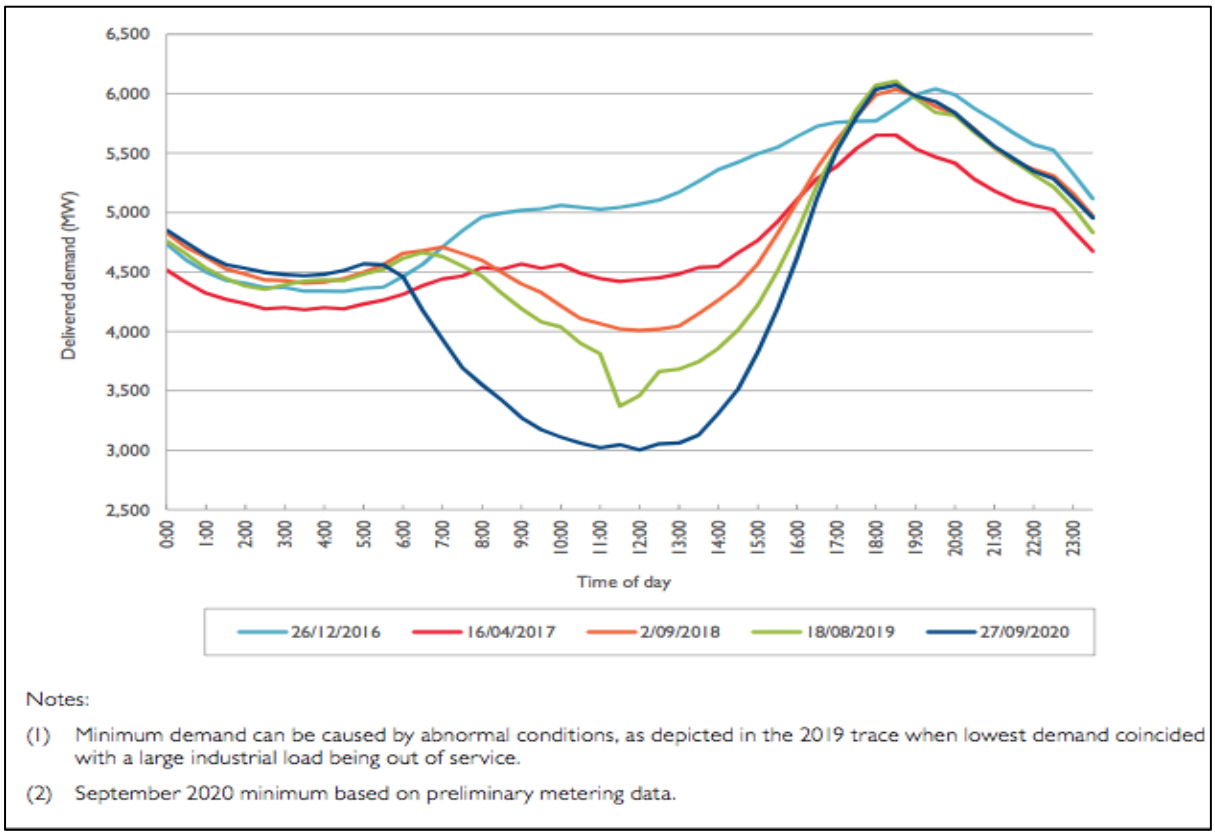
Powerlink is already reviewing the potential impact of this challenge along with many other developments in the energy market. The discussion below highlights some of these additional challenges to Powerlink's transmission network planning. Section 6 on Powerlink's capex proposal further discusses the potential impacts on network requirements.

Figure 5.1 below illustrates the dramatic change in daily minimum operational demand driven by the growth in behind the meter distributed energy resource (DER). While this is initially an issue for the distribution system, it also has a potential impact on system strength across the transmission system, particularly with the parallel growth in large scale renewable energy generation. Powerlink reports that in 2020 in Queensland alone there were over 700,000 installed solar PV systems with an aggregate state-wide capacity of more than 3.300 MW.[17]

[16] Appendix 2.01 to revenue proposal https://www.aer.gov.au/system/files/Powerlink%20-%20Appendix%202.01%20-%20Business%20Narrative%20-%20January%202021.pdf

[17] See for instance, Powerlink, 2020 *Transmission Annual Planning Report*, November, 2020, p 36

Figure 5.1: Transmission delivered annual minimum demand for the Queensland Region (1)(2)



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.

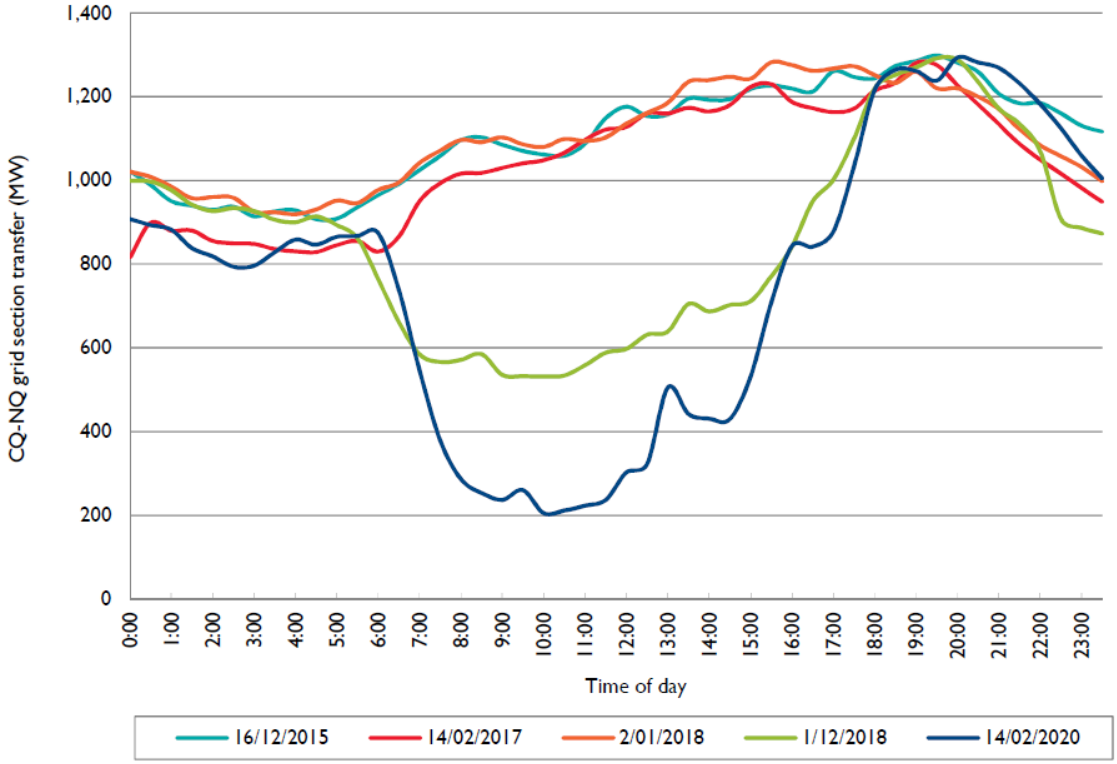
(2) September 2020 minimum based on preliminary metering data.

Source: Powerlink, *2020 Transmission Annual Planning Report*, p 36. Queensland region (1) & (2)

Powerlink has identified that the minimum operational demand now occurs in the daytime rather than at night, and there are changes to electricity flows and impacts on voltage control and system strength in the network system.

The expansion of non-synchronous generation poses an immediate challenge for the operation of some of the 'weaker' parts of the existing transmission network, such as the Central Queensland to North Queensland (CQ-NQ) transmission zones. Figure 5.2 below illustrates the trend and also highlights the speed of recent energy market changes. While the peak grid section transfer daily profile was relatively consistent between 2015 and 2018, the following two years saw rapid reductions in mid-day transfers.

Figure 5.2: Historical CQ-NQ peak grid section transfer daily profile



Source: Powerlink, *2020 Transmission Annual Planning Report*, Figure 6.13, p 157

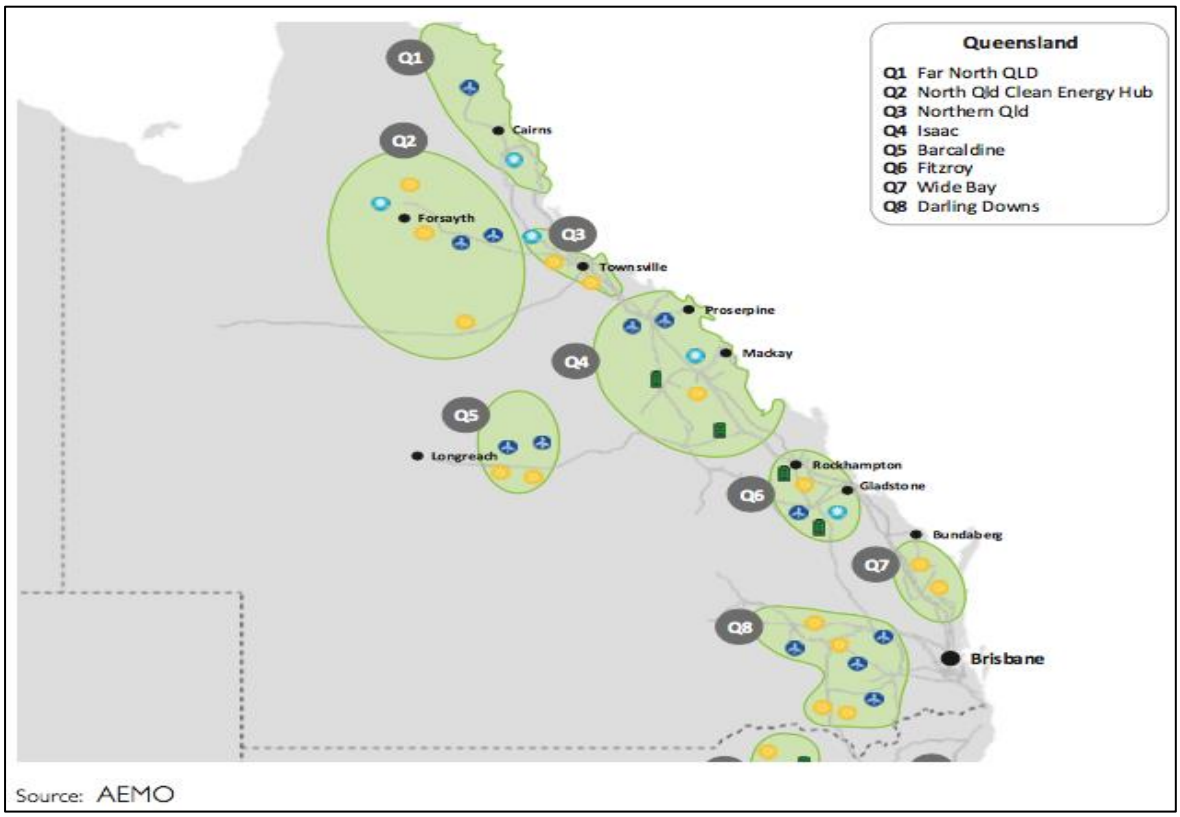
Powerlink states:[18]

> *These midday reductions in transfers are introducing operational challenges in voltage control. Midday transfers are forecast to continue reducing with commissioning of additional capacity of VRE generators and integration of additional rooftop photovoltaic (PV) in NQ.*

While the charts above highlight the extent to which the energy market has changed over the last two years, it is also clear that this pace of change will continue and even increase. The Queensland Government has set out a target of 50% renewables by 2030 and committed a total of $645m to support the Queensland REZ development, along with support for additional PV 'behind the meter' systems. Figure 5.3 below sets out AEMO's forecast for REZ developments in Queensland.

[18] Powerlink, *2020 Transmission Annual Planning Report,* November 2020, p 158.

Figure 5.3: REZ development proposals in Queensland



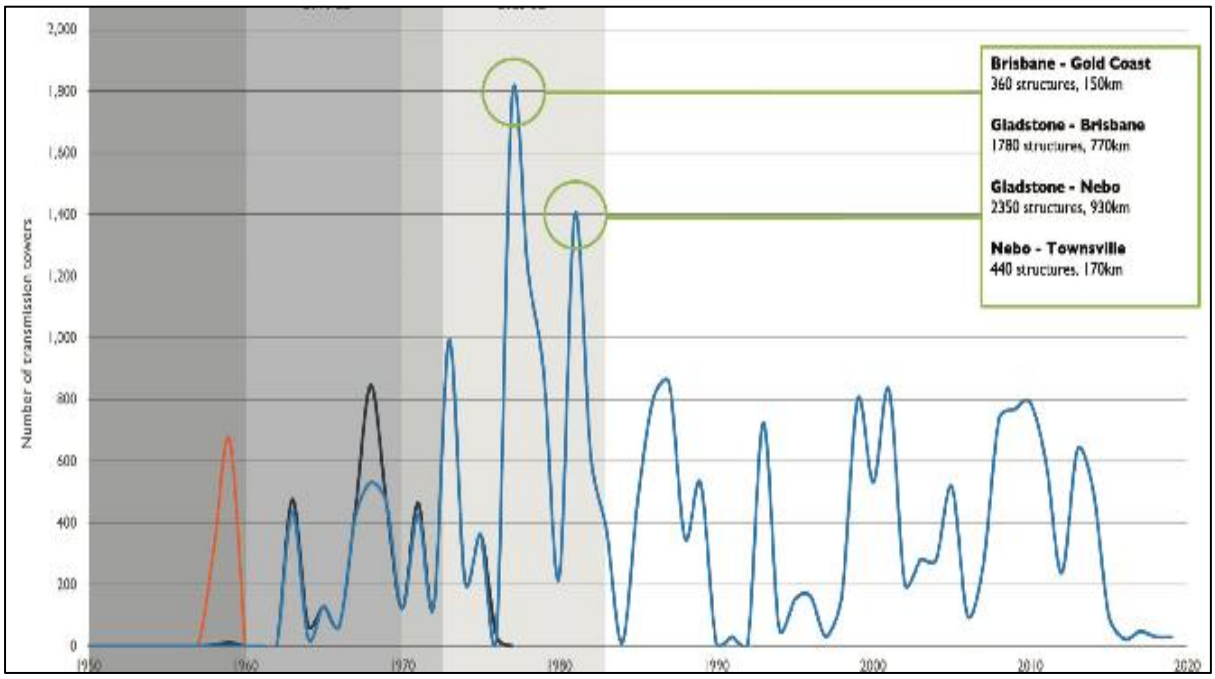
AEMO's central forecast scenario suggests:

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

These developments will require Powerlink to explore and invest in additional reactive devices, non-network solutions, and expansion of storage or support for third parties to expand storage to mitigate the risk of over voltages and address declines in system strength.

Powerlink also states that it faces the challenge of an aging network with many areas due for replacement over the next regulatory periods. For example, many of its transmission lattice towers were installed in the 1960s and 70s, and are reaching the end of their functional life as illustrated below in Figure 5.4 below.

Figure 5.4 Age profile of steel lattice transmission towers.



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

Section 6 further discusses the implications of the energy market changes for Powerlink's capex proposal.

6 Capex

AER Issues paper questions

Capital expenditure

16. Do you consider Powerlink's capex proposal addresses the key themes of affordability, sustainability, and reliability?

17. Do you consider Powerlink's capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?

18. Do you consider Powerlink's hybrid approach to forecasting replacement Capex, including Powerlink's use of the replacement expenditure (repex) model, is appropriate and likely to produce a forecast of efficient replacement capex?

