Issues Paper

Powerlink
Electricity transmission revenue proposal

1 July 2017 to 30 June 2022

March 2016

AUSTRALIAN ENERGY REGULATOR

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Request for submissions

Energy consumers and other interested parties are invited to make submissions on the Powerlink electricity transmission revenue proposal by **28 April 2016**. The proposal is available on the AER's website www.aer.gov.au

We will consider and respond to submissions in our draft determination in September 2016.

We prefer that all submissions are in Microsoft Word or another text readable document format. Submissions should be sent to: Powerlink2016@aer.gov.au

Alternatively, submissions can be sent to:

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Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information should:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on our website. For further information regarding our use and disclosure of information provided to us, see the ACCC/AER Information Policy (June 2014), which is available on our website ACCC and AER information policy.

If interested parties have any enquires about this Issues Paper, or about lodging submissions, please send an email to: Powerlink2016@aer.gov.au.

Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation capex
capex	capital expenditure
EBSS	efficiency benefit sharing scheme
kW	kilowatt
MAR	maximum allowed revenue
MW	megawatt
MWh	megawatt hour
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
opex	operating expenditure
RAB	regulatory asset base
repex	replacement capex
RPPs	Revenue and pricing principles
STPIS	service target performance incentive scheme
TUoS	transmission use of system
VCR	Value of Customer Reliability
WACC	weighted average cost of capital

1 Introduction

Queensland households and businesses consume electricity, which is supplied through a network of 'poles and wires'. The electricity network in Queensland is commonly divided into two parts:

- a transmission network, which carries electricity from the large generators to the major load centres
- a distribution network, which carries electricity from the points of connection with the transmission network to virtually every building, house and apartment in Queensland.

The transmission and distribution networks charge their customers for transmitting electricity across their networks. These 'network charges' do not appear directly on most customers' electricity bills, which are sent by the retail businesses. Nevertheless, the network charges are important as they account for a significant component of each customer's final bill.

Powerlink (formally the Queensland Electricity Transmission Corporation Limited) owns and operates Queensland's shared electricity transmission network.[1] On 28 January 2016 Powerlink submitted its electricity transmission revenue proposal for its regulatory control period from 1 July 2017 to 30 June 2022 (2017–22 regulatory control period).[2] This revenue proposal sets out how much Powerlink proposes to charge its customers over the five year period.

We, the Australian Energy Regulator (AER), regulate the revenues of the network businesses by setting the annual revenues they may recover from customers. For electricity transmission businesses, this annual revenue is called the maximum allowed revenue, and directly impacts the network charges Powerlink can recover from customers as part of their electricity bills.

Although our decision influences the total revenue Powerlink can recover from its transmission customers (such as the Queensland distributors and large customers connected directly to the transmission network), the AER does not set transmission charges for each customer or the retail prices that end consumers pay. Retail prices include the costs associated with transmission, distribution, generation, and the costs incurred by retailers in selling the electricity.

We are just starting the process of reviewing Powerlink's revenue proposal for the 2017–22 regulatory control period. This involves examining Powerlink's proposal to ensure that consumers pay no more than necessary for the safe and reliable delivery of electricity.

We determine an overall revenue allowance based on a forecast of the efficient costs required by Powerlink to prudently provide transmission services and fulfil its obligations. The regime provides incentives for Powerlink to outperform our forecast, while delivering

1 Powerlink (Qld) (ABN 82 078 849 233) holds a Transmission Authority issued under the *Electricity Act 1994.*

2 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016.

safe, reliable and secure services to its customers. If Powerlink incurs costs that are greater than what we deem to be efficient, Powerlink bears those costs.

The purpose of this issues paper is to help consumers and other stakeholders understand Powerlink's proposal. This issues paper will be followed by a draft decision in September 2016 and a final decision before the end of April 2017.

Table 1 below lists the key dates of the review.

Table 1 Key dates for the Powerlink transmission pricing review

Step	Date*
AER published Framework & Approach paper for Powerlink	31 July 2015
Powerlink submitted revenue proposal to AER	28 January 2016
AER publishes issues paper	March 2016
AER to hold public forum on issues paper	15 March 2016
Submissions on revenue proposal close	28 April 2016
AER to publish draft transmission determination	September 2016
AER to hold public forum on draft transmission determination	October 2016
Powerlink to submit revised revenue proposal to AER	tba
Submissions on revised revenue proposal and draft determination close	tba
AER to publish final transmission determination	April 2017

Source: NER, chapter 6A, Part E
* Expected timeframe

Under the NER, consumer engagement is a factor we can consider when making our revenue determinations.[3] Consumers can get involved in our review process in a number of ways. We will host public forums during which consumers can ask us and Powerlink questions. Consumers can make submissions on Powerlink's proposal, this issues paper, and our draft determination.

As part of our 'Better Regulation Program' and to ensure that consumers have a say in our decision making process, we established the Consumer Challenge Panel (CCP). The purpose of the CCP is to assist us in making better regulatory decisions by advising us on issues that are important to consumers. Panel members will present their views and analysis at our public forums, which will help consumers understand the issues and be better able to have a say.

3 NER, cl. 6A.6.6(e)(5A), cl. 6A.6.7(e)(5A).

Submissions

Submissions on Powerlink's proposal and this issues paper are due by 28 April 2016.

Your submission will be of greater value if supported by evidence and analysis. Submissions that address specific issues, supported by evidence and analysis, can be very useful.

If you consider a certain aspect of the revenue proposal is not justified, you should state why you consider it is not justified. You should also state what further information you consider Powerlink should provide to justify that aspect of its proposal. Likewise, if you consider a certain aspect of the proposal is justified, you should state why.

When considering the questions on which we would like feedback, it is useful to keep in mind that our jurisdiction in reviewing the proposal is set out in the National Electricity Law (NEL) and National Electricity Rules (NER). The objective of the regulatory framework is to promote the efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity.[4] Under the NER, we assess the business' proposed expenditure forecasts to determine whether they are required to meet this objective.

We are most interested in receiving submissions on Powerlink's proposed approach to opex, capex, depreciation, the expected rate of return and consumer engagement. However, we welcome submissions on all aspects of the proposal.

Merits review - Tribunal decision on the AER's ACT and NSW 2014–15 distribution determinations

In May 2015, the ACT and NSW distributors and the Public Interest Advocacy Centre (PIAC) applied to the Australian Competition Tribunal for merits review of the AER's final 2014–19 distribution determinations released on 30 April 2015. The Tribunal hearings commenced in September 2015. The Tribunal handed down its decision on 26 February 2016. We are considering the Tribunal's decision and its implications for Powerlink's proposal and other regulatory decisions.