19. Do you consider Powerlink's economic assessment framework and project documentation provide appropriate justification for its proposed capex projects and programs?

20. Do you consider Powerlink's total forecast capex reasonably reflects the efficient costs of a prudent operator?

The following sections in chapter 6 of this advice will provide the broad framework for addressing the AER's questions while also highlighting other important matters. In the conclusion to chapter 6, we provide a summary response to each of the AER's questions.

6.1 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 investment 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, e.g. to address system strength issues
    - Co-operation with third parties.
- AER's annual economic productivity study confirms capital productivity growth rate remains negative as highlighted below. Transformer capex is a major contributor to this outcome as of increasing input costs outstripping outputs from the network.
    - 2006-2012 = -2.89%/annum
    - 2012-2019 = -0.79%/annum

6.2 Context

Powerlink's capex proposal has been developed in the context of significant changes in the Australian energy market in recent years, changes that are expected to accelerate over the coming years. As Powerlink highlights in its proposal, the energy supply market has moved from a small number of large centralised generators supplying major loads and distributors to one that interconnects an increasing number and diversity of generators, loads and transport flows.

Powerlink's 10-year Network Vision, which guides its overall capex planning, is framed around the themes of decarbonisation, decentralisation, demand disruption and digitisation. The capex plan also recognises more specific factors including:

- Cost pressures: For example, competition for scarce human skills and resources, impacting on wage expectations and the legislated increases in the Superannuation Guarantee rate.
- Government policy and regulation
    - At the NEM level: COGATI, ESB Post 2025 Market Design, Renewable Energy Zones, and Critical Infrastructure legislation.
    - At the State level: Queensland Government 50% by 2030 renewable energy target, and financial and policy support for expansion of the renewable energy zones; the NSW Energy infrastructure Road Map (November 2020). The NSW Road Map is designed to promote a rapid expansion of renewable energy in the state, which in turn, may impact on the direction and timing of electricity flows between NSW and Queensland.
- Environmental factors and, in particular, the impact of climate change on the prevalence and intensity of weather events such as fire and storms in Queensland and interstate.
- Addressing current and future system strength issues arising largely from the expansion of renewable connections across most areas of the transmission system and the associated declining minimum d6mand on the network. Table 6.1 below summarises these challenges by transmission zone.

Table 6.1: Limitations in the five-year outlook period

Limitation	Zone	Reason for anticipated limitation	Time limitation may be reached			Reference
			1-year outlook (2020/21)	3-year outlook (up to 2023/24)	5-year outlook (up to 2025/26)	
System Strength Services in Queensland to address Fault Level Shortfall at Ross (1)	Far North	AEMO declared system strength shortfall April 2020		Immediate shortfall with services required to be in place by 31 August 2021		Section 5.7.1
Managing voltages in Queensland	Central West			2020/21 (1)		Section 5.7.4
	Moreton			2022/23		Section 5.7.10

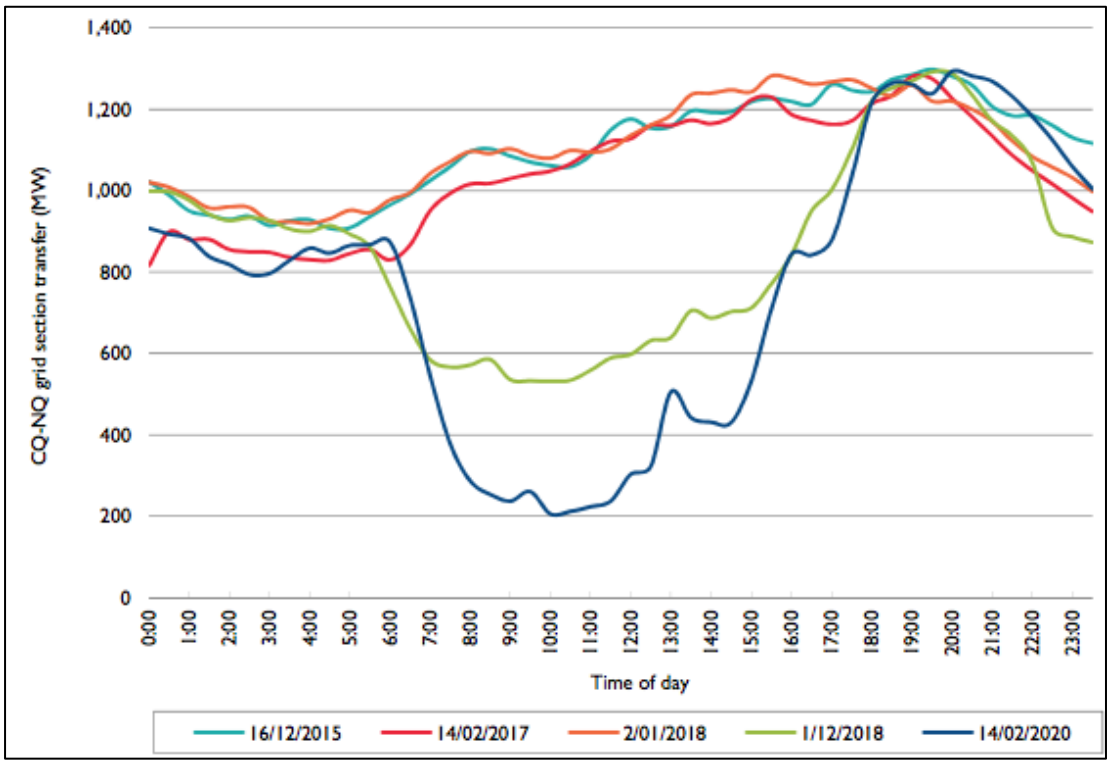
Note:

(1) The network risk associated with this limitation is currently being managed through a range of short-term operational measures until such time as the most economic long-term solution can be implemented.

Source: Powerlink, *Transmission Annual Planning Report 2020*, Table 5.2, p 76.

The above discussion also highlights Powerlink's challenge in managing peak flows on the network. For example, Figure 6.1 below illustrates the challenges of change on the Central Queensland to North Queensland (CQ-NQ) section of the network up to February 2020. As more renewables come on stream (including behind the meter growth in solar PV, and large scale REZ developments), this challenge will only increase into the forecast 2022-27 regulatory period, as discussed above in Section 5.

Figure 6.1: Historical CQ-NQ peak grid section transfer daily profile



Source: Powerlink, Transmission Annual Planning Report 2020 – Full Report, Figure 6.12, p 157.

CCP23 supports the progress Powerlink is making in recognising the need for flexible planning and integrating all these challenges into its strategic capex planning framework. We also acknowledge Powerlink's program to keep its stakeholders informed of these changes and challenges.

This should be a continuous process that will require Powerlink to adapt its forecast plans over the course of the 2022-27 regulatory control period and beyond. An important example of this is the assessment of the impact of the NSW Energy Infrastructure Roadmap on the operation of the Queensland transmission network, which is likely to be substantial. These changes may also be reflected in AEMO's 2022 ISP, resulting in a further need for changes in focus in Powerlink's capex plans.

6.3 Change in capex investment profiles

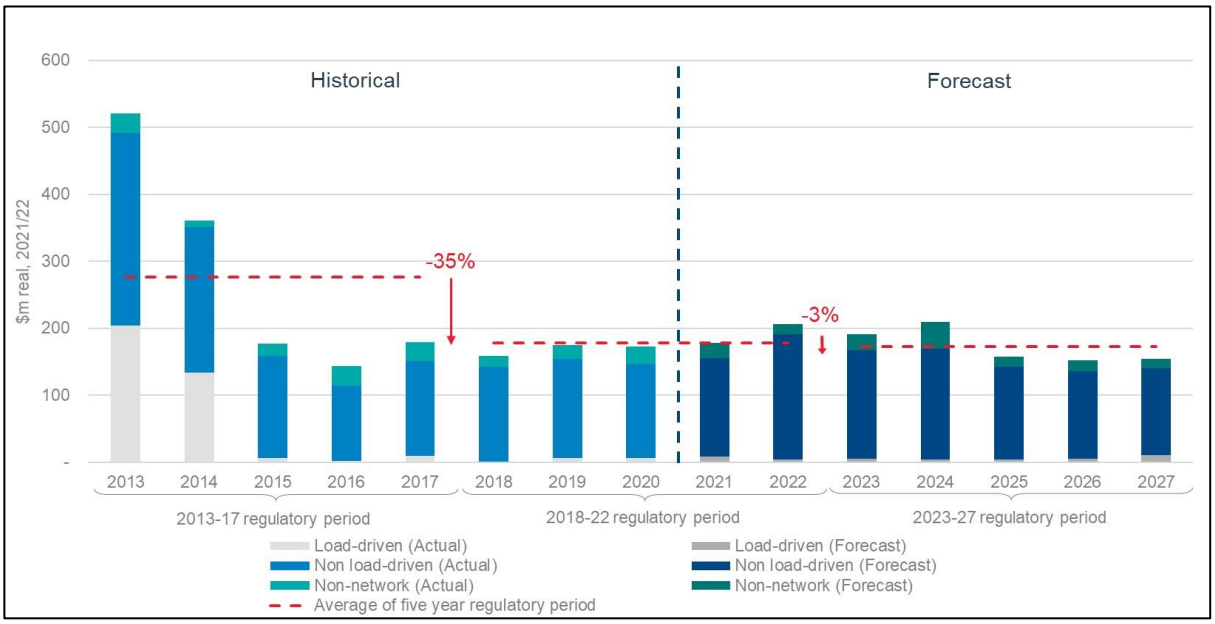
Powerlink's current and proposed capex appropriately reflects the changed expectations of growth in demand for prescribed transmission services. In particular, the proposal prioritises reinvestment in the existing transmission system where in the past the priority has been on 'load-driven' (augmentation) of the network to meet expected demand growth.

Figure 6.2 below illustrates the dramatic change between the 2013-17 period and the current and forecast regulatory control periods. In 2013-17, augmentations made up some 32% of the total network capex. In the 2018-22 period, augmentations are expected to make up only around 2.8% (excluding easements) of the system capex forecast.

The expenditure on easements acquisition in the 2022-27 period is reasonable given AEMO's directions based, in turn, on the expectation of additional transmission network capacity required for the Queensland/NSW Interconnector (QNI) Medium upgrade (due early 2030s).

This emphasis on reinvestment capex continues into the 2022-27 forecast period.

Figure 6.2: Historical and forecast Capex by expenditure category ($2021/22)



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

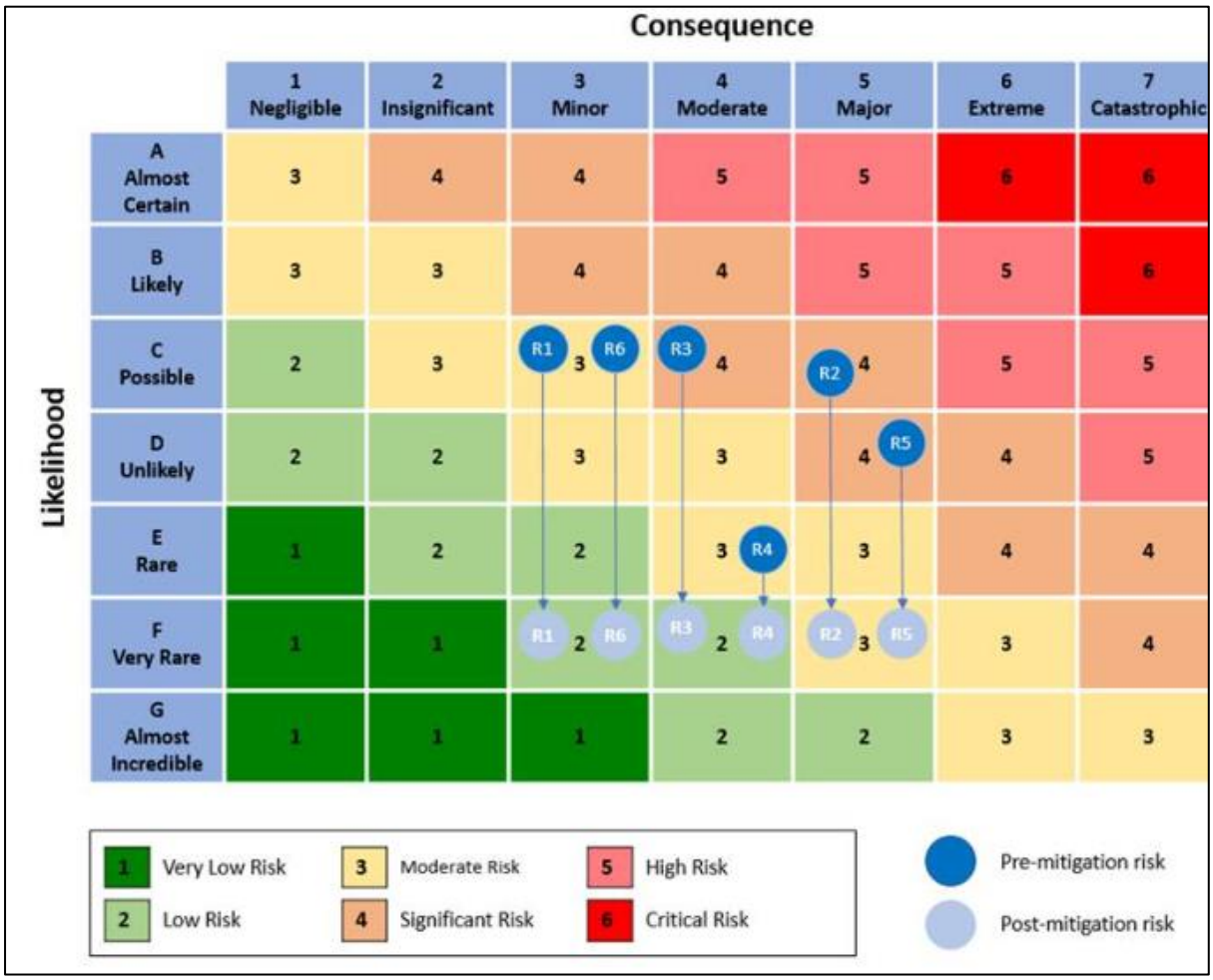
Non-system capex

Powerlink proposes non-network capex of $107.7m for the 2022-27 period, which is 6.7% higher than the expected expenditure in 2017-22 period.

The majority of expenditure in this category relates to expenditure on recurrent and non-recurrent information and communication technology (ICT) systems. Powerlink has made some important steps to enhance its approach to ICT investments and to enhancing the transparency of the outcomes of this investment.

In particular, Powerlink has recently developed an 'IT Benefits Realisation Framework', which it has presented to its CAP in February 2020. Powerlink has also developed its approach to Investment case assessment. As an example of Powerlink's current approach to ICT planning, Figure 6.3 illustrates the assessment of options to address existing system technology applications. It compares the base case risk in 2027 with the preferred 'Option 2'. Option 2 sets out the business case for IT renewal against the base case for the deferral of renewal of its existing systems.

Figure 6.3: Example - Option 2, IT project risk assessment (against the base case)



Source: Powerlink, *IT06 Technology Application Sustainability*, January 2021, Figure 3, p 17.

CCP23 considers that this example, and the other ICT business cases presented in the proposal, provides a systematic methodology for assessing the risks and benefits of various ICT solutions.