While Powerlink applied our Rate or Return Guideline to develop its proposed rate of return, it noted that departures from the Guideline by other service providers were before the Australian Competition Tribunal at the time it submitted its regulatory proposal.[5] Powerlink indicated it would reconsider its approach in light of the Tribunal decision, when available, and may submit an updated rate of return with its revised proposal.[6]

Public forum

We will hold a public forum on Powerlink's revenue proposal at the AER's Brisbane office on 15 March 2016. To attend, please contact us: Powerlink2016@aer.gov.au

4 *National Electricity (South Australia) Act 1996*, Schedule—National Electricity Law, s. 7—National electricity objective.
5 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 92.
6 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 93.

2 Our initial observations

This section sets out our initial observations on Powerlink's revenue proposal.

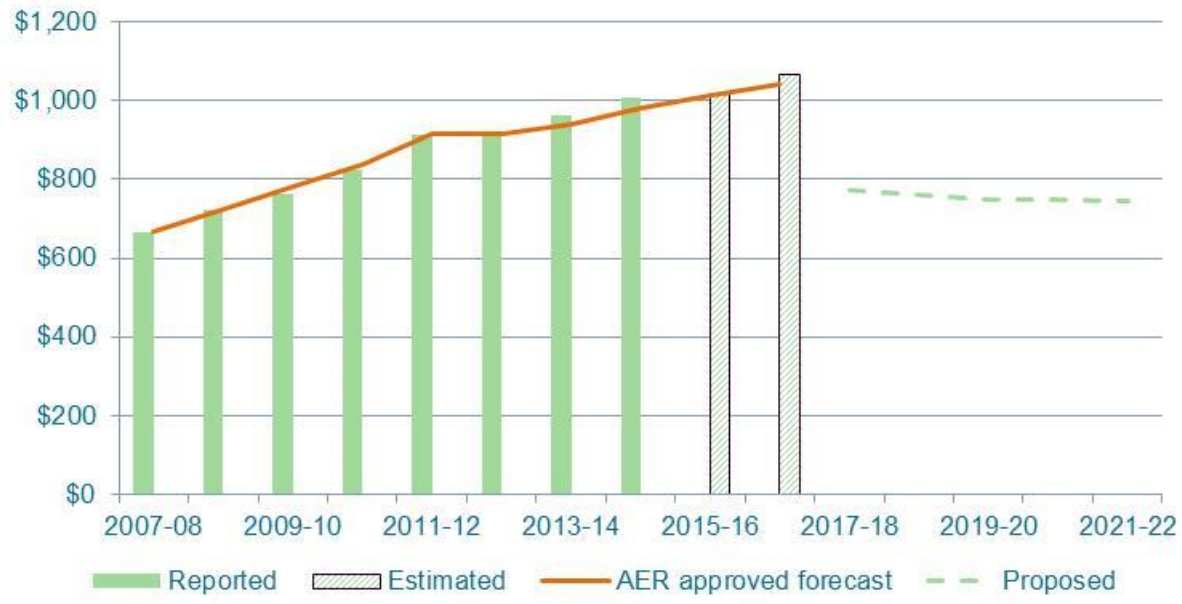
2.1 Total revenue

Powerlink's revenue proposal covers many issues relevant to our responsibilities as an economic regulator. Primarily though, the revenue proposal sets out the revenue that Powerlink proposes to recover from consumers over the next regulatory control period. This section discusses Powerlink's revenue proposal in total.

Powerlink has proposed a total revenue requirement of $3,773.4 million ($real 2016−17) over the 2017–22 regulatory period. This represents a 23 per cent decrease compared to the revenue Powerlink was allowed to recover from customers over the 2012–17 regulatory period.[7]

Powerlink's actual, expected and forecast revenue is outlined in Figure 1 below.

Figure 1: Powerlink's total revenue requirement ($m, real 2016–17)



Source: AER analysis, based on Powerlink's submitted Post Tax Revenue Model (PTRM), response to the AER's annual Economic Benchmarking Regulatory Information Notice (RIN) and response to the AER's reset RIN.

Revenue impact by building block revenue component

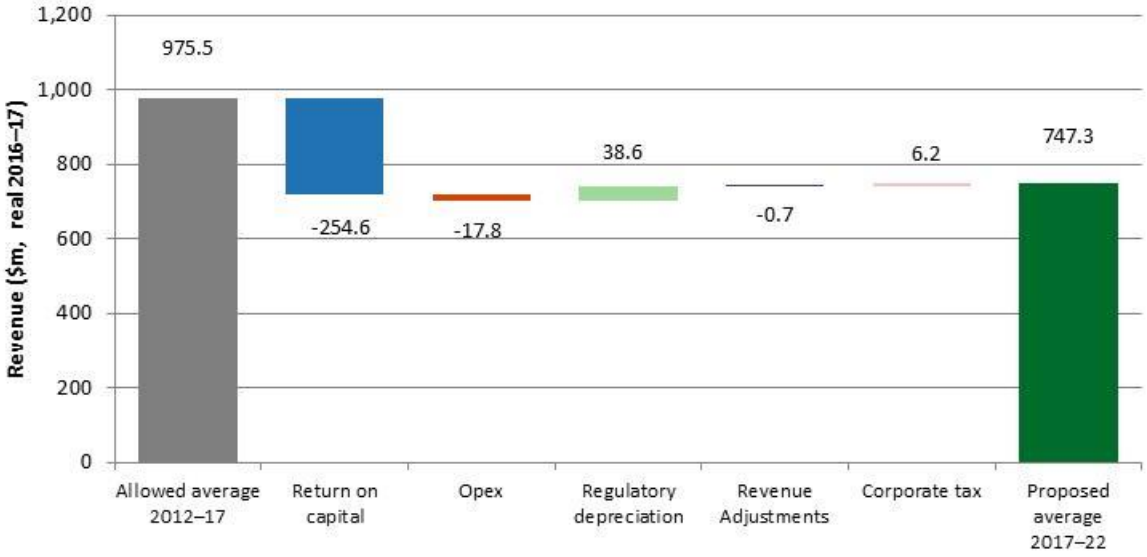
To assist consumers to understand the drivers of Powerlink's proposed total revenue requirement we have separated Powerlink's proposed changes in revenue into the various building block elements. In the figure below we show the impact of these changes as if they

7 AER analysis.

were to all occur in the first year. By doing so, we can see more clearly the key drivers of Powerlink's proposed revenue increase.

Figure 2 below shows that the return on capital and opex are the key drivers of the proposed decrease in revenues in the 2017–22 regulatory control period. Partially offsetting this revenue reduction is a proposed increase in regulatory depreciation.

Figure 2: Powerlink – change in 2012–17 average revenue to proposed average revenue for 2017–22 – by revenue component ($m, real 2016–17)



Source: AER analysis, based on Powerlink's submitted Post Tax Revenue Model (PTRM), response to the AER's annual Economic Benchmarking Regulatory Information Notice (RIN) and response to the AER's reset RIN.

Impact on transmission prices

Powerlink's proposed revenue, if accepted, would mean a transmission price reduction in 2017–18 of 28 per cent.[8] According to Powerlink, this translates to a retail price decrease for Queensland consumers of 2.6 per cent in 2017–18.[9]

Figure 3 shows the expected price path derived from Powerlink's revenue proposal. The solid lines represent actual average price changes and the dotted line represents the price path proposed by Powerlink over the next regulatory control period. Note that Powerlink operates under a revenue cap, so any over or under recovery compared to its annual revenue allowance is adjusted for in subsequent years.

As reflected in Figure 3 below, in the current regulatory control period Powerlink's transmission prices have plateaued after increasing during the previous period. Under

8 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. viii.

9 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. viii; in Queensland the cost of transmission (as opposed to generation, distribution and retail costs) represents around 9 per cent of the bill paid by consumers.

Powerlink's proposal transmission prices would drop in 2017–18 before rising at around the inflation rate for the rest of the 2017–22 regulatory control period.

Figure 3: Powerlink – indicative transmission price path from 2008–09 to 2017–22 ($/MWh, nominal)

Source: AER analysis, based on Powerlink's submitted Post Tax Revenue Model (PTRM), response to the AER's annual Economic Benchmarking Regulatory Information Notice (RIN) and response to the AER's reset RIN.

2.2 Depreciation

Depreciation is the amount that the service provider recovers over time to pay for the original cost of the asset.

Powerlink proposed a regulatory depreciation (return of capital) allowance of $577 million ($2016–17). Powerlink's proposed depreciation allowance is 50 per cent larger than its depreciation allowance in the current period.

See section 4 of this paper for further details.

2.3 Capital expenditure

Powerlink proposed total capex of $957 million ($2016–17) for the 2017–22 period. This represents a reduction of approximately 30 per cent compared to Powerlink's actual expenditure over the current period. Making up Powerlink's capex forecast, it proposed:

- augex of $2.8 million ($2016–17) representing a 99 per cent reduction compared to actual augmentation capex[10] (augex) in the current period
- repex of $861 million ($2016–17) representing a 19 per cent reduction compared to actual replacement capex[11] (repex) in the current period.

10 Augmentation capex is investment to enhance network capacity or performance.

11 Replacement capex is investment to replace existing assets at the end of their useful life.

- non–network capex of $97 million ($2016–17) representing a reduction of 8 per cent compared to its actual non–network capex in the current period
- connections capex of $zero for connections for the forthcoming period, compared to $10 million in actual connections capex in the current period.

Powerlink proposed a total of 7 contingent projects with a combined indicative value of $590.0 million ($nominal).

See section 5 of this paper for further details.

2.4 Operating expenditure

Powerlink proposed total operating expenditure of $976.7 million ($2016–17) for the 2017–22 regulatory control period. This is approximately 7 per cent less than Powerlink's actual and opex for the current period.

See section 6 of this paper for further details.

2.5 Rate of return

Powerlink proposed a rate of return of 6.04 per cent. This comprises:

- 7.3 per cent return on equity
- 5.2 per cent return on debt (indicative)
- 60 per cent gearing.

See section 7 of this paper for further details.

3 Background to our assessment

This section provides information about the AER and Powerlink. If you are familiar with the AER's pricing review process, then refer straight to section 4.

The NEL and NER set out the regulatory framework for the National Electricity Market (NEM). Chapter 6A of the NER contains timelines and processes for the regulation of transmission businesses. It provides that regulated transmission businesses must periodically apply to us to assess their revenue requirements. Typically, this happens every five years. The revenue proposal as submitted by each business starts a process often referred to as a pricing review or 'revenue reset'.

3.1 The Australian Energy Regulator

The AER is Australia's national energy market regulator and an independent statutory authority. Our functions are set out in national energy market legislation and rules, and mostly relate to energy markets in eastern and southern Australia. These functions include:

- setting the charges for using energy networks (electricity poles and wires and gas pipelines) to transport energy to customers
- monitoring wholesale electricity and gas markets so suppliers comply with the legislation and rules, and taking enforcement action where necessary
- publishing information on energy markets, including the annual State of the Energy Market report and more detailed market and compliance reporting, to assist participants and the wider community
- assisting the Australian Competition and Consumer Commission with energy-related issues arising under the Competition and Consumer Act, including enforcement, mergers and authorisations.

The NEL and NER set out the regulatory framework under which we operate.

We exercise our functions in a manner that will advance the National Electricity Objective (NEO). The NEO in turn is supported through the revenue and pricing principles and the various objectives, criteria and elements within the rules. The NEO is:

> …to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

Energy Ministers have provided us with a substantial body of explanatory material that guides our understanding of the NEO. [12] The long term interests of consumers are not

12 Hansard, *SA House of Assembly*, 9 February 2005 pp. 1451–1460.
Hansard, *SA House of Assembly*, 27 September 2007 pp. 963–972.
Hansard, *SA House of Assembly*, 26 September 2013 pp. 7171–7176.

delivered by any one of the NEO's factors in isolation, but rather by balancing them in reaching a regulatory decision. [13]

In general, we consider that we will achieve this balance and, therefore, contribute to the achievement of the NEO, where consumers are provided a reasonable level of safe and reliable service that they value at least cost in the long run.[14] In most industries, competition creates this outcome. Competition drives suppliers to develop their offerings to attract customers. Where a supplier's offering is not attractive it risks being displaced by other suppliers.

However, in the energy networks industry the usual competitive disciplines do not apply. Electricity transmission businesses such as Powerlink are largely natural monopolies.[15] In addition, many of the products they offer are essential services for most consumers. Consequently, in an uncompetitive environment, consumers have little choice but to accept the quality, reliability and prices the network service provider offers.

The NEL and NER aim to remedy the absence of competition by providing that we, as the regulator, make decisions that are in the long term interests of consumers. For example, we might require a transmission business to offer its services at a different cost than they would choose themselves. By its nature, this process will involve exercising regulatory judgement to balance the NEO's various factors.