At our early meetings with Powerlink, CCP23 stressed the importance of consumers having visibility of the forecast and actual benefits achieved through the ICT expenditure. It is an area that we hope that Powerlink can continue to develop.

The proposed expenditure on ICT of $59.3m ($2021/22) is almost evenly spread between non-recurrent expenditure and recurrent expenditure. CCP23 recognises that expenditure on new ICT is fundamental to operating a future transmission network with complex flows, constraints and supply/demand volatility. In addition, we accept the importance of enhancing cyber security on the network. For these reasons, we accept Powerlink's ICT proposal, along with the remaining non-system capex.

6.4 Powerlink's enhanced Capex planning processes

The reduction in the augmentation capex and improved planning processes has enabled Powerlink to reduce its total Capex budget by 35% between 2013-17 and 2018-22, with a further 3% reduction proposed for the 2022-27 period.

The improved planning process is illustrated in Powerlink's *2020 Transmission Annual Planning Report*, and is set out in Figure 7.4 below. CCP23 supports Powerlink's replacement decisions where these are not

based simply on asset age. The decisions about replacement also include the assessment of asset condition and, importantly, consideration of options such as:

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

A further important development is Powerlink's expanded capex consultation framework. We have discussed in Section 2 Powerlink's overall customer consultation framework including its Customer Panel and the RPRG. An important outcome of these consultations with the Customer Panel and the RPRG was a significant reduction of around 12% in Powerlink's proposed capex from draft proposal to the final proposal.

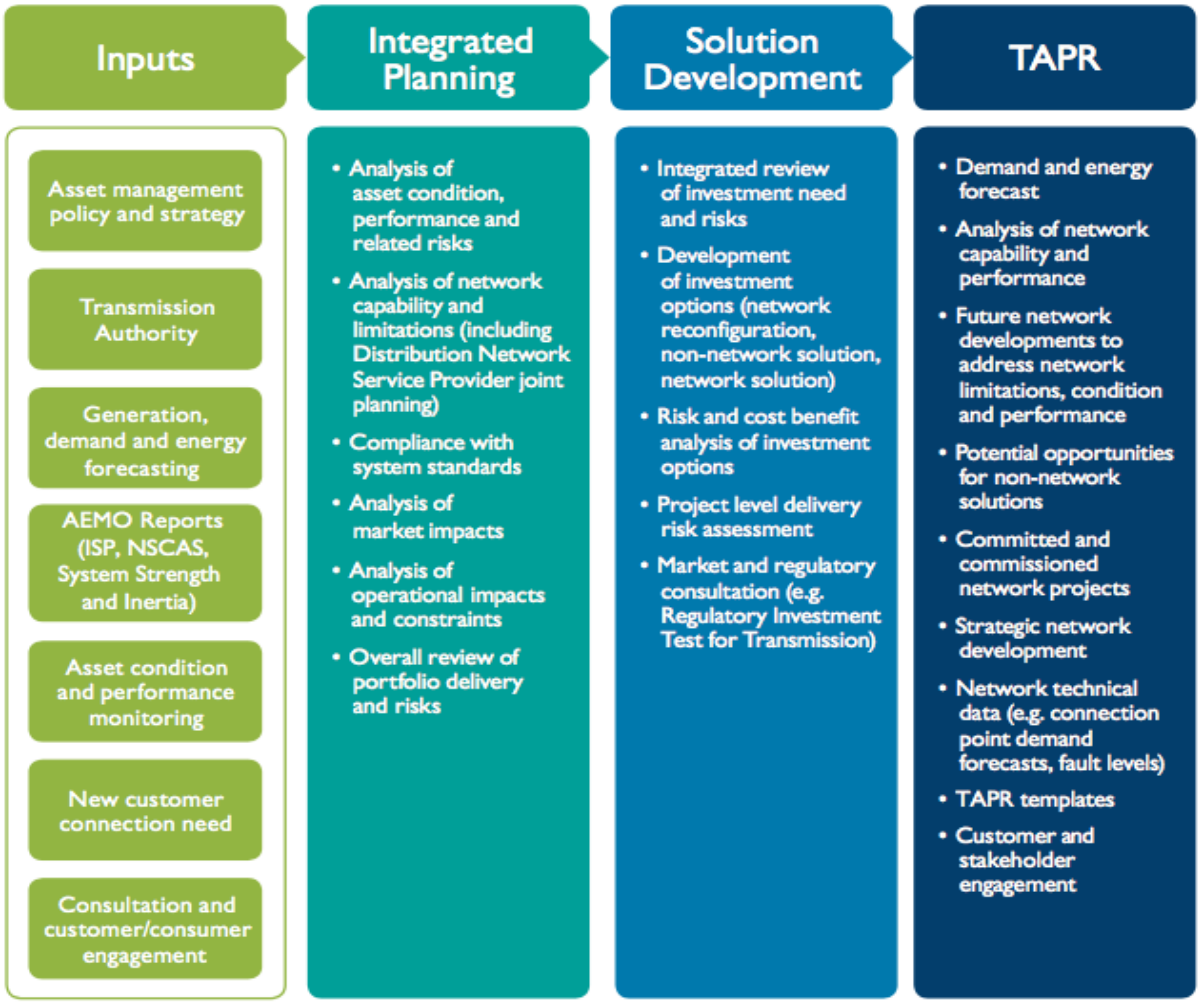
In addition, and following additional consultation with the Customer Panel, RPRG, AER and CCP23, Powerlink removed its proposal for contingent reinvestment projects. While we understand the difficulty under the current NER to propose contingent reinvestment projects, CCP23 has some sympathy with the underlying principle that in a period of rapid change, there should be the same flexibility for networks to propose a contingent project for reinvestment projects as there is currently for augmentation projects.

We therefore provide conditional support for Powerlink's advice that it will continue to explore how contingent reinvestment projects may be allowed for transmission networks, providing that consumers can be assured that this does not become a 'backdoor' to minimising transparency and consultation on expected capital investment programs. The stricter assessment and consultation requirements now included in the AER's Regulatory Investment Test (RIT-T) may provide some comfort on this matter.

Powerlink's consultation process also includes consultation with the Queensland DNSPs, AEMO, the NSW transmission company (TransGrid); Queensland Government, current and future direct customers of Powerlink; potential non-network service providers and consumers in general. CCP23 commends this expanded program as not only appropriate but most necessary in a period of significant changes in the energy market (as discussed in Section 5 above).

Consistent with this, we also see evidence of, and support, Powerlink's active role in the development of Queensland's energy policy, AEMO's Integrated System Plan (ISP) and in the development of national technical standards.

Figure 6.4: Overview of Powerlink's 2020 integrated planning process



Source: Powerlink, *Transmission Annual Planning Report 2020*, Figure 1.1

As a final observation on Powerlink's enhanced capex planning process, Powerlink has adopted a 'hybrid+' Capex forecasting model. The hybrid model provides for the assessment of Capex costs using both 'bottom up' and 'top-down' evaluation methodologies. The former looks at the cost benefit of individual large projects, the latter consider the overall capex expenditure trends (in total and by segment). Around 70% of Powerlink's proposed capex is based on 'bottom-up' assessment of individual projects.

CCP23 considers both approaches are important tools foe planning and forecasting, particularly in the context of transmission networks where much of the proposed capex is based on individual large-scale projects, and the investment in these large-scale projects varies from year to year in a way that makes trend analysis inappropriate.

In our response to Powerlink's Draft Proposal, CCP23 expressed its concern with the lack of clarity about how the hybrid+ model was applied in practice. We are pleased to see that the Powerlink's Final Proposal provides a much clearer explanation of what capex is allocated to the bottom up or to the top down assessment processes, and why it is allocated to these categories. We are satisfied that this approach is reasonable for a transmission company. We also recognise that Powerlink's *Transmission Annual Planning Report* provides further exploration of potential scenarios affecting transmission requirements in each of its supply zones as well as options for addressing constraints and reliability issues in each zone.

6.5 Capex productivity

As indicated in previous sections of our capex review, CCP23 is generally supportive of Powerlink's capex proposal and the processes that underpin the development of this proposal.

However, CCP23 considers that there should be a more explicit focus on capex productivity. While Powerlink's proposal locks in an annual improvement in opex productivity, there is no such overt commitment to improvements in productivity in capex.

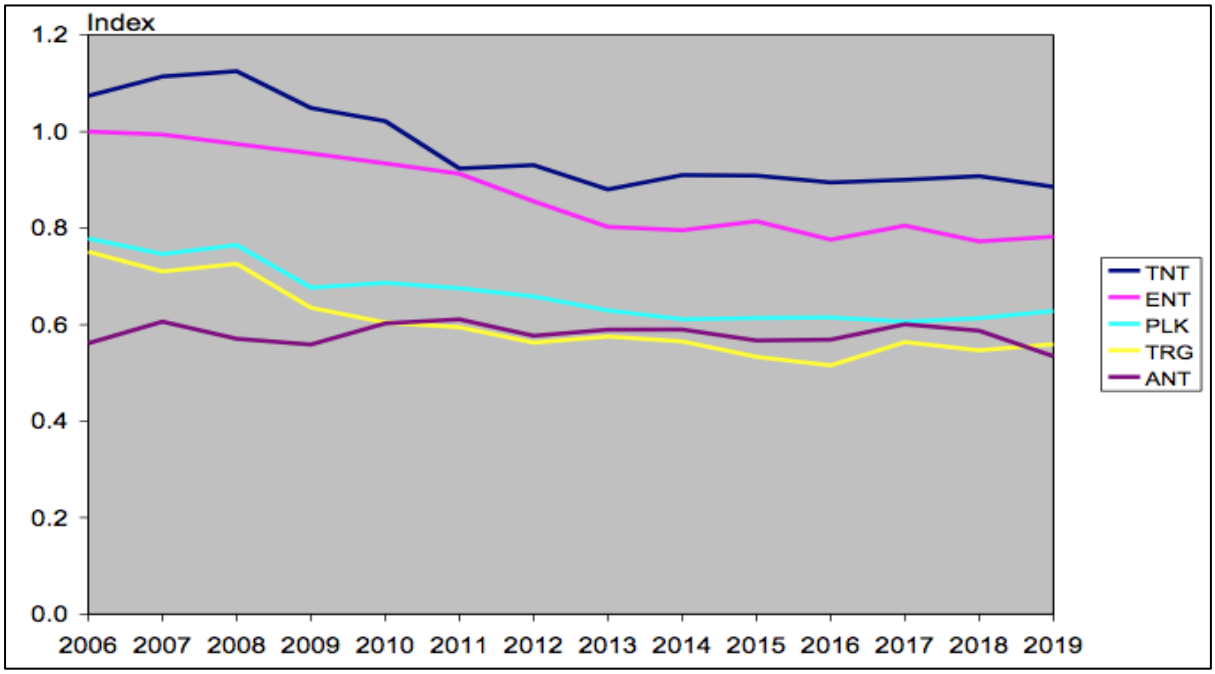
CCP23 has focused on this issue because we are aware of the challenges that will face Powerlink in the next decade in regard to the balance of investment and utilisation of the network in the face of the energy market changes, including REZ developments and ISP related projects. We therefore encourage Powerlink to provide a more explicit discussion on opportunities for capex productivity growth in the forecast period.

More specifically, Figure 6.5 below illustrates the decline in Powerlink's capex productivity (as measured by the AER's annual benchmarking study) since 2006, albeit this downward trend has stabilised over the last 5 years.

Powerlink's relative position compared to the other four transmission companies operating in the NEM remains stable, but also continues to be in the lower half of the five transmission businesses. However, CCP23 also recognises the limitations of the benchmarking exercise when comparing different transmission networks facing very different challenges.

Our focus is therefore on the trend in individual transmission companies over time, rather than the comparisons between the transmission companies.

Figure 6.5: Multilateral capital partial productivity indexes, 2006-2019



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

The negative growth rate in capex productivity contrasts with the positive growth rate in opex as illustrated in the following table provided by the AER's advisors, Economic Insights. Table 6.2 also illustrates that the 'input index' continues to outstrip the 'output index'.

Table 6.2: Powerlink's productivity measures 2006 - 2019

Table 4.5 **PLK's output, input and total factor productivity and partial productivity indexes, 2006–2019**

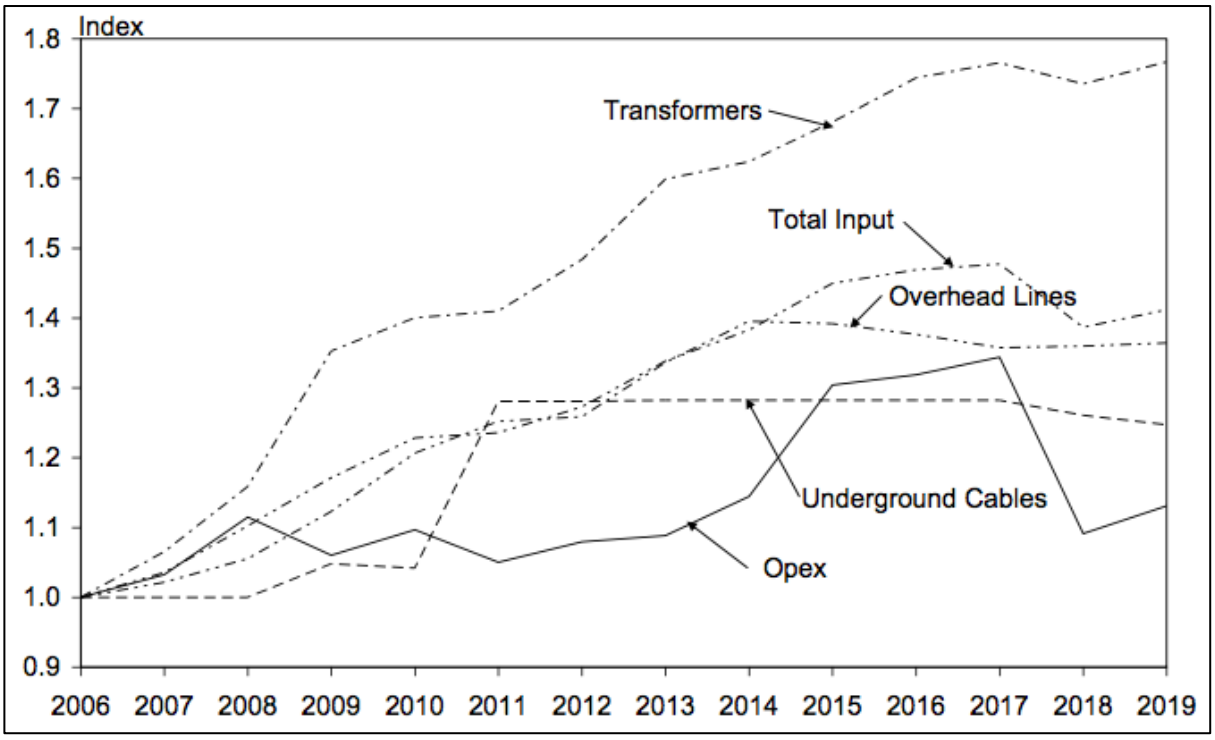
Year	*Output Index*	*Input Index*	*TFP Index*	*PFP Index*	
				Opex	*Capital*
2006	1.000	1.000	1.000	1.000	1.000
2007	0.992	1.035	0.958	0.961	0.956
2008	1.050	1.102	0.953	0.942	0.962
2009	1.052	1.171	0.899	0.993	0.862
2010	1.125	1.228	0.916	1.026	0.874
2011	1.127	1.236	0.912	1.073	0.857
2012	1.139	1.273	0.895	1.055	0.841
2013	1.167	1.338	0.872	1.072	0.806
2014	1.164	1.383	0.842	1.017	0.781
2015	1.192	1.450	0.822	0.914	0.787
2016	1.206	1.469	0.821	0.915	0.785
2017	1.193	1.477	0.808	0.888	0.777
2018	1.195	1.387	0.862	1.095	0.785
2019	1.226	1.412	0.868	1.084	0.796
Growth Rate 2006–19	1.56%	2.65%	–1.09%	0.62%	–1.76%
Growth Rate 2006–12	2.17%	4.02%	–1.85%	0.90%	–2.89%
Growth Rate 2012–19	1.05%	1.48%	–0.44%	0.38%	–0.79%

Source: Economic Insights*, Economic Benchmark Results for the Australian Energy Regulator's 2020 TNSP Annual Benchmarking Report,* October 2020, Table 4.5, p 38.