It is important to recognise that there are a number of plausible outcomes that may contribute to the achievement of the NEO. The nature of decisions under the NER is such that there may be a range of economically efficient decisions, with different implications for the long term interests of consumers.[16] At the same time, however, there are a range of outcomes that are unlikely to advance the NEO to a satisfactory extent. For example, we do not consider that the NEO would be advanced if allowed revenues encouraged overinvestment and resulted in prices so high that consumers are unwilling or unable to efficiently use the network.[17] This could have significant longer term cost implications for those consumers who continue to use network services.

Equally, we do not consider the NEO would be advanced if the revenue recoverable from customers results in prices so low that investors are unwilling to invest as required to adequately maintain the appropriate quality and level of service, and where customers make more use of the network than is sustainable. This could create longer term problems and have adverse consequences for safety, security and reliability of the network.[18]

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13 Hansard, *SA House of Assembly*, 26 September 2013 p. 7173.

14 Hansard, *SA House of Assembly*, 9 February 2005 p. 1452.

15 A natural monopoly is a distinct type of monopoly that may arise when there are extremely high fixed costs of distribution, such as exist when large-scale infrastructure is required to ensure supply. Examples of infrastructure include cables and grids for electricity supply, pipelines for gas and water supply.

16 Re Michael: Ex parte Epic Energy [2002] WASCA 231 at [143].
Energy Ministers also accept this view – see Hansard, *SA House of Assembly*, 26 September 2013 p. 7172.
AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006* No. 18, p. 50

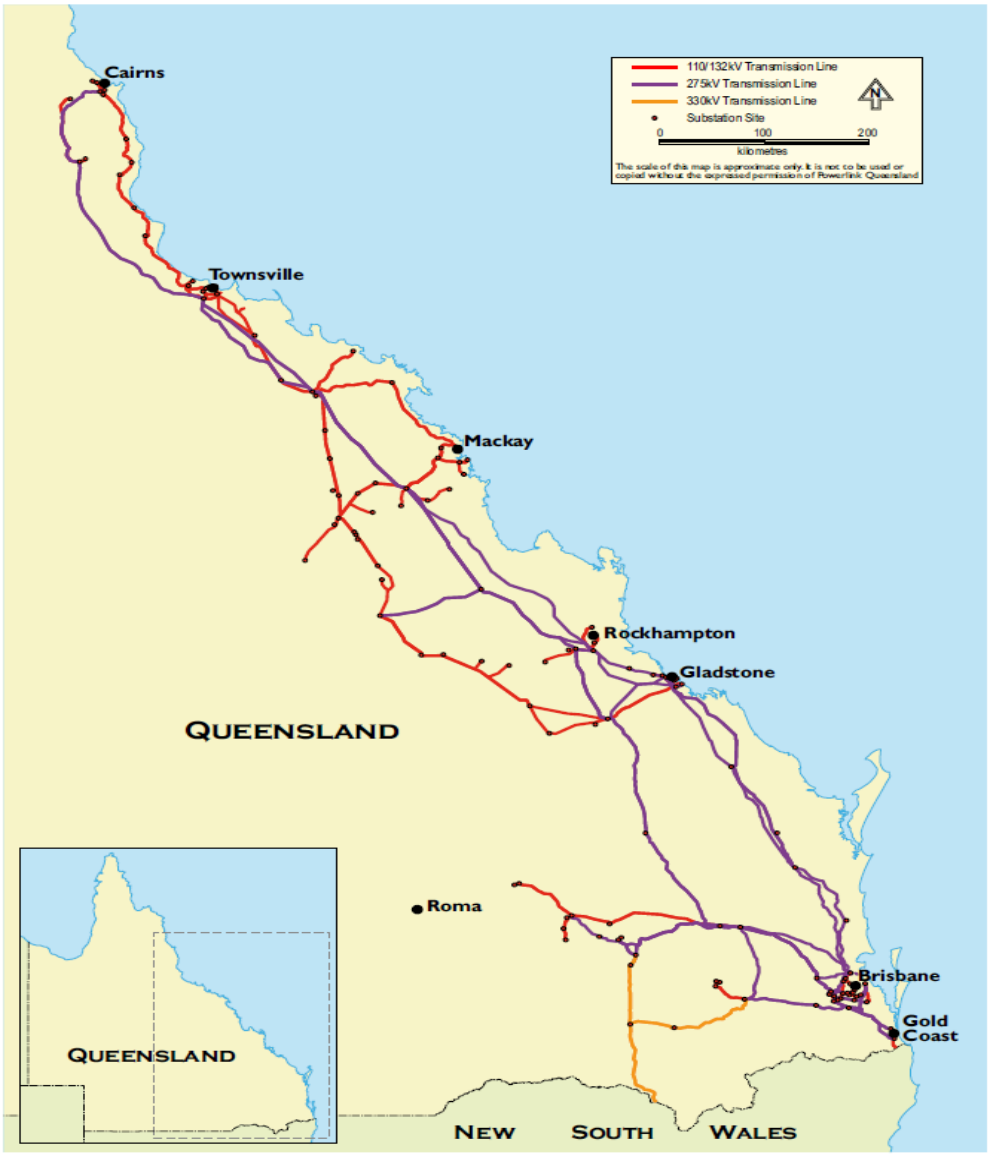
17 NEL, s. 7A(7).

18 NEL, s. 7A(6).

3.2 Who is Powerlink and what does it do?

Powerlink is a Queensland State Government Owned Corporation which owns, develops, operates and maintains the high voltage electricity transmission network in Queensland. Powerlink's transmission network transports electricity from power stations to distributors Energex, Ergon Energy and Essential Energy (in northern NSW via the Queensland/New South Wales Interconnector). Powerlink also transports electricity to directly connected large industrial customers. Powerlink is registered with the Australian Energy Market Operator (AEMO) as a Transmission Network Service Provider and is the holder of a Transmission Authority issued under the *Electricity Act 1994 (Qld).*

Figure 4: Powerlink electricity transmission system[19]



19 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, attachment—*Reset RIN map of transmission system January 2016.*

3.3 Regulatory framework

3.3.1 Applicable version of the National Electricity Rules

The NER guides our assessment of Powerlink's revenue proposal.[20] This version of the NER includes the result of significant changes made by the AEMC in November 2012. During our 2013 Better Regulation program we developed, through an extensive consultation process, a number of guidelines. The result was a suite of guidelines that accommodated changes to the NEL and NER and set out approaches we consider are most likely to advance the NEO.

3.3.2 AER Guidelines

We developed the following guidelines under our Better Regulation program. These guidelines are available on our website and include:[21]

- **Expenditure forecast assessment guideline**

This guideline sets out how we go about in assessing the operating and capital expenditure proposals from businesses.

- **Rate of return guideline**

This guideline sets out how we go about determining the allowed rate of return businesses earn on their investments.

- **Expenditure incentives guideline**

We have a number of schemes which are to create the right incentives to encourage efficient spending by businesses. These schemes are explained in this guideline.

- **Consumer engagement guideline for network service providers**

This guideline looks at our expectations of what the businesses should consider in implementing consumer engagement strategies that are effective for all stakeholders.

- **Shared asset guideline**

This guideline explains how revenue the networks earn from shared assets is shared with consumers.

- **Confidentiality guideline**

This guideline sets out how we manage confidential information claims within the regulatory determination process.

We consulted extensively in developing these guidelines. This consultation process was very important for testing our views and hearing from a range of interested parties. In particular, we made a special effort to engage consumers in the process through our Consumer

20 The National Electricity Rules can be viewed on the Australian Energy Market Commission's website: http://www.aemc.gov.au

21 http://www.aer.gov.au/Better-regulation-reform-program

Reference Group. The guidelines provide a solid foundation for our decision making and provide predictability in how we will exercise our discretion. Predictability provides confidence to both investors and consumers.

3.4 Our framework and approach paper

We released our Framework and Approach (F&A) paper for Powerlink on 22 June 2015. The framework and approach (F&A) paper is the first step in the regulatory process and determines the broad nature of any regulatory arrangements that will apply in this process. It also facilitates early public consultation and assists network service providers to prepare revenue proposals.

The F&A is not binding on Powerlink or us.[22] This means it is open to Powerlink or us to propose a different approach to that set out in our F&A for the regulatory control period.

3.5 Maximum allowed revenue to be recovered from consumers

A transmission business recovers revenue from its customers via network charges. A pricing methodology prescribes the way the business recovers this revenue. To determine the transmission business' revenue for the next regulatory control period, we assess the total revenue required to provide prescribed transmission services for each year of the period.

In accordance with the NER, we use the building block approach to determine the total revenue required by the business. That revenue requirement is determined by estimating the efficient costs that the business is likely to incur in providing prescribed transmission services. The underlying cost elements include:

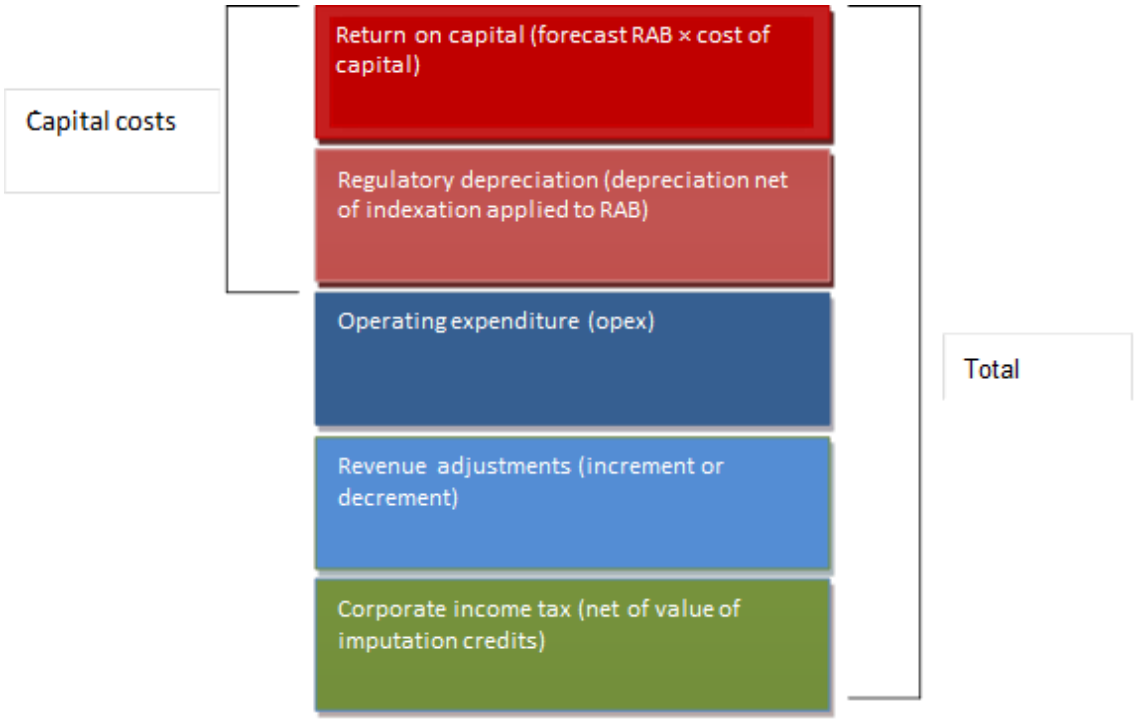
- a return on the regulatory asset base (RAB) (return on capital)
- depreciation of the regulatory asset base (return of capital)
- forecast operating expenditure (opex)
- increments or decrements resulting from the application of incentive schemes
- the estimated cost of corporate income tax.

Our assessment of capex directly affects the size of the RAB and therefore the return on capital and return of capital building blocks.

Our assessment of Powerlink's proposal will consider each of the building blocks shown in Figure 5. However, we must decide Powerlink's revenue as a whole and describe how the component parts of the decision relate to each other.

22 NER, cl. 6A.10.1A(f).

Figure 5 The building block approach to determining maximum allowed revenue



The key drivers of these cost elements in the revenue proposal are discussed in sections 4 to 7 of this paper.

4 Depreciation

Regulated service providers own assets such as towers, poles, transformers and substation equipment to transmit electricity across their networks. The value of these assets declines over time as funds are recovered for their use.

Depreciation is the amount that the service provider recovers to pay for the original cost of the asset over time—typically reflecting the useful life of the asset. Service providers are able to recover this depreciation amount in their regulated revenues. Depreciation, or 'return of capital', is one of the building blocks used to calculate Powerlink's maximum allowed revenue. We must assess the depreciation approach to be used in making this calculation.

4.1 How is depreciation forecast

We determine the regulatory depreciation allowance using our post tax revenue model (PTRM). The calculation of depreciation in each year is governed by the value of assets included in the RAB at the beginning of the regulatory year, and by the depreciation schedules.