We recognise that, at least in part, this long-term decline in capex productivity reflects the very significant capex investments in the period 2007 to 2014, particularly given the declining growth in operational demand. In addition, Economic Insights modelling highlights the contribution of the rapid increase inputs such as transmission transformer costs, in the decline in capex productivity.

This is illustrated in Figure 6.6 below. Powerlink's proposal for 2022-27 proposal includes further growth in investment in transformers, a cost growth that will not be offset by commensurate increase in maximum demand or energy flow.

Figure 6.6: Powerlink's input quantity indexes, 2006-2019.



Source: Economic Insights, *Economic Benchmark Results for the Australian Energy Regulator's 2020 TNSP Annual Benchmarking Report,* October 2020, Figure 4.11, p 40.

Productivity can also be considered in the context of the value of the RAB. Powerlink's recent improvements in its approach to capex planning mean that the RAB value has declined in both nominal and real terms over the current regulatory control period. This provides an opportunity for Powerlink to improve its performance on the AER's partial productivity measures as set out in the AER's annual report, "*Transmission network service provider benchmarking report*" (November 2020). In turn, this can translate into long term sustainable improvements in affordability.

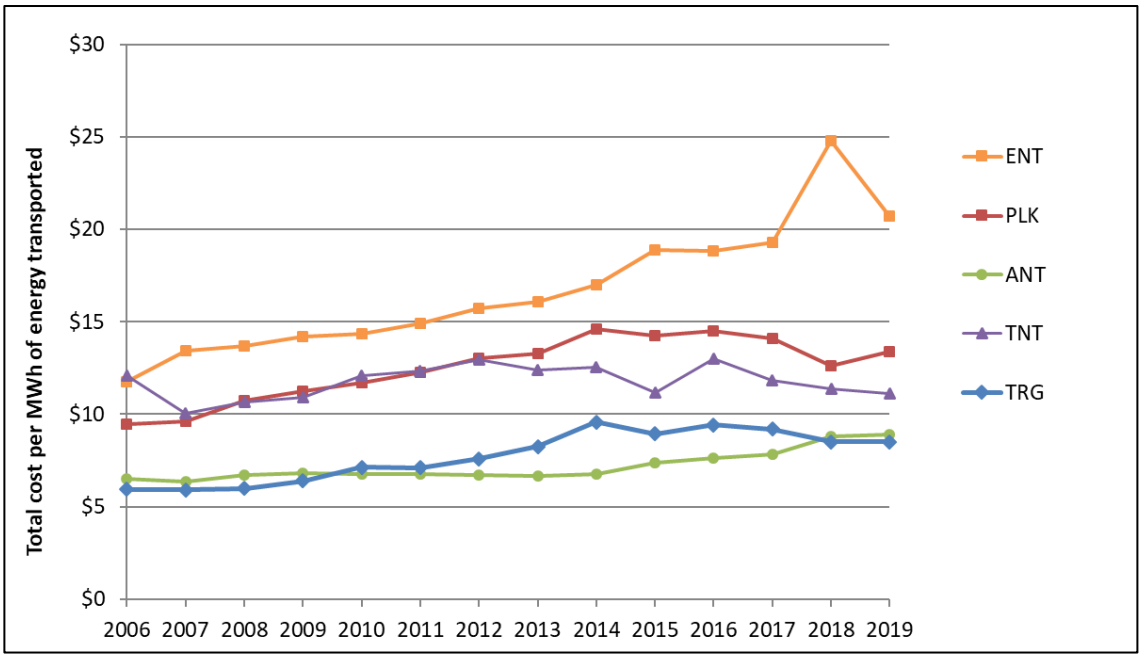
The AER reports the following results for Powerlink on its partial productivity measures for the period 2006 to 2019.[19]

- Total cost per end user: Increase of 21%
- Total cost per Mega Volt Amp (MVA) of non-coincident maximum demand: Increase of 31%
- Total cost per MWh of energy transported: Increase of 41%

Figure 6.7 provides an illustration of these changes in the context of total cost per MVA.

[19] See AER, *2020 transmission network service provider benchmarking report*, November 2020, pp 24-28. Note: this includes all costs, expressed in $2019.

Figure 6.7: TNSP total cost per MWh of energy transported (2019), 2006-2019



Source: AER, *2020 Transmission network service provider benchmarking report*, November 2020, Table 4.8, p 28

On all of these three measures, Powerlink's position has stabilised or has slightly improved (in absolute real $ terms) in the last few years. We find this an encouraging development. As suggested above, CCP23 recommends that Powerlink continues to focus on driving further improvements in the productivity of its capital investment in its transmission services in order to best meet the challenges ahead.

6.6 CCP23 observations

Powerlink has conducted an open and transparent process in preparing its capex proposal including acting on the request of its consumers to significantly reduce the proposed capex between the draft and final proposal.

The final proposal has been prepared with a stronger analysis on Powerlink's operating environment over 2022-27, including changes in the energy markets and energy policy at both state and federal levels. The proposal also provided greater clarity on Powerlink's planning process including its Hybrid+ approach.

We support these developments, and Powerlink's focus on reinvestment capex rather than augmentation capex.

However, CCP23 has highlighted the importance of an explicit and ongoing focus on capex productivity growth in the forecast period. While Powerlink has committed to an annual increase in opex productivity, there is no such commitment made to drive improvements in capex productivity over the 2022-27 period.

We contend that a focus on capex productivity is required in the face of the multiple challenges posed to the network by changes in the energy market, Government energy policies, expansion of both small and large scale renewable generation, the roll out of the ISP projects over the next decade, and the environmental challenges posed by climate change.

Summary response to the AER Questions

Do you consider:

Q16: Powerlink's capex proposal addresses the key themes of affordability, sustainability and reliability? ***Answer: Yes, Powerlink has addressed these issues and responded by reducing its capex proposal between the draft and final proposal in response to consumers' concerns. However, this must be a continuous process, along with a focus on capital productivity as Powerlink continues to face the overhang of excess capital investment pre 2015, and in the face of a rapidly changing energy market.***

Q17: Powerlink's Capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal? ***Answer: Yes, Powerlink has been responsive to the concerns raised by consumers, their representatives and the CCP23.***

Q18 Powerlink's hybrid approach to forecasting replacement capex, including Powerlink's use of the replacement expenditure (repex) model, is appropriate and likely to produce a forecast of efficient replacement capex? **Answer:** ***Yes, Powerlink's hybrid+ approach, with 70% of the total capex involving a bottom up analysis, represents an appropriate blend of detailed project analysis and trend forecasting.***

Q19: Powerlink's economic assessment framework and project documentation provide appropriate justification for its proposed capex projects and programs? ***Answer: Yes, Powerlink has provided appropriate documentation, and the detail of this is also supported in their 2020 Transmission Annual Planning Report which considers a variety of options including non-network solutions to address reliability, system strength and system constraints.***

Q20: Powerlink's total forecast capex reasonably reflects the efficient costs of a prudent operator? **Answer:** ***Needs further testing: CCP23 has not examined the detailed costing of its capex proposals although we expect that the AER is better positioned to do this and to compare unit costs with other transmission companies and best practice. We have highlighted the need for Powerlink to set capex productivity improvement targets, particularly in the face of the challenges that will emerge over the next 10 years. Over this period, the energy market will undergo profound changes and new costs will emerge as a result of these challenges while it is likely that utilisation of the existing network will decline in most zones.***

7 Contingent Projects

AER Issues Paper question

21. Do you consider Powerlink's proposed contingent project should be included as a contingent project for the 2022–27 period? Is the proposed project trigger appropriate?

7.1 Powerlink's Proposed Contingent Project

Powerlink proposes one contingent project, the "Central to North Queensland Reinforcement Project" (CNQRP). The project comprises the stringing of the second circuit of an existing double circuit line between Stanwell and Broadsound that currently has only one side of the double circuit strung.

Powerlink claims this additional circuit may be required in the event there is significant demand growth in central/north Queensland. Powerlink states:[20]

> *The Central West and North Queensland zones are areas where significant increases in the demand and energy are plausible during the 2023-27 regulatory period. The most significant sources for this increased load include, but may not be limited to, development of the Copperstring transmission project to connect Mt Isa and the North West Minerals province to the National Electricity Market, and development of large scale coal mines in the northern Galilee Basin and associated rail and port infrastructure.*

Powerlink also states that the indicative cost of the proposed contingent projects is $52.3m (real, 2021/22) or $57.2m (nominal), which is above the contingent project threshold of $34.5m (nominal).[21]

The Table below presents Powerlink's summary of the potential new large loads that they consider as being "Probable or Plausible" sources of increased load on the existing transmission system in the Central West and North Queensland zones that make up the load trigger for this proposed contingent project.[22]

Table 7.1: Probable and Plausible potential new large loads

Table 1.1: Probable or Plausible potential new large loads

Connection Zone	Description	Possible load
Ross	Connection to North West Minerals Province (Mt Isa)	Up to 350 MW
North	New coal mining load (northern Galilee Basin area) and associated port expansion	Up to 300 MW

In assessing the potential impact of new large loads, Powerlink notes that power transfer capability into northern Queensland is limited by existing thermal ratings or voltage limitations, depending on prevailing weather conditions and scheduled generation.[23]

In particular, Powerlink describes the potential impacts of the identified probable and plausible new loads as follows:

[20] Powerlink, *Revenue Proposal 2022-27, Appendix 5.07 – Contingent Projects*, p 3.
[21] Ibid, p 2, and Table 1.2. The $34.5m represents 5% of the proposed MAR
[22] Ibid, p 2
[23] Ibid, p 3

- Limitations on power transfer Capability into Northern Queensland, which may lead to thermal overload or voltage instability.
- Network congestion between Central Queensland and North Queensland causing for instance, dispatch of out-of-merit-order generation in North Queensland, where generation costs are higher than the NEM.

Powerlink concludes that:[24]

> *The additional load in northern Queensland that would justify the network augmentation in preference to continued network support is between 250 MW and 380 MW. The lower bound assumes the out-of-merit-order generation is predominately liquid fuelled at approximately $450/MWh, while the upper bound assumes up to 240MW of gas fired generation is available at approximately $60/MWh.*

Powerlink's proposed 'trigger events are set out in the proposal as follows:[25]

> *Commitment of additional load in excess of 250 MW to be connected to the Central West and/or North Queensland zones that requires the dispatch of higher cost generation in northern Queensland to maintain power transfers within limits.*
>
> *Successful completion of the RIT-T including a comprehensive assessment of credible options, that demonstrates a network investment by Powerlink maximises the net market benefit while meeting Powerlink's reliability of supply obligations to North Queensland; and*
>
> *Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2023-27 revenue determination pursuant to the Rules.*

7.2 Requirements under the Rules

The NER sets out the requirements for the AER to accept a contingent project proposal (NER, 6A.8.1). The more relevant criteria are summarised below.[26]

- The proposed contingent project is reasonably required to be undertaken in order to achieve any of the capital expenditure objectives for the relevant regulatory control period.
- The proposed capex is not otherwise provided for (either in part or in whole) in the forecast capex.
- The proposed contingent project exceeds the materiality threshold of either $30m or 5% of the value of the maximum allowed revenue (MAR) for the first year of the forecast regulatory control period (whichever is the larger amount).
- The proposed trigger events in relation to the proposed contingent projects are appropriate.

In determining whether a trigger event is appropriate, the AER must have regard to the matters set out in the NER, including the following:

- A condition or event must be reasonably specific and capable of objective verification;
- A condition or event, which if it occurs, makes the undertaking of the proposed contingent project reasonably necessary in order to achieve the capex objectives;

[24] Ibid, p 4
[25] Ibid, p 6
[26] See NER, 6A.8.1 for full details of the requirements under the Rules

- A condition or event that generates increased costs that relate to a specific location rather than a condition or event that affects the transmission network as a whole;
- The occurrence is probable during the forecast regulatory control period, but the inclusion of the capex is not appropriate because:
    - It is not sufficiently certain that the event or condition will occur during the regulatory control period of if may occur after that regulatory control period, or not at all;
    - The costs associated with the event or conditions are not sufficiently certain.

7.3 Analysis and conclusions on Powerlink's proposed contingent project

As indicated in Q21, CCP23 has considered two components of Powerlink's proposed contingent project, namely:

- whether the proposed contingent project should be included in the 2022-27 regulatory period, and
- whether the proposed trigger events are appropriate.

Powerlink contends that the proposed contingent project satisfies the requirements of the NER, including whether the project is reasonably necessary to satisfy the capital expenditure objectives and whether the trigger events are compliant.

To assist us in our considerations of the proposal, CCP23 has also reviewed the AER's 2018 Final Decision for TransGrid (the NSW transmission company).[27]

In its determination, the AER extensively reviewed the regulatory requirements for a contingent project, and the associated trigger events. It did so in the context of the expected changes in the generation mix in NSW including retirement of coal generation plants and the expansion of the renewable energy zones and interconnector capacity.

The AER's Final Decision set out the reasons for accepting the nine contingent projects proposed by TransGrid. However, the AER did not accept TransGrid's revised trigger events and replaced these in its Final Decision. The key elements of the AER's 2018 decision were:

- The AER was satisfied that each of the specific projects proposed by TransGrid, would be reasonably required to meet the expected demand for transmission services and/or reliability over the forecast regulatory control period.
- The AER was not satisfied with the proposed trigger events, which TransGrid proposed in the event of possible changes in the prevailing RIT-T requirements. The AER's view was that the successful completion of the RIT-T is a mandatory element of the contingent project process (at the time of its decision), and any legislative changes can be addressed in other ways such as transitional mechanisms.[28]

7.3.1 Should the proposed contingent project be included in the 2023-27 period

Powerlink has cited a range of possible or plausible new demand projects that would individually, or in conjunction with other projects, result in an increase in demand above the threshold of 250 MW.

[27] AER, Final Decision, *TransGrid transmission determination*, Attachment 6, May 2018, pp 6-135 – 6-164.
[28] See Ibid, pp 6-157 – 158.

With respect to the criteria set out in the NER for accepting a contingent, CCP23 concludes:

- The estimated cost of the proposed contingent project exceeds the materiality threshold of 5% of MAR.
- The proposed contingent is reasonably required in order to achieve the capex objectives for the relevant regulatory control period.
- The proposed Capex is not otherwise provided for (either in part or in whole) in the forecast capex.
- The proposed trigger events in relation to the proposed contingent project are appropriate.

For these reasons, CCP23 is satisfied that the proposed contingent project may be reasonably required in order to meet expected demand for transmission services and/or reliability over the 2022-27 regulatory control period – subject to the assessment of whether the trigger events are appropriate.

In coming to this conclusion, we also note that the proposed trigger events include the successful completion of a RIT-T to "*demonstrate a network investment by Powerlink maximises the net market benefit while meeting Powerlink's reliability of supply obligations to North Queensland".*

The successful completion of a RIT-T provides confidence to consumers that while costs and timing are uncertain at this stage, all assumptions regarding the benefits and reliability requirements will be rigorously tested including the potential contribution of non-network options. For example, if any ISP project that is currently proposed for 2030+ is brought forward, this may change the need for reinforcement of the existing network. Similarly, development of additional renewable energy projects in the connection zones will impact on the necessity of the proposed transmission reinforcement project.

The importance of the RIT-T analysis trigger arises not only from the uncertainties with respect to the proposed new loads, but also from the intersection between these new loads and potential changes in the generation mix. For example, in its 2020 Transmission Annual Planning Report, Powerlink variously states with reference to the potential new loads in northern Queensland:[29]

> *These loads have the potential to significantly impact the performance of the transmission network supplying these areas. The degree of impact is also dependent on the location and Capacity of new or withdrawn generation in the Queensland region*
>
> *The emergence and magnitude of network limitations resulting from the commitment of these loads will also depend on the location, type and Capacity of new or withdrawn generation*
>
> *Currently generation costs for the majority of synchronous generation in NQ are high. As a result, there may be positive net benefits in augmenting the transmission network. The current commitment of VRE generation in NQ and any future uptake of VRE generation would be taking into account in the market benefit assessment, including consideration of the location, type and Capacity of these future connections.*

Moreover, Powerlink has given verbal assurance to CCP23 that before the proposed reinforcement project would be undertaken, and in accordance with the existing connection agreement processes, the contracting party would have to provide certain guarantees regarding their expected load.

Further discussion of the proposed trigger event follows.

[29] Powerlink, *Transmission Annual Planning Report* 2020, pp 187, 187 & 190.

7.3.2 Is the proposed trigger event appropriate

In line with the requirements in the NER, CCP23 has come to the following conclusions with respect to the appropriateness of the trigger events:

- The proposal is reasonably specific, and capable of objective verification. We expect that there will be objective evidence provided by Powerlink of firm contractual arrangements with the potential large customer(s) during the RIT-T process.
- If the event does occur, reinforcement of the existing network is likely to be necessary to achieve the Capex objectives in the forecast regulatory control period.
- The nominated event (being the projected increase in contracted demand) is not specific to a location (i.e. it could relate to events occurring in the Ross or the North Connection zones, or both). However, irrespective of the source of increased demand, the requirement to reinforce the existing network relates to a specific section of the network (Stanwell to Broadsound) rather than the transmission network as a whole.
- The occurrence of at least one or two of the potential developments appears to be reasonably probable during the regulatory control period, based on the most recent announcements by the proponents and the Queensland Government, as referenced by Powerlink in its proposal.[30]

Given the above analysis, our view is that, **subject to further assessment by the AER of the matter discussed below**, Powerlink's proposed trigger events reasonably meet the requirements of the Rules.

7.3.3 Is the wording 'in excess of 250 MW' in the proposed trigger event sufficiently specific

As noted above, the first of the three listed trigger events states:

> *Commitment of additional load in excess of 250 MW to be connected to the Central West and/or North Queensland zones that requires the dispatch of higher cost generation in Northern Queensland to maintain power transfers within limits.*

However, Powerlink also concludes in its analysis of the contingent project:

> *The additional load in northern Queensland that would justify the network augmentation in preference to continued network support is between 250 MW and 380 MW.*

The range of 250 MW to 380 MW of new potential demand reflects the fact that the net market benefit of the reinforcement project depends on the location of the connection to the new demand centre(s) and the consequential risks of a constraint on the network.

In particular, if the new demand arises in the Ross connection zone, then the impact of the network constraint (absent reinforcement) on network reliability on the Stanwell to Broadsound transmission line, is likely to be addressed using high cost liquid fuels for generation (estimate of $450/MW). If the new demand arises in the North region, then the impact of the constraint may be addressed using gas generation at an estimated $60/MWh.

CCP23 therefore requests the AER to consider whether this trigger event should be defined more specifically, such that an increase of 250 MW of demand anywhere on the does not automatically initiate (in conjunction with the other two trigger events) the contingent project.

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[30] See for example, Powerlink, *Revenue Proposal 2022-27, Appendix 5.07 – Contingent Projects*, p 5, footnotes 4 and 5. However, Powerlink's 2020 TAPR, acknowledges that the development status of these projects is not yet at a stage that they can be included (either wholly or in part) in AEMO's Central scenario forecast. See for instance, Powerlink *Transmission Annual Planning Report 2020*, p 187.

Summary response to the AER Question

21. Do you consider Powerlink's proposed contingent project should be included as a contingent project for the 2022–27 period? Is the proposed project trigger appropriate? ***Answer: Powerlink claims that this additional circuit may be required in the event there is significant demand growth in central/north Queensland. Powerlink also states that the indicative cost of the proposed contingent projects is $52.3m (real, 2021/22) or $57.2m (nominal), which is above the contingent project threshold. The NER defines 'trigger events' that enable a project to be considered as a contingent project and outside of the standard regulatory process.***

CCP23 therefore requests the AER to consider whether this trigger event should be defined more specifically, such that an increase of 250 MW of demand anywhere on the network does not automatically initiate the contingent project (in conjunction with the other two trigger events).

8 Opex

AER opex questions

22. Do you consider Powerlink's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?

23. Do you consider Powerlink's forecast opex for the 2022–27 period reasonably reflects the efficient costs of a prudent operator?

24. Do you have any comments on the magnitude of Powerlink's proposed estimate for annual opex productivity growth the 2022–27 period?

8.1 Overview

The operating cost proposal key elements are:

- Proposed Opex: $1,046.4m ($2021–22) for the 2022–27 period,[31] $0.5m less than Powerlink's estimate for the 2017–22 period, and $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.

8.2 Cost Allocation Model

Powerlink says that its cost allocation model (CAM) is based on the following principles:

- *Costs are allocated at the source, appropriate to the appropriate transmission service category.*
- *Activities are allocated to opex or capex in accordance with Australian Accounting Standards.*
- *Costs are charged on a full cost recovery basis and do not incorporate internal profits.*
- *A cost will only be allocated once.*
- *Where a cost is directly associated with an activity, it is allocated to that activity.*
- *Where direct attribution is not possible, a causal basis of allocation is undertaken.*

The application of the CAM to opex approach is summarised as:

> *The allocation of costs and revenues as prescribed in our regulatory accounts are not comparable, mainly due to fluctuation in prescribed revenue reported in the regulatory accounts, year on year.*
>
> *A better comparison is asset split. Assets are a key driver of the costs of maintaining and operating the network.*

[31] Including debt raising costs

Our Regulatory Asset Base (RAB) is approximately 86% of our total asset base. It was approximately 94% at the time of our previous revenue Proposal in 2015.

Some significant costs (e.g. network operation and AEMC levy) are almost entirely a regulated obligation. These costs therefore will be mainly or fully allocated to the regulated business, thereby increasing the proportion of regulated costs

We consider substance over form when determining any change in allocation.

In section 2 above where we discussed the consumer engagement undertaken by Powerlink, we summarised the iterative process that Powerlink has undertaken for major expenditure items. Operating costs are certainly one of the major discussions that has occurred on an ongoing basis with the RPRG and the Customer Panel, so the final opex proposal of $1029.4m[32] has been tested and trimmed on several occasions leading up to the proposal that was lodged. One of the important iterations came from the testing and challenging of the draft Revenue Proposal.

Powerlink (page 83 of revenue proposal) states:

Since we published our draft Revenue Proposal in September 2020, we have made several minor changes. These include:

- *adjustments to remove movements in provisions and NCIPAP costs from our 2018/19 base year, following advice from AER staff to remove these items. We explain the reasons for this in Section 6.4.1;*
- *an adjustment to remove forecast network support costs in the 2018-22 regulatory period from our calculation of a no real growth target. This is also explained in Section 6.4.1;*
- *an adjustment to update forecast figures to reflect the latest inflation data, as published by the Reserve Bank of Australia (RBA) in November 2020;*
- *an adjustment of our output growth factor from 0.4% to 0.3% as a result of updated energy throughput forecasts; and*
- *adjustment of our productivity factor from 0.8% to 0.5% per annum, consistent with our no real growth target between the current and next regulatory periods.*

The annualised provisions from draft to actual revenue proposal are given below.

[32] Excluding debt raising costs

Table 8.1: Annualised opex estimates, draft and final revenue proposals

	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.

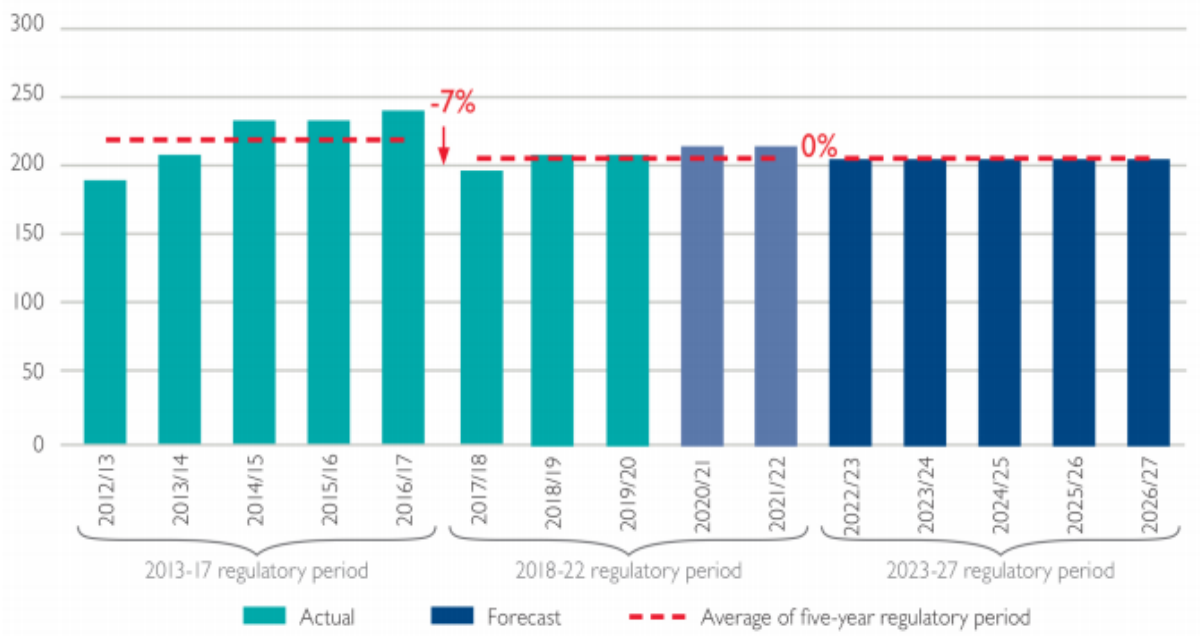
(2) Reflects underlying operating expenditure, excluding movements in provisions, debt raising, network support and NCIPAP costs.

Source: Powerlink revenue proposal Page 83

We observed that the modest reductions from draft to lodged revenue proposal reflect the significant amount of scrutiny applied from consumer interests and feedback taken by Powerlink, in the lead up to release of the draft revenue proposal.

The following chart plots annualised operating cost expenditure; actual, forecast and proposed, over the 15 years to the end of the next regulatory period.

Figure 8.1: Annualised opex costs, actual, forecast and proposed, $21/22m



Source: Powerlink Regulatory proposal, page 81

The major observation is that real operating costs are forecast to remain unchanged for a decade through current and next regulatory periods after 7% reduction, on average, leading to the start of the current period.

8.3 Opex methodology: Base – Step - Trend

As is standard practice now across Australian regulated network businesses, operating cost proposals are based on the base - step - trend methodology, these elements are now considered in turn.

8.3.1 Base

The base year for operating costs for the next regulatory period is proposed to be 2018/19 which is 4 years from 2022/23, the first year of the next period. Normally the CCP sub-panel would be inclined to suggest that this proposed base year is too far from the start of the next regulatory period to be a realistic estimate of efficient underlying operating costs.

Powerlink in response says that 2018/19 is the most recent full year for which revealed costs are available that has not been impacted by COVID-19, consequently this is the most appropriate base year. Inspection of the chart above also shows that 2018/19 is likely to be the second lowest year for operating costs from the current five-year period.

Powerlink asked Houston Kemp to review its operating cost expenditure and efficiency, a question we return to a little later in this section, with Houston Kemp supporting the general efficiency of Powerlink's operating costs. Powerlink summarises:

> *Houston Kemp's key findings on our base year operating expenditure were as follows: The AER's most recent benchmarking results for Powerlink, both in absolute and trend terms, shows that Powerlink has been responding to the incentives in the regulatory framework and is operating relatively efficiently when compared to its peers. In other words, consistent with the AER's application of the benchmarking framework for TNSPs and its recognition of the limitations of that framework, the benchmarking analysis does not provide any basis to conclude that Powerlink's revealed 2018/19 operating expenditure is 'materially inefficient'*

These arguments are reasonable, and lead us to be supportive of 2018/19 as the base year, due to the abnormal circumstances created by COVID-19 and associated uncertainty and pending the AER opex team analysis.

8.3.2 Step

The Powerlink proposal is for the Powerlink proposal is for no Step Changes. There are however category specific adjustments proposed, specifically the AEMC Levy of $29.7m, and debt raising costs of $17.0m.

Throughout the development process, Powerlink has kept its RPRG up-to-date with the latest thinking about operating cost outlooks so we are aware that the decision to not seek step changes and to hold operating cost expenses constant in real terms has been the focus of active consideration both by the business and through its customer interaction. Powerlink has described its approach to developing operating costs proposal as "encouraging constructive discomfort" on the business, in order to force the business to find efficiencies that will improve the productivity of the business.

The following table from the regulatory proposal summarises some of the thinking about potential cost drivers for the 2022-27 period. The early iterations of opex expenditure included step change proposals, and these have systematically been removed, in part driven by customer input.

Table 8.2 Potential costs uplifts over the 2023-27 period ($ real, 2021/22)

Name	Estimated cost uplift	Description
Cyber security	$1.1m-$2.5m per annum (depending on maturity level uplift required. This uplift represents the potential increase above existing activities)	There is a potentially significant increase in operating expenditure required to maintain different levels of cyber security readiness, pending the *Security Legislation Amendment (Critical Infrastructure) Bill 2020*. **This is discussed further below.**
Transmission Ring-Fencing	Unknown	The AER's Electricity Transmission Ring-Fencing Guideline Review may result in additional obligations and operating expenditure. The quantum of these costs will depend on the nature and extent of changes proposed. **This is discussed further below.**
Nature Conservation Act 1992 fees	$1m (2023/24), $70k per annum thereafter	Potential new fees for co-location of assets within national parks. The timing of this new obligation is uncertain and may not arise before the AER's Final Decision in April 2022.
Generator Technical Performance Standards (GTPS)	$63k per annum	Increased costs (above those already realised in 2018-22) related to the provision of operational advice on system-related matters due to the National Electricity Amendment (Managing Power System Fault Levels) Rule 2017 No. 10. This was originally forecast to have a larger impact (~$250k per annum). However further analysis revealed the majority of this cost has been realised in our base year.
Whistle-blower Protections	$150k per annum	Additional administrative and compliance costs related to new whistle-blower legislation under the *Corporations Act 2001*. We decided not to pursue this potential step change as the cost was not considered material.
Modern Slavery Act 2018	$130k per annum	New administrative compliance costs related to the *Modern Slavery Act 2018*. We decided not to pursue this potential step change as the cost was not considered material.