Our standard approach to calculating depreciation is to employ the straight-line method set out in the PTRM. We consider the straight-line method satisfies the NER requirements in clause 6.5.5(b) as it provides an expenditure profile that reflects the nature of assets over their economic life.

Some network service providers have at times proposed depreciation allowances calculated using other methods. This is not the case with Powerlink.

4.2 Powerlink's forecast depreciation

Powerlink proposed a regulatory depreciation (return of capital) allowance of $577 million ($2016–17).[23] Powerlink's proposed depreciation allowance is 50 per cent larger than its depreciation allowance in the current period.

To forecast its depreciation allowance, Powerlink used:

- the straight-line depreciation method employed in our post-tax revenue model (PTRM)
- the estimated closing RAB value at 30 June 2017 derived from our roll forward model (RFM)
- the forecast inflation rate for the 2017–22 period
- the standard asset life for each asset class consistent with those approved in the 2012–17 determination—used for calculating the depreciation of new assets associated with forecast net capex in the regulatory control period

23 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 96, states the depreciation allowance forecast in $nominal as $623.2 million.

- the remaining asset life for each asset class—used for calculating the depreciation of existing assets included in the opening RAB at 1 July 2017.

The increase in Powerlink's proposed depreciation allowance compared to the current period results from two factors:

- lower remaining asset lives used to calculate straight–line depreciation on the opening RAB as at 1 July 2017
- a relatively small inflation adjustment.

Both of the above drivers are influenced by the relatively low levels of actual capex investment over the current period and by the relatively low proposed capex investment over the 2017–22 period. We discuss these issues below.

Straight line depreciation

Powerlink's proposed average straight-line depreciation for the forthcoming regulatory period is higher than for the current period by $8.4 million (real 2016-17) or 3 per cent. This is a result of a combination of related factors affecting the RAB. The lower actual capex relative to forecast over the current period results in a lower opening RAB as at 1 July 2017. This effects the weighted average life calculation which provides for lower remaining asset lives. The lower remaining asset lives result from of the higher weighting of the remaining value of the opening RAB at the commencement of the current period relative to the remaining value of actual capex rolled into the RAB over the current period. The combination of lower opening RAB and lower remaining asset lives at the commencement of the next period drive the higher level of straight-line depreciation.

A lesser contributing factor is a higher proportion of proposed capex allocated by Powerlink to shorter lived asset classes relative to longer lived asset classes in the previous period (including transmission lines refit). This has the effect of increasing the level of depreciation relative to the previous period where the forecast value of asset refurbishments was lower relative to the capex on the underlying transmission lines asset classes. ….

Inflation adjustment

The lower forecast opening RAB in each year of the 2017–22 period reduces the inflation amount used to offset the straight-line depreciation value. This adjustment is undertaken to remove double counting of inflation in the return on assets calculation (the return on capital) which applies a nominal weighted average cost of capital (WACC).

The inflation adjustment is undertaken by reducing the value of straight-line depreciation to provide the calculation of the regulatory depreciation allowance. The average inflation on the opening RAB is $31.2 million (real 2016-17) or 15.5 per cent lower than that over the current period. This results in an increase in the relative size of the regulatory depreciation allowance over the forthcoming period.

In total

The relatively small inflation adjustment is the main driver of the increase in regulatory depreciation allowance. The lower opening RAB causes a reduction in the inflation used to adjust the revenues by offsetting the value of straight-line depreciation.

Questions

Has Powerlink applied an appropriate method to calculate its depreciation allowance?

5 Capital expenditure

Capital expenditure (capex) refers to the capital expenditure incurred in the provision of network services. The most significant elements of total capex are generally network augmentation expenditure (augex), asset replacement expenditure (repex) and connections.

Capex is added to the regulatory asset base (RAB) and so forms part of the capital costs of the building blocks used to determine total required revenue. Under the rules, we must accept the proposed forecasts of total capex if we are satisfied they reasonably reflect the capital expenditure criteria (capex criteria) set out in the Rules. The capex criteria relate to the efficient costs incurred by a prudent operator in light of realistic demand forecasts and cost inputs. We must have regard to the capex factors in the NER when making that decision.

5.1 How do we assess capex expenditure

Our approach is to compare the service provider's total capex forecast with an alternative estimate that we develop and that reasonably reflects the capex criteria.

If we are satisfied that the service provider's proposal reasonably reflects the capex criteria, we accept it. If we are not satisfied, the rules require us to put in place a substitute estimate which we are satisfied reasonably reflects the capex criteria taking into account the capex factors. Where we have done this, our substitute estimate is based on our alternative estimate.

The assessment techniques that we may adopt to assess Powerlink's forecasts of total capex are outlined in our expenditure forecast assessment guideline.

5.2 Powerlink's capex proposal

Powerlink has proposed forecast capex of $957 million ($2016–17) over the forthcoming regulatory period.[24] This represents a reduction of approximately 30 per cent compared to Powerlink's actual expenditure over the current period.[25] It is a reduction of approximately 66 per cent compared to Powerlink's capex allowance for the current period.[26]

Powerlink submitted that the primary driver of the reduction in capital expenditure has been the reduction in demand growth.[27] Powerlink also submitted that the reduction in demand growth has also impacted non-load driven capital expenditure, in that network reinvestment plans are focused on different outcomes such as removing assets without replacement or replacing with assets of different capacity and/or configuration. This has provided opportunity for greater use of alternative options, such as network support or network reconfiguration, to manage asset condition and risk at a lower overall cost.

24 Powerlink's submitted PTRM.

25 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, on p. vi, states that the capex reduction is 31 per cent.

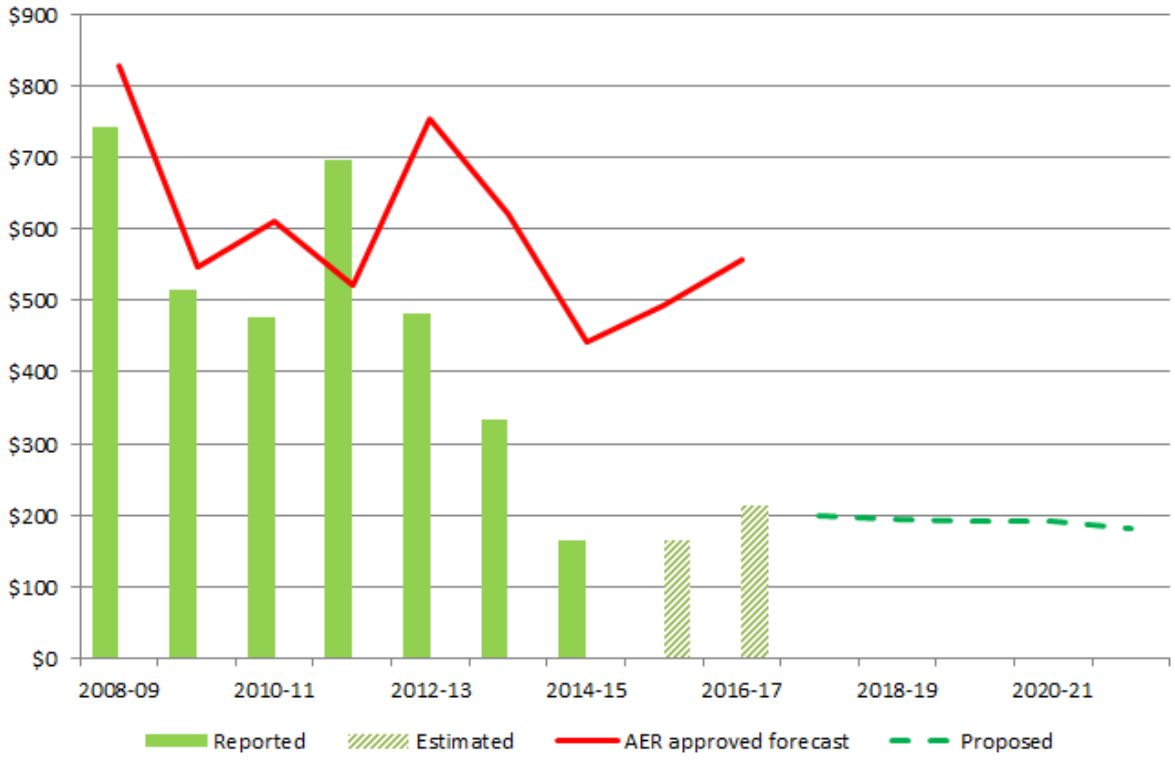
26 AER analysis.

27 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. vi.

In forecasting its capital expenditure for the 2018-22 regulatory period, Powerlink adopted a hybrid forecast that makes more use of top-down forecasting tools, including our replacement expenditure model (repex model). Powerlink submitted that it considers a hybrid approach is appropriate for reinvestment and is a more efficient approach to developing its capex forecast.[28]

Figure 6 below outlines Powerlink's proposed capex forecasts, compared to historic levels and capex allowances.

Figure 6: Powerlink - historical and forecast capex ($m, 2016–17)



Source: AER analysis, Powerlink submitted: PTRM, regulatory proposal, reset RIN return and economic benchmarking RIN returns.

Contingent projects

Powerlink proposed 7 contingent projects with an indicative total cost of $590.0 million ($nominal).[29] Powerlink submitted that its contingent projects stem from its forecast of load driven capital using only a single scenario of demand growth. Further, that its proposed contingent projects are a means of managing the risk arising from its approach to forecasting load driven capital. Powerlink's proposed contingent projects are listed in Table 7 below.

28 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. vi.
29 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 56.

Table 2: Powerlink's proposed contingent projects

Project name	Indicative capital cost ($nominal)
North West Surat Basin Area	$147 million
Central to North Queensland Reinforcement	$55.1 million
Southern Galilee Basin connection shared network works	$116.9 million
Northern Bowen Basin area	$55.7 million
Bowen Industrial Estate	42.9 million
QNI upgrade (Queensland component)	$66.7 million
Gladstone area reinforcement	$105.5 million
Total indicate cost	$590 million

Source: Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 57.

5.3 Key drivers of the capital expenditure proposal

Powerlink submitted that reinvestment in its network (replacement expenditure, or repex) accounts for over 80 per cent of its total capex proposal for the forthcoming period.[30] Further, that reductions in forecast demand growth means load driven capex makes up a small proportion of proposed total capex—around 1 per cent.[31] The effect of low expected demand growth is also reflected in Powerlink's:[32]

- proposed augex allowance for the forthcoming period of $2.8 million ($2016–17) represents a 99 per cent reduction compared to its actual augex in the current period
- proposed $zero allowance for connections for the forthcoming period, compared to incurring $10 million in actual connections capex in the current period.

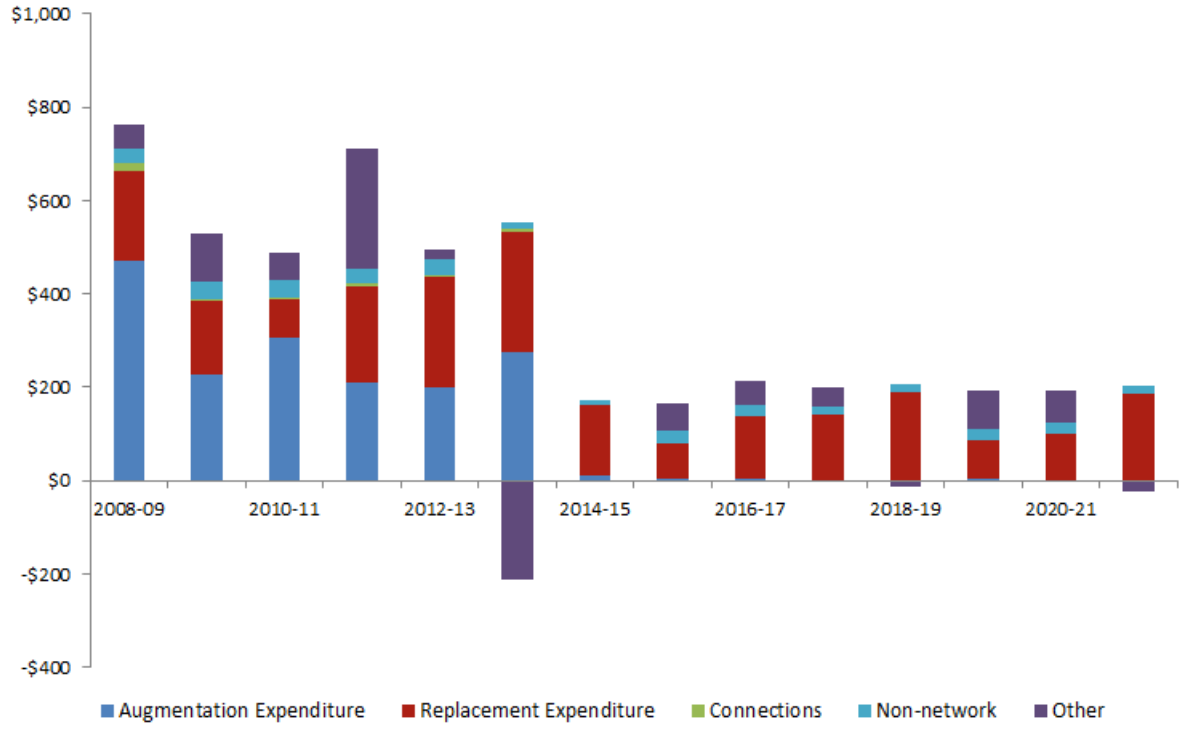
Powerlink's proposed repex allowance of $861 million ($2016–17) represents a 19 per cent reduction compared to its actual repex in the current period.