Source: Powerlink Regulatory proposal, page 99

We observe that likely costs due to compliance with Nature Conservation Act fees, generator technical performance standards, whistle-blower protections, and compliance with the Modern Slavery Act are all modest cost legislative requirements that are intended to be absorbed within the operating cost budget.

There are other potential cost increases that Powerlink has flagged as cost pass through events, these being:

- Cyber security;
- Transmission ring fencing; and
- Inertia shortfall and fault level shortfall events.

These are summarised in the table below, table 8.3, which is taken from the Powerlink regulatory proposal.

Cyber security

With regard to cyber security, Powerlink says that it expects to absorb any modest increases and so has not proposed a step change. However, Powerlink leaves open the option of seeking a pass through event should costs increase significantly beyond expectations at the time the Regulatory proposal was lodged:

> *At this stage, we estimate that our costs may increase to a total of between $3.5m to $4.0m (an increase of between $1.1m and $2.5m per annum) if higher levels of readiness than Powerlink's current target are mandated by the Federal Government. Given the uncertainty around the scope and timing of these future formal obligations, we have decided not to include a step change for these costs in our forecast at this time. In the event that mandatory higher security requirements eventuate during the 2023-27 regulatory period, we aim to absorb this within our total operating*

expenditure allowance. If associated costs (which may also include capital expenditure costs) are material, we may also need to investigate other options, such as a cost pass through arrangement (refer Chapter 12 Pass Through Events).

Transmission Ring Fencing

Regarding the Transmission Ring Fencing Guideline Review, Powerlink says:

> *The AER's Electricity Transmission Ring-Fencing Guideline Review may result in additional operating expenditure. The quantum of these costs will depend on the nature and extent of any changes to the existing guideline. Given the AER has recently postponed recommencement of the Guideline Review to mid-2021, we intend to reassess this matter following the publication of the AER's Draft Guideline in September 2021. At that time, there may be a need to seek additional operating expenditure and/or seek a cost pass through arrangement. In the event that costs are minor, we will aim to absorb these within our operating expenditure allowance.*

In other words, this expenditure item will also be absorbed unless it is greater than expected, in which case Powerlink may ask for a pass through event.

Inertia shortfall and fault level shortfall events

Concerning inertia shortfall and fault level shortfall events, Powerlink intends to seek a cost pass through after the end of the 2020/21 financial year when likely costs can be better estimated.

CCP23 accepts that these are reasonable 'pass through events'.

Table 8.3. Potential cost pass through events 2022-27

Table 12.4: Potential cost pass through events in 2023-27 regulatory period

Pass through event	Description
Cyber security	In December 2020, the Federal Government introduced the *Security Legislation Amendment (Critical Infrastructure) Bill 2020* to Parliament. If passed, this legislation would establish a new security and resilience regulatory regime on operators of critical infrastructure and we anticipate there would be elevated security obligations and standards on critical infrastructure owners and operators such as Powerlink. We considered an operating expenditure step change for a potential uplift in costs related to this requirement. We have decided not to pursue this and to aim to absorb these costs within our proposed operating expenditure forecast (refer Chapter 6 Forecast Operating Expenditure). However, if these costs are material, we may need to consider a cost pass through arrangement within period.
Transmission Ring-Fencing	The AER's Electricity Transmission Ring-Fencing Guideline Review(1) may result in additional costs for Powerlink. The quantum of these costs will depend on the nature and extent of the changes proposed and will need to be assessed after publication of the AER's Draft Guideline, indicatively scheduled for release in September 2021.
Inertia shortfall and fault level shortfall events	The change in generation mix presents particular challenges for the network (refer Chapter 2 Business and Operating Environment). In its 2020 System Strength and Inertia Report, the Australian Energy Market Operator (AEMO) concluded that fault level and inertia shortfalls are not yet considered likely for Queensland in the next five years, but shortfall risks are increasing. Changes to the operating patterns of large synchronous generators could result in either or both types of shortfall being declared during the 2023-27 regulatory period. AEMO declared a fault level shortfall event in North Queensland in April 2020 and we are required to meet this shortfall by August 2021. We have sought potential non-network solutions and have started to implement arrangements to meet this need. An application to the AER to approve the pass through of these network support costs will be made after the end of 2020/21.

(1) Electricity Transmission Ring-Fencing Guideline Review Discussion Paper, Australian Energy Regulator, November 2019.

Source: Powerlink Regulatory proposal, page 136

The third category of potential cost increases, after step changes and potential cost pass through costs, is described by Powerlink as "non-controllable operating expenditure, with four categories":

- Insurance;
- Network support;
- AEMC levy; and
- Debt Raising costs.

Insurance

The first question about insurance costs is the cost allocation approach. Powerlink says:

- *We currently allocate 100% of insurance costs to prescribe services.*
- *We recognise that the proportion of non-regulated assets has grown in recent years. Given this, we have considered and intend to allocate a proportion of our insurance costs to non-regulated from 1 July 2022.*
- *The timing of this adjustment at the start of the 2023 to 27 regulatory period is consistent with our CAM, and our allocation will be on the basis of the value of our assets.*
- *The CAM itself does not have to be reviewed to facilitate this change. Our view is the CAM is to appropriate and our allocations remain consistent with the CAM.*

CCP23 is satisfied with this approach to allocation of insurance costs. The other critical question is the extent of likely change in insurance costs.

The review proposal provides the following table giving the insurance cost forecasts from insurance broker Marsh.

Table 8.4. Annualised insurance premium estimates, 2022-27

Table 6.13: Insurance premiums ($m real, 2021/22)

Insurance premiums	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Base-step-trend forecast	7.0	7.1	7.1	7.1	7.1	**35.6**
Marsh forecast	10.0	10.8	12.1	12.7	13.3	**58.9**
Variance	**3.0**	**3.7**	**5.0**	**5.5**	**6.1**	**23.3**

Source: Powerlink Regulatory proposal, page 101

Likely insurance premium costs, and a range of options to respond to these likely cost increases, were canvassed in some detail with the customer representatives. This process also included a particularly helpful briefing from Marsh Insurance Brokers, Powerlink's brokers. Insurance premiums is also a concern across Australian network businesses, the Powerlink indicative cost increases are, to our understanding, in line with other network businesses. The cost of this adjustment to operating costs is $23.3m.

Network support

Network support is another aspect of the regulatory proposal that is impacted by uncertainty. Powerlink describes network support as being: This approach is further explained by Powerlink in its regulatory proposal.[33]

[33] Powerlink regulatory proposal, p 102

Network support refers to costs associated with non-network solutions used as an efficient alternative to network augmentation. Potential non-network solutions may include local generation, cogeneration, demand side response and services from a Market Network Service Provider (MNSP). In the 2023-27 regulatory period we anticipate that there may be a need to contract with generators and large load operators to provide a contingency tripping service as part of an upgraded scheme to extend Central Queensland to Southern Queensland (CQ-SQ) transfer limits.

We understand that Powerlink has proposed a $0 allowance, and would seek to treat any network support costs through the relevant pass through arrangements.

In considering their management of the uncertainty of future network costs, Powerlink explains:

Given the uncertainty around potential costs with no contracts in place at present, and the possibility for emerging energy market dynamics to alter the requirements for network support closer to the time, we have included a $0 network support allowance in our operating expenditure forecast. Any actual network support costs incurred during the 2023-27 regulatory period will be recovered through pass through arrangements (refer Chapter 12 Pass Through Events).

We will review whether an allowance for network support costs should be pursued in our Revised Revenue Proposal if contracts are in place at that time.

AEMC levy

The AEMC levy is prescribed exogenously and applied to all network businesses. The expected cost is $29.7 ($m real, 2021/22) for the full regulatory period.

Debt raising costs

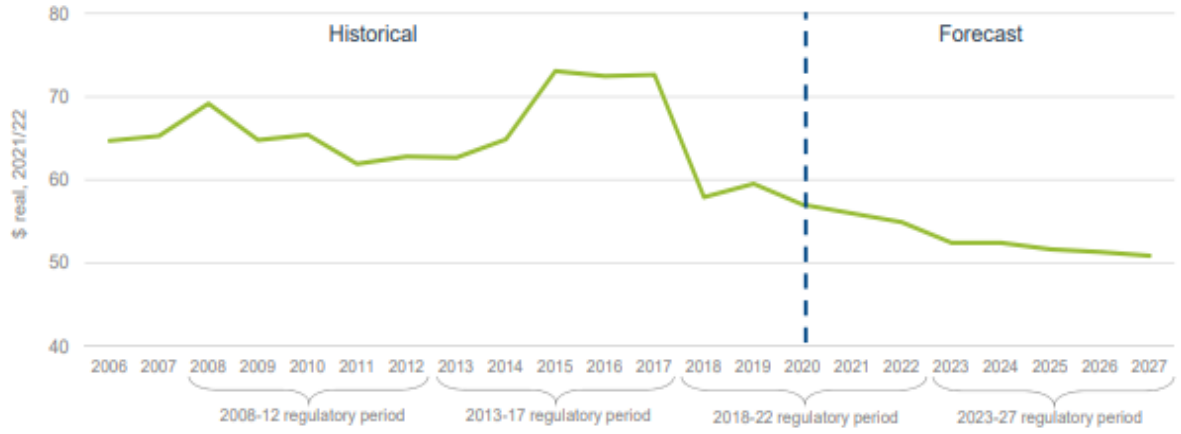
These costs to our determined by an AER formula, we understand that Powerlink has applied the formula to determine a cost of $17 million review for the regulatory period.

We accept these forecasts for non-controllable operating expenditure to be reasonable and non-controllable.

8.3.3 Trend

Powerlink is forecasting and output growth increase of $11.6m over the regulatory period, virtually a "flat" trend change. The following table from the regulatory proposal shows total operating expenditure per customer in real dollars, over the two decades to the end of 2027.

Figure 8.2. Powerlink total opex per customer, historical and forecast, $21/22



Source: Powerlink Regulatory proposal, page 91

This graph shows a gradual decline in cost per customer over the current and forecast regulatory periods.

Specifically, in 2019/20, operating expenditure per customer reduced by 12% compared to the level seen in 2005/06, and is down 22% compared to a peak observed in 2014/15. Over the period 2019/20 to 2026/27, Powerlink says that this measure is expected to reduce at a rate of 1.67% per annum, to a level 21% below that seen in 2005/06.

In addition, over the period 2005/06 to 2026/27, the average annual rate of change is forecast to be minus 1.39% with the main driver of the decline being forecast population growth in Queensland. An increase in customer numbers and forecast no real growth in operating expenditure results in a gradual reduction in operating expenditure costs per customer.

Powerlink summarises the key trend measures with the following table in their revenue proposal.

Table 8.5. Output change factors

Output measure	Description	Weighting[1]
Energy throughput	Forecast growth of delivered energy within Queensland, plus energy delivered through interconnectors to / from NSW measured in GWh. This information is sourced from the Central Scenario of AEMO's 2020 ESOO and AEMO's 2020 ISP. Energy throughput within Queensland is forecasted to reduce slightly. There is forecast growth in energy throughput early in the 2023-27 regulatory period on the QNI. This is a result of the commissioning of the 2018 ISP recommended Group 1 QNI minor upgrade. The project entails uprating the QNI by 2022 prior to the closure of Liddell Power Station in NSW.	14.9%
Ratcheted Maximum Demand	Ratcheted Maximum Demand is the ratcheted non-coincident maximum demand. Non-coincident maximum demand is the maximum demand of each individual connection point in a year measured in MVA. This information is sourced from the Central Scenario of AEMO's 2020 ESOO and Powerlink's 2020 Transmission Annual Planning Report (TAPR). The maximum demand within Queensland is forecast to remain relatively stable for the 2023-27 regulatory period. We forecast an increase in maximum demand following the commissioning of the 2018 ISP recommended Group 1 QNI minor upgrade as identified in the energy throughput section above.	24.7%
Number of customers	This is based on an aggregate number of customers for the Distribution Network Service Providers (DNSPs), Ergon Energy and Energex, identified in the AER's 2020-25 Final Decision models and Powerlink's directly-connected customers. For 2026/27, Ergon Energy and Energex's customer numbers were trended based on a simple linear regression. Based on this approach, customer numbers are forecasted to increase by 143,000 over the 2023-27 regulatory period.	7.6%
Circuit length	Circuit length is the total transmission line circuit length measured in kilometres sourced from Powerlink's Enterprise Resource Planning database (SAP) Plant Maintenance Module. Powerlink has forecast no overall increase in circuit length over the 2023-27 regulatory period and has adjusted the forecast of circuit kilometre length down from 14,528km to 14,472km to reflect forecast transmission line decommissioning over the 2023-27 regulatory period. This adjustment reflects our focus on reducing both forecast capital and operating expenditure on assets at the end of technical and economic life, for which there may be no enduring need.	52.8%

(1) Annual Benchmarking Report – Electricity Transmission Network Service Providers, Australian Energy Regulator, November 2020.

Source: Powerlink Regulatory proposal, page 94

We also note the proposed trend changes in labour costs being those provided in the following table.

Table 8.6. Forecast real labour price growth, including superannuation guarantee (% per annum)

WPI forecasts	2020/21[1]	2021/22[1]	2022/23	2023/24	2024/25	2025/26	2026/27	Average[2]
BISOE EGWWS	0.6	1.3	1.1	1.0	1.3	1.3	0.9	**1.1**
DAE National Utilities	0.4	-	(0.3)	-	0.4	1.0	0.5	**0.3**
Average	**0.5**	**0.6**	**0.4**	**0.5**	**0.9**	**1.1**	**0.7**	**0.7**

(1) Figures for 2020/21 and 2021/22 are calculated using the updated 2020 weighting factors, and therefore do not represent rates of change presented in the 2018-22 Revenue Proposal.

(2) Average of the 2023-27 regulatory period. Figures for 2020/21 and 2021/22 are included for comparison only.

Source: Powerlink Regulatory proposal, page 95

The approach to labour cost growth forecasting takes the average of two wage price index forecasts being from BIS Oxford Economics and from Deloitte Access Economics. It has become standard practice to apply this average of these two forecasts is the labour price escalator. This is what Powerlink has done.

The approach is reasonable with a modest average annual wage price escalator of 0.7% which is generally in line with the current low wage growth environment across the Australian economy.

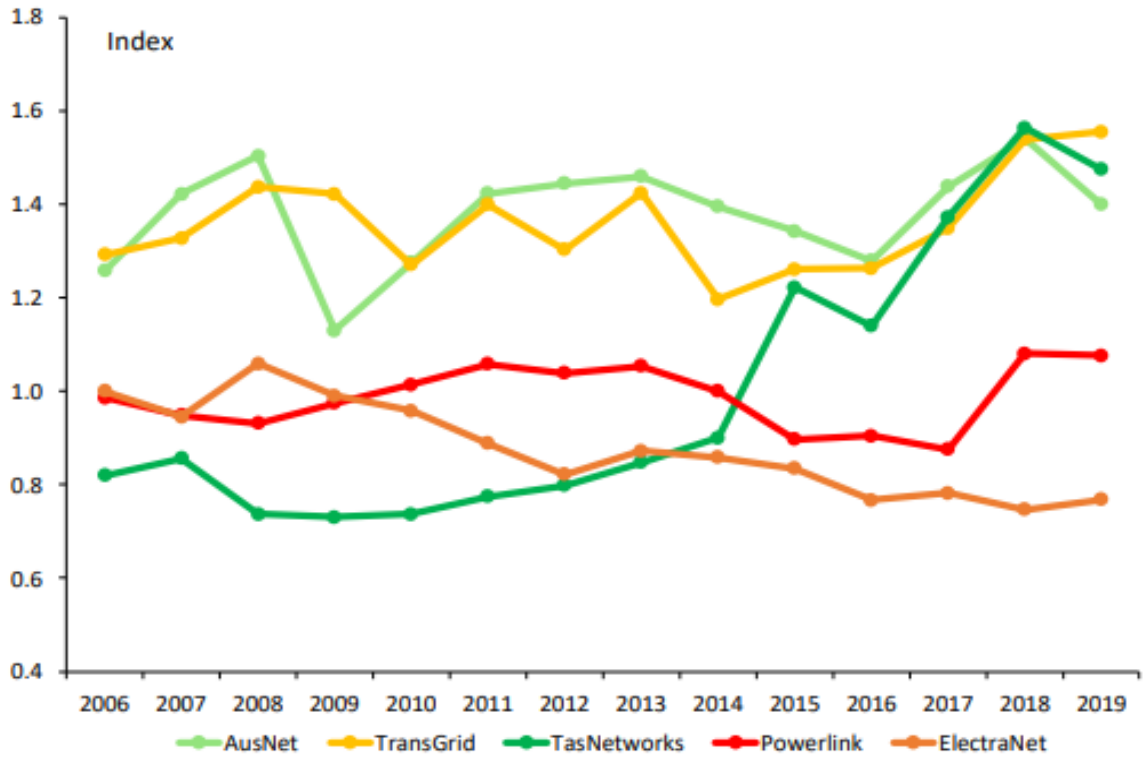
8.4 Opex productivity

We suggest that operating cost productivity is the most interesting aspect of the Powerlink operating cost proposal and comes in two parts:

1. Operating cost productivity (as measured through benchmarking)
2. Productivity improvement over the next regulatory period

Starting with MPFP, opex partial productivity, the following graph shows the most recent AER benchmarking report for Australian electricity transmission businesses' opex MPFP.

Figure 8.3 Opex MPFP, Transmission networks



Source: AER Benchmarking report 2020, pag23

The benchmarking report indicates that Powerlink is some distance from the best performing transmission network businesses, but not the worst. The data also indicates significant improvement from 2017.

Powerlink asserts that its operating cost productivity is in fact better than indicated by the results from the benchmarking report, and indicates that the business expects further improvement in the next benchmarking report.

Powerlink engaged Houston Kemp to review their operating cost efficiency in detail.

We do not go into the detail of that report but observe that it was submitted with the regulatory proposal and that Houston Kemp[34] reported about the proposed base year *"there are no 'red flags' that would indicate Powerlink's revealed opex for 2018/19 is not efficient."* The 'double negative potentially corresponds with the benchmarking data showing that Powerlink's opex MPFP is lower

[34] Houston Kemp, 2023-27 POWERLINK QUEENSLAND REVENUE PROPOSAL Appendix 4.01 – PUBLIC Efficiency of Powerlink's Base Year Operating Expenditure Report, page 18

than better performing transmission businesses and so reinforces their actions to reign in operating costs.

CCP23 draws the following observations from the Houston Kemp report and Powerlink's response:

- Houston Kemp says that *"The benchmarking data suggest that the productivity factor applied for Powerlink for the forthcoming regulatory period should be zero."*
- On the application of EBSS, Houston Kemp says that it 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."*
- Powerlink also says that *"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."*

We do not comment on any further detail on the question of relative efficiency of Powerlink's operating costs, other than to recognise that an important development from the reviewing of operating costs expenditure has been Powerlink's decision to both set a target of zero real operating costs expenditure growth for the next regulatory period and to deliver a 0.5% productivity dividend to customers.

CCP23 lauds Powerlink for both of these decisions and again recognises that the operating cost productivity question has been actively explored with customer representatives throughout the development of the regulatory proposal.

At the 12 May 2021 Customer Panel meeting, Powerlink provided a productivity update that is summarised in the slide below.

Figure 8.4. Productivity Update

Source: Powerlink presentation to CP, 12 May 2021, Slide 16

Powerlink has regularly stated that it is pushing itself for "constructive discomfort", in other words, no real growth for opex. Powerlink has said that it does not know where the productivity growth will come

from, but the business is committed to putting itself under constant pressure over the regulatory period to find the opex savings improvements to which the business is committing. Powerlink has said that its approach is to regard the productivity target as "a floor not a ceiling".

This is an impressive approach for a network business to take, and is strongly in the spirit and intent of 'incentive based regulation' as applied by the AER, and other regulators, and supported by consumer interests.

At a CP meeting on 12 May 2021, Powerlink provided this table as an update on the next iteration of its thinking about some aspects of achieving the intended productivity improvement.

Table 8.7. Productivity Update

Productivity Update

Productivity theme	Initiative	Phase	Delivery timeframe
Procurement	Materials supply chain and direct purchasing	Early investigation	Staged – 2022 to 2024
	Vegetation management	Implementation	2022
Work practices	Field Delivery Optimisation	Implementation	2024
	Office refit	Proposed	2025
Technology	In-Vehicle Asset Management System (IVAMS)	Early investigation	Not yet determined
	Business IT upgrades and replacements	Proposed	Staged – 2023 to 2027
Value Driven Maintenance	Transmission Tower earth testing	Implementation	2021 onwards
	Battery Maintenance	Early investigation	Not yet determined

- Each initiative has been broadly grouped into three phases: early investigation, proposed, implementation.

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Source: Powerlink presentation to CP, 12 May 2021, Slide 17

We have observed CP / RPRG discussions with Powerlink about the productivity 'stretch', and note the following matters that were part of the discussion:

1. Achievability of productivity savings
2. Process has been transparent
3. Whether it is better to have tried to meet hard targets, and not quite got there, rather than easily meet soft targets

The general view is that the direction is good, with some questioning the ability of Powerlink to meet the 'stretch' opex productivity improvement and asking what the implications are if the target is not reached?

8.5 CCP23 observations

At the public forum, we made initial observations about the Powerlink operating expenditure proposal, which we have updated a little as follows:

- Base year: 2018/19 is 4 years from 2022/23, normally we would say that this is too big a gap, but the rationale that being the latest pre-COVID year for which costs are known makes sense. In a

low growth environment, in this unusual circumstance, the relatively distant base year is practical.

- Step Changes. Full support for no step changes.
- Factors are identified for which pass through costs may be sought, the items indicated as potential pass through events are reasonable, and this approach is supported as it is preferable than including the costs in operating costs for the revenue proposal.
- Similarly, there are non-controllable costs which are identified and accepted as reasonable. Most being in line with broader industry experience including increasing insurance costs and the AEMO levy.

On the question of the proposed productivity dividend of 0.5% for customers, Powerlink says 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."*

We observed discussions between customer representatives and Powerlink about the operating expenditure budget and the extent of stretch that could be included in the productivity improvement along with debate about the achievability of the target that Powerlink has set.

CCP23 suggests that it is better for customers if network business set an ambitious stretch target and just fall short of meeting it, rather than setting an easy to reach target and meeting it. This is the intent of 'incentive based regulation." We recognise that here is potential for anomalies with the current incentive schemes with this attitude, which is worthy of consideration in the AER's next incentive schemes review. The best outcome is that stretch targets are set and exceeded and then reset and exceeded, as an ongoing cycle.

We also recognise the correlation between a no step changes approach and a productivity commitment. We recognise that some opex costs will inevitably increase, and these will need to be absorbed in the opex allowance, adding to the "stretch".

On page 104 of the revenue proposal, Powerlink says:

> *Customer feedback on productivity, affordability and the impacts of the current economic climate has been central to the development of our Revenue Proposal. This target will be a challenge for our business, particularly given likely increases to various categories of our operating expenditure. Ultimately, we decided to take up this challenge in the interests of customers and to drive the business harder while continuing to meet our customer and regulatory obligations, with a view to becoming a world-class service provider.*

We support the observation that customer feedback has strongly informed the revenue proposal, including operating costs. We also commend Powerlink for openly challenging themselves to improve the operating costs productivity performance.

Summary response to the AER Questions:

22. Do you consider Powerlink's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal? ***Answer: "Yes," Powerlink, to our observations, has actively engaged with customer interests through the Customer Panel and RPRG to explore operating costs, through a series of iterations that have steadily reduce the total cost of opex and eliminated 'step changes.' Their responses to uncertainty are also significant as there is no basis for confident cost prediction in some aspects of the business. The approach of looking to 'pass throughs' for currently uncertain near future costs, eg network support, is appropriate.***

23. Do you consider Powerlink's forecast opex for the 2022–27 period reasonably reflects the efficient costs of a prudent operator? ***Answer: Using the AER benchmarking data, Powerlink is not among the most efficient Transmission businesses, suggesting that there is probably room for improvement. The opex allowance for the current period has been determined to be efficient by the AER, so since there is no real dollar increase in the opex allowance request, it is reasonable to conclude that the costs proposed are relatively efficient (by comparison with the current period.***

24. Do you have any comments on the magnitude of Powerlink's proposed estimate for annual opex productivity growth the 2022–27 period? ***Answer: Through recent discussions, Powerlink staff have been clear that the productivity improvement proposed is challenging for the business. Given that there are likely cost increases that will need to be absorbed into the opex allowance, creating cost pressure, we are satisfied that the productivity 'dividend' proposed for customers is reasonable and that it will take effort for Powerlink to achieve "constructive discomfort" in their words, however we do not consider the magnitude of the opex productivity target to be out of reach.***

9 Incentive schemes

AER Issues paper questions

Incentive schemes

26. Do you consider Powerlink's proposed EBSS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2017–22 period?

27. Do you consider applying the EBSS to Powerlink in the 2022–27 period would provide it a continuous incentive to reduce its opex?

28. Do you consider Powerlink's forecast CESS incentivises it to undertake efficient Capex throughout the regulatory control period, by rewarding efficiency gains and penalising efficiency losses?

29. 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?

30. Do you consider the DMIAM should be applied to Powerlink in the 2022–27 period? Please provide comments on Powerlink's proposed potential demand management projects.

9.1 Introduction

Section 6 of the AER's Issues Paper discusses incentive schemes. Incentive schemes are a component of incentive based regulation, and complement the AER's approach to assessing efficient costs.

9.2 Available incentive schemes

The following incentive schemes can be applied to an electricity transmission business:

- Opex Efficiency Benefit Sharing Scheme (EBSS)
- Capital Expenditure Sharing Scheme (CESS)
- Service Target Performance Incentive Scheme (STPIS)

All three of these incentive schemes apply to Powerlink in the current 2017-22 regulatory control period.

There is also potential for a Demand Management Innovation Allowance Mechanism (DMIAM).

9.3 The purpose of incentive schemes

Once the AER has determined how network revenues will be calculated, networks have an incentive to provide services at the lowest possible cost, because returns are determined by the actual costs of providing services. If networks reduce their costs to below the AER's forecast of efficient costs, the savings are shared with their customers in future regulatory periods through the EBSS and CESS. The STPIS ensures that the network is not simply cutting costs at the expense of service quality.

Incentive schemes should encourage network businesses to make efficient decisions. Opex and Capex incentive schemes are intended to provide a mechanism for the regulated business to keep its opex and Capex spending as low as possible. The incentive schemes encourage businesses to make efficient decisions on when and what type of expenditure to incur, and meet service reliability targets. The business benefits financially from cost savings, while sharing some of those benefits with customers.

The extent to which incentive schemes meet their objectives depends on how well they are designed.

- Well-designed incentive schemes incentivise the business to find additional sources of efficiency that could not have been envisaged at the time of the regulatory proposal and determination.
- Badly-designed efficiency schemes reward businesses for cost savings that should have been in the base proposal, either because the proposal and determination over-estimated costs in the first place or because it should have been reasonable at that stage to see that the expenditure was not required or could be deferred.
- At a public forum held on 16 October 2020 as a Predetermination Conference on the Victorian Electricity Distributors' proposals for the Regulatory Determination 2021-26, the AER stated that it was scoping a review of the various incentive schemes, and would advise stakeholders when this has progressed further.[35] Given the potential for efficiency schemes to give distribution and transmission businesses rewards that are not in the long-term interests of consumers, we strongly support the AER undertaking the review in regard to both distribution and transmission businesses, and we urge the AER to assign a high priority to this work program in 2021. Our comments below are predicated on the current schemes continuing to apply, as we cannot at this stage anticipate any changes to the schemes that may be proposed pursuant to the AER's review of incentive schemes.

9.4 Efficiency Benefit Sharing Scheme (EBSS) and Capital Expenditure Sharing Scheme (CESS)

9.4.1 Overview of EBSS

The AER's efficiency benefit sharing scheme (EBSS) is intended to provide a continuous incentive for transmission network businesses to pursue efficiency improvements in opex, and to share these fairly between transmission businesses and consumers. Consumers should benefit from improved efficiencies through lower network tariffs in future regulatory periods.

The EBSS applies to Powerlink for the 2017–22 period.[36] Powerlink included EBSS carryover amounts totalling $8.4 million ($2021–22) in its proposed revenues from the application of the EBSS in the current period.[37]

In its Framework and Approach paper for Powerlink,[38] the AER set out its intention to apply the EBSS to Powerlink in the 2022–27 period if it is satisfied that the scheme will fairly share efficiency gains and losses between Powerlink and consumers.[39] Consistent with this, Powerlink proposes in its revenue proposal that the EBSS apply to it in the 2022–27 period.[40]

9.4.2 Overview of CESS

The AER's capital expenditure sharing scheme (CESS) aims to incentivise transmission network businesses to undertake efficient capex throughout the regulatory period by rewarding efficiency gains and penalising efficiency losses (each measured by reference to the difference between forecast and actual capex).

[35] See https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/citipower-determination-2021-26/draft-decision#step-71952, AER presentation slide 11.
[36] AER, *Powerlink 2017–22, Attachment 9, Efficiency benefit sharing scheme*, April 2017, p. 7
[37] Powerlink, *2023–27 Revenue proposal,* January 2021, p. 139
[38] AER, *Framework and Approach – Powerlink*, July 2020
[39] AER, *Framework and Approach – Powerlink*, July 2020, p. 13
[40] Powerlink, *2023–27 Revenue proposal,* January 2021, p. 140

The CESS applies to Powerlink for the 2017–22 period. Powerlink included CESS carryover amounts totalling –$3.7 million ($2021–22) in its proposed revenues from the application of the CESS in the current period.[41]

In our Framework and Approach paper for Powerlink,[42] the AER set out its intention to apply the CESS (as set out in our Capex incentives guideline)[43] to Powerlink in the 2022–27 period.[44] Consistent with this, Powerlink proposes in its revenue proposal that the CESS apply to it in the 2022–27 period.[45]

9.4.3 CCP23 views

In its Final Framework and Approach Paper for Powerlink, the AER proposed to apply its 2013 EBSS (Version 2) and 2013 CESS (Version 1) in the 2023-27 regulatory period. Powerlink's Revenue Proposal aligns with that approach of the AER.

We support application of the EBSS on the basis that it is genuinely based on business' revealed efficient opex costs and will fairly share efficiency gains and losses between the business and consumers. The AER should apply the EBSS if and only if it is satisfied that this is the case.

We similarly support the AER's intention to continue to apply the CESS as set out in the Framework & Approach.

We have not checked Powerlink's estimates of the net carryover amounts from the 2018-22 period under each of the two schemes. That is something the CCP sub-panels generally do not check. It is simply a matter of modelling accuracy which the AER handles.

CCP23 concurs with the approach of Powerlink to align its scheme proposals with the AER's Framework and Approach.

The EBSS and CESS targets for the 2023-27 regulatory period are based on Powerlink's operating and capital expenditure forecasts for that period respectively. To the extent that those forecasts are changed in the AER's draft decision, Powerlink's Revised Proposal and the AER's final decisions, we expect that the EBSS and CESS targets will be modified accordingly.

9.5 Service Target Performance Incentive Scheme (STPIS)

AER issues paper question 29

Question

29. 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?

Issues paper reference: sections 6.3, p38-40

The AER's service target performance incentive scheme (STPIS), version 5, provides a financial incentive to transmission network businesses to maintain and improve service performance.

There are three STPIS components that are applicable to Powerlink:

- Service Component (SC), which incentivises TNSPs to reduce the frequency of unplanned outages and the time taken to return the network to service

[41] Powerlink, *2023–27 Revenue proposal,* January 2021, p. 139
[42] AER, *Framework and Approach – Powerlink*, July 2020
[43] AER, *capital expenditure incentive guideline for electricity network service providers*, pp. 5-9
[44] AER, *Framework and Approach – Powerlink*, July 2020
[45] Powerlink, 2023–27 Revenue proposal, January 2021, p. 141

- Market Impact Component (MIC), which incentivises TNSPs to minimise the financial impact of outages on the dispatch of generation
- Network Capability Component (NCC), which incentivises TNSPs to identify transmission network limits and increase their capability by undertaking projects with a capital cost of less than $6 million and which are likely to result in a material benefit.

9.6 Service component

9.6.1 Powerlink proposal

In its 2022–27 proposal, Powerlink submitted SC targets, caps, collars and weights.[46] Applying the five-year average over the 2015–19 period yields a zero target for the large loss of supply event frequency (number of events greater than 0.4 system minutes per annum). Powerlink proposes an alternative calculation method, whereby a five-year average is applied and the result is rounded to the nearest non-zero integer.[47] This yields a target of 1. Powerlink submits that a zero target does not support the intent and design principles of the Scheme as:[48]

- It is not in the interests of consumers to bear the greater cost of trying to achieve a zero target rather than a target of 1.
- It undermines the incentive to improve, given a penalty-only incentive.
- It creates an asymmetric scheme, undermining the intent of the Scheme to incentivise TNSPs to maintain or improve performance.

Powerlink submits that its proposed alternative calculation method meets the requirements of clause 3.2(i) of the Scheme. In particular, it assesses that its proposed methodology is consistent with the objectives in clause 1.4 of the Scheme.[49]

A comparison of the incentive payments under a target of zero against Powerlink's proposed alternative target of one is contained in Table 15.5 in the Revenue Proposal.

Table 9.1 Comparison of large loss supply event and incentive targets

Table 15.5: Comparison of large loss of supply event incentive targets

Incentive target	Number of events		
	Zero	1	2
Zero	$0	Penalty of -0.15% of MAR (floor)	Penalty of -0.15% of MAR (floor)
1	Bonus of +0.15% of MAR (cap)	$0	Penalty of -0.15% of MAR (floor)

Source: Powerlink Revenue Proposal – January 2021, page 153

9.6.2 AER response

In its Issues Paper, the AER sets out that it does not consider that the STPIS is an asymmetric scheme. One of the key features of the STPIS is that a TNSP can only keep its reward under the STPIS if the service level improvement is retained in subsequent regulatory periods. If the improvement is not maintained, the TNSP will need to return the earlier reward to network users. Hence, a TNSP can only earn a reward

[46] Powerlink, *2023–27 Revenue proposal*, Table 15.3, p. 151
[47] Powerlink, *2023–27 Revenue proposal*, p. 153
[48] Powerlink, *2023–27 Revenue proposal*, p. 153
[49] Powerlink, *2023–27 Revenue proposal*, Table 15.6, p. 155

for service improvement results once. Given consumers have paid for the performance improvement by Powerlink to achieve the current level, the proposal to increase the performance target to above the historical average would result in consumers paying for the improvement twice.

The AER has stated that it will apply version 5 of the STPIS, which provides for the AER to approve an alternative methodology subject to the AER being satisfied that the conditions set out in clause 3.2(i) are met. The AER is interested in stakeholder views on Powerlink's proposed methodology.

9.6.3 CCP23 view

We concur with the view of the AER that one of the key features of the STPIS is that a TNSP can only keep its reward under the STPIS if the service level improvement is retained in subsequent regulatory periods. If the improvement is not maintained, the TNSP will need to return the earlier reward to network users. Given consumers have paid for the performance improvement by Powerlink to achieve the current level, the proposal to increase the performance target to above the historical average would result in consumers paying for the improvement twice.

On that basis, we agree with the AER that consumers should not pay for the same improvement twice, and therefore the target should not be adjusted.

9.6.4 Market impact component (MIC)

With respect to the MIC, Powerlink states that it continues to be of the view that a review of the MIC assessment is required. It submits that changes in power flows, the introduction of system strength constraints in 2019, and the rapid change in the mix and location of generation has significantly increased the Powerlink's MIC count.[50]

AER response

The AER set out its position in response to this issue in its Framework and Approach paper for Powerlink.[51] The AER does not consider that there is an immediate need to review the MIC. The AER considers that the incentive is operating appropriately, encouraging network management or investment to address network constraints. Until these constraints are addressed, penalties will accrue to the TNSP. Once these constraints are addressed, bonuses will be earned by the TNSP.

Powerlink also proposes that 2014–21 data[52] is used to calculate its MIC target, instead of 2013–20 data.[53] The AER has advised Powerlink that it does not consider its proposed data range is consistent with the Scheme requirements. Clauses 4.2(a) and 4.2(b) of the Scheme require the TNSP to submit MIC performance measure data for the preceding seven calendar years, and to submit a proposed value for a MIC performance target, at the time the TNSP submits its revenue proposal. As Powerlink submitted its revenue proposal in January 2021, the Scheme requires that the data to be used for the calculation of the final MIC target is 2014–20.

The AER's review of Powerlink's 2020 data, as part of the STPIS Annual Return, was completed in mid-March 2021. Unlike for the SC, the Scheme does not allow the AER to approve or require a MIC performance target to be based on a different time period.

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[50] Powerlink, *2023–27 Revenue proposal,* pp. 155-156
[51] AER, *Framework and Approach – Powerlink*, July 2020, pp. 12-13
[52] That is, 2014–20 data for the draft decision, and 2015–21 data for the final decision
[53] That is, 2013–19 data for the draft decision, and 2014–20 for the final decision. Powerlink, *2023–27 Revenue proposal,* p. 155

CCP23 response

We understand that eh AER must comply with the Scheme requirements, and if the Scheme requirements are such that the Scheme requirements do not allow the AER to approve or require a MIC performance target to be based on a different time period then that must be respected.

9.6.5 Network Capability Component

The AER's Issues Paper notes that Powerlink has not proposed any Network Capability Incentive Parameter Action Plan (NCIPAP) projects to address network limits under the NCC.[54]

Powerlink has also set out why it has not submitted any NCIPAP projects, and has concluded:

> *We may pursue potential projects within the 2023-27 regulatory period if they become viable, based on the AER's 2015 STPIS. To facilitate this, we have amended our annual asset management processes to include routine potential NCIPAP project reviews to ensure we consider, and where appropriate propose, NCIPAP projects for implementation.*
>
> *We will make a request to the AER as part of our annual STPIS reports during the 2023-27 regulatory period,[55] if we consider that any of the three shortlisted projects or any other NCIPAP project would meet the STPIS requirements and provide benefit to customers. This will involve consultation with AEMO, the AER and our customers and stakeholders.*

We support this approach.

9.7 Demand management innovation allowance mechanism (DMIAM)

AER issues paper question 30

Do you consider the DMIAM should be applied to Powerlink in the 2022–27 period? Please provide comments on Powerlink's proposed potential demand management projects.

Issues paper reference: sections 6.4, p40-41.

The demand management innovation allowance mechanism (DMIAM) provides transmission network service providers with an allowance to undertake innovative projects related to demand management projects. Projects must meet the objective of having the potential to reduce long term network costs.

In its Framework and Approach paper for Powerlink, the AER stated that it expects to develop and apply a DMIAM to Powerlink in the 2022–27 period in its final determination.

The AER released a draft DMIAM and Explanatory Statement in December 2020 for consultation. The final DMIAM is expected to be released by June 2021.

In its Final Determination that introduced the DMIAM, the AEMC specifically discussed the question of transitional arrangements for Powerlink, given the likely timing of finalisation of the DMIAM. The AEMC concluded that Powerlink could highlight its intention to propose application of the DMIAM in the Revenue Proposal and then provide the formal requirements under the scheme in its Revised Revenue Proposal. The AEMC sought the AER's feedback on this arrangement. The AER confirmed it will allow Powerlink to follow this approach.

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[54] Powerlink, *2023–27 Revenue proposal*, pp. 156-157

[55] Consistent with the AER's 2015 STPIS, clause 5.4 (b)

Powerlink has sought to apply the DMIAM during the 2022–27 period, and proposes some potential demand management projects. Powerlink indicated it will provide additional information to the AER as part of its 2022–27 revised proposal later this year.

We agree with the approach of Powerlink to provide information to the AER as part of its Revised Revenue Proposal. This will provide time for Powerlink the time to firm up its proposals, informed by further targeted stakeholder engagement.

Summary response to the AER Questions:

26. Do you consider Powerlink's proposed EBSS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2017–22 period?

27. Do you consider applying the EBSS to Powerlink in the 2022–27 period would provide it a continuous incentive to reduce its opex?

28. Do you consider Powerlink's forecast CESS incentivises it to undertake efficient Capex throughout the regulatory control period, by rewarding efficiency gains and penalising efficiency losses?

Combined Answer. We support application of the EBSS on the basis that it is genuinely based on business' revealed efficient opex costs and will fairly share efficiency gains and losses between the business and consumers. The AER should apply the EBSS if and only if it is satisfied that this is the case.

We similarly support the AER's intention to continue to apply the CESS as set out in the Framework & Approach.

29. 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? ***Answer: We concur with the view of the AER that one of the key features of the STPIS is that a TNSP can only keep its reward under the STPIS if the service level improvement is retained in subsequent regulatory periods. If the improvement is not maintained, the TNSP will need to return the earlier reward to network users. Given consumers have paid for the performance improvement by Powerlink to achieve the current level, the proposal to increase the performance target to above the historical average would result in consumers paying for the improvement twice.***

On that basis, we agree with the AER that consumers should not pay for the same improvement twice, and therefore the target should not be adjusted.

30. Do you consider the DMIAM should be applied to Powerlink in the 2022–27 period? Please provide comments on Powerlink's proposed potential demand management projects. ***Answer: We agree with the approach of Powerlink to provide information to the AER as part of its Revised Revenue Proposal. This will provide time for Powerlink the time to firm up its proposals, informed by further targeted stakeholder engagement.***

10 List of questions posed in the AER Issues Paper

The following are the questions posed in the AER Issues Paper. References to question numbers throughout this Advice relate to these questions.

Issues Paper – Powerlink, 2022–27

Pricing methodology

1. Do you consider Powerlink's proposed changes to its pricing methodology for the 2022–27 period are appropriate and give effect to the pricing principles for prescribed transmission services?

2. What are your views on Powerlink's consumer engagement in developing its proposed pricing methodology for the 2022–27 period?

Consumer engagement approach

3. Given Powerlink's overarching goal to deliver a revenue proposal that is Capable of acceptance, is Powerlink's 2022–27 proposal acceptable to you in its current form? Please give reasons. If the proposal is not acceptable to you, what changes would be required to make it acceptable?

4. Do you agree with Powerlink's three key consumer drivers for the 2022–27 period (i.e. affordability, price signals and customer choice)? Are there other key drivers that are important to you?

5. Do you think Powerlink has engaged meaningfully with consumers on all key elements of its 2022–27 proposal? Are there any key elements that require further engagement?

6. To what extent do you consider you were able to influence the topics engaged on by Powerlink? Please give examples.

7. With regard to IAP2 Spectrum, do you think Powerlink selected an appropriate level of participation in the engagement program for its 2022–27 proposal (see Table 4)? Please provide examples of engagement activities that Powerlink conducted very well, and not as well?

8. To what extent do you consider Powerlink's 2022–27 proposal ties to your expressed views as a consumer?

9. Are there any aspects of Powerlink's consumer engagement that could have been done better? If yes, what opportunities are there for Powerlink to act on your feedback?

10. What are your views on Powerlink's self-assessment of its consumer engagement approach under the AER's consumer engagement framework (see Table 5)? Is it an accurate assessment of Powerlink's consumer engagement on its 2022–27 proposal, or would you assess Powerlink differently?

11. Do you consider the AER's consumer engagement framework is appropriate for assessing Powerlink's 2022–27 proposal? Are any criteria not appropriate, or absent but relevant to an accurate assessment of Powerlink's proposal?

12. Do you have views on the statement on engagement submitted by Powerlink's Customer Panel? For example, you may have thoughts on the breadth of Powerlink's engagement, or whether you ever felt led/coerced in your engagement with Powerlink.

Transmission price impacts

13. Do you have views on the estimated transmission price impacts arising under Powerlink's 2022–27 proposal?

Regulatory asset base and depreciation

14. Do you have views on Powerlink's proposed RAB, as set out in its 2022–27 proposal?

15. Do you have views on Powerlink's proposed depreciation approach, as set out in its 2022–27 proposal?

Capital expenditure

16. Do you consider Powerlink's Capex proposal addresses the key themes of affordability, sustainability, and reliability?

17. Do you consider Powerlink's Capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?

18. Do you consider Powerlink's hybrid approach to forecasting replacement Capex , including Powerlink's use of the replacement expenditure (repex) model, is appropriate and likely to produce a forecast of efficient replacement Capex ?

19. Do you consider Powerlink's economic assessment framework and project documentation provide appropriate justification for its proposed Capex projects and programs?

20. Do you consider Powerlink's total forecast Capex reasonably reflects the efficient costs of a prudent operator?

21. Do you consider Powerlink's proposed contingent project should be included as a contingent project for the 2022–27 period? Is the proposed project trigger appropriate?

Operating expenditure

22. Do you consider Powerlink's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?

23. Do you consider Powerlink's forecast opex for the 2022–27 period reasonably reflects the efficient costs of a prudent operator?

24. Do you have any comments on the magnitude of Powerlink's proposed estimate for annual opex productivity growth the 2022–27 period?

Corporate income tax

25. Do you have views on the approach to corporate income tax in Powerlink's 2022–27 proposal?

Incentive schemes

26. Do you consider Powerlink's proposed EBSS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2017–22 period?

27. Do you consider applying the EBSS to Powerlink in the 2022–27 period would provide it a continuous incentive to reduce its opex?

28. Do you consider Powerlink's forecast CESS incentivises it to undertake efficient Capex throughout the regulatory control period, by rewarding efficiency gains and penalising efficiency losses?

29. 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?

30. Do you consider the DMIAM should be applied to Powerlink in the 2022–27 period? Please provide comments on Powerlink's proposed potential demand management projects.