Powerlink's proposed non–network capex allowance of $97 million ($2016–17) represents a reduction of 8 per cent compared to its actual non–network capex in the current period.

Figure 8 below shows the breakdown of Powerlink's capex forecast into driver categories.

30 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 42.
31 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 53.
32 Information drawn from Powerlink's submitted PTRM, reset RIN return and economic benchmarking RIN return.

Figure 7 Breakdown of Powerlink's capex forecast into driver categories



Source: AER analysis, Powerlink submitted: PTRM, regulatory proposal, reset RIN return and economic benchmarking RIN returns.

5.4 Regulatory asset base

A distributors' regulated asset base (RAB) is the outcome of its cumulative capex spending. Powerlink submitted that its regulatory asset base as at 1 July 2017 is derived by:

- adjusting its opening RAB value as at 1 July 2012 for:
    - actual capex incurred between 2012–13 and 2014–15
    - forecast capex during 2015–16 and 2016–17
    - asset disposals
    - depreciation
    - capitalised movements in provisions
    - the difference between estimated and actual capex in 2010–11[33]
- using the AER's roll forward model.

The opening RAB value as at 1 July 2017 is $7,237.9 million ($nominal).[34]

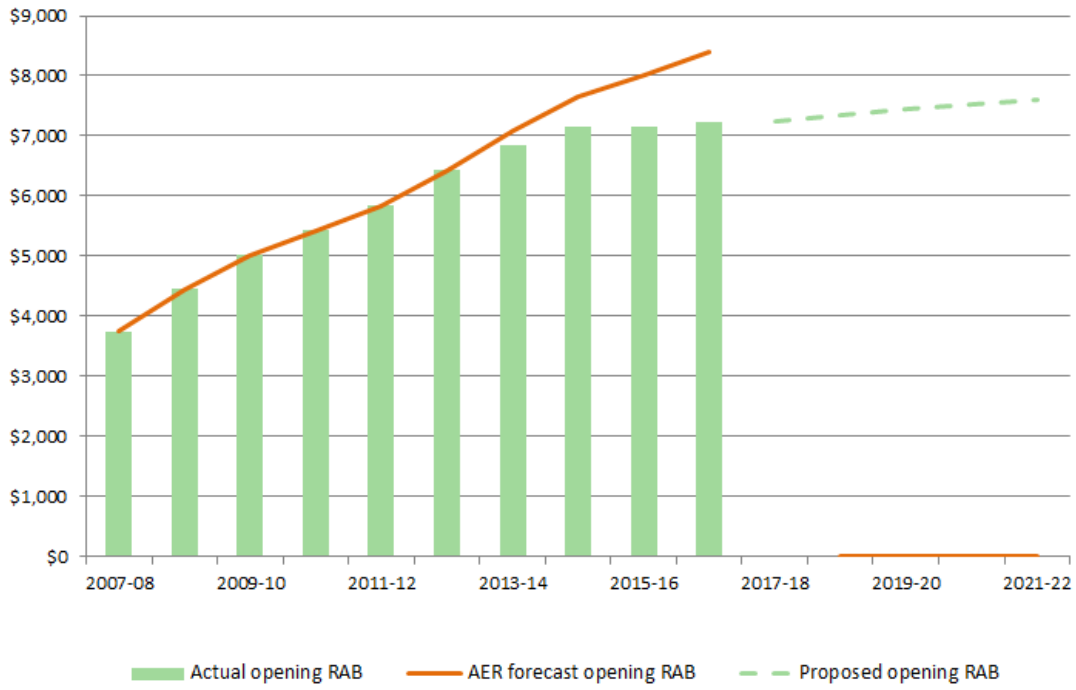
To calculate the RAB for the 2018-22 regulatory period, Powerlink applied the opening RAB as at 1 July 2017and adjusted for:

33 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 86.
34 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 86.

- forecast capital expenditure for 2017–18 to 2021–22
- forecast proceeds of assets disposed for 2017–18 to 2021–22
- depreciation
- forecast capitalised movements in provisions
- forecast inflation.

Figure 8 below shows Powerlink's RAB changes over time and proposed RAB for the 2017–22 regulatory control period.

Figure 8: Powerlink's regulatory asset base ($million, nominal)



Questions

Has Powerlink sufficiently justified its capex proposal?

Has Powerlink adequately considered customer views in developing its capex proposal?

6 Operating expenditure

Opex refers to the operating, maintenance and other non-capital expenditure incurred in the provision of network services. It includes labour costs and other non-capital costs that a prudent service provider is likely to require for the efficient operation of its network.

Opex is one of the building blocks used to determine Powerlink's total revenue requirement. Under the Rules, we must accept a service providers' forecast of total opex if we are satisfied it reasonably reflects the opex criteria.[35] The opex criteria relate to the efficient costs incurred by a prudent operator in light of realistic expectations of the demand forecast and cost inputs. We must have regard to the opex factors when assessing the distributor's forecast opex.[36]

Under the Rules, if we are not satisfied a service providers' opex proposal reasonably reflects the opex criteria, we must not accept it.[37] We must estimate the total required opex that, in our view, reasonably reflects the opex criteria taking into account the opex factors.

6.1 How we assess operating expenditure

We have outlined our approach to assessing the service providers' forecasts of total opex in our expenditure forecast assessment guideline.[38]

Our approach is to compare the service provider's total forecast opex with an alternative estimate that we develop and that reasonably reflects the opex criteria.[39] By doing this we form a view on whether we are satisfied that the service provider's proposed total forecast opex reasonably reflects the opex criteria. If we conclude the proposal does not reasonably reflect the opex criteria, we use our estimate as a substitute forecast.

Our estimate is unlikely to exactly match the service provider's forecast because it may not adopt the same forecasting method. However, if the service provider's inputs and assumptions are reasonable, its method should produce a forecast consistent with our estimate.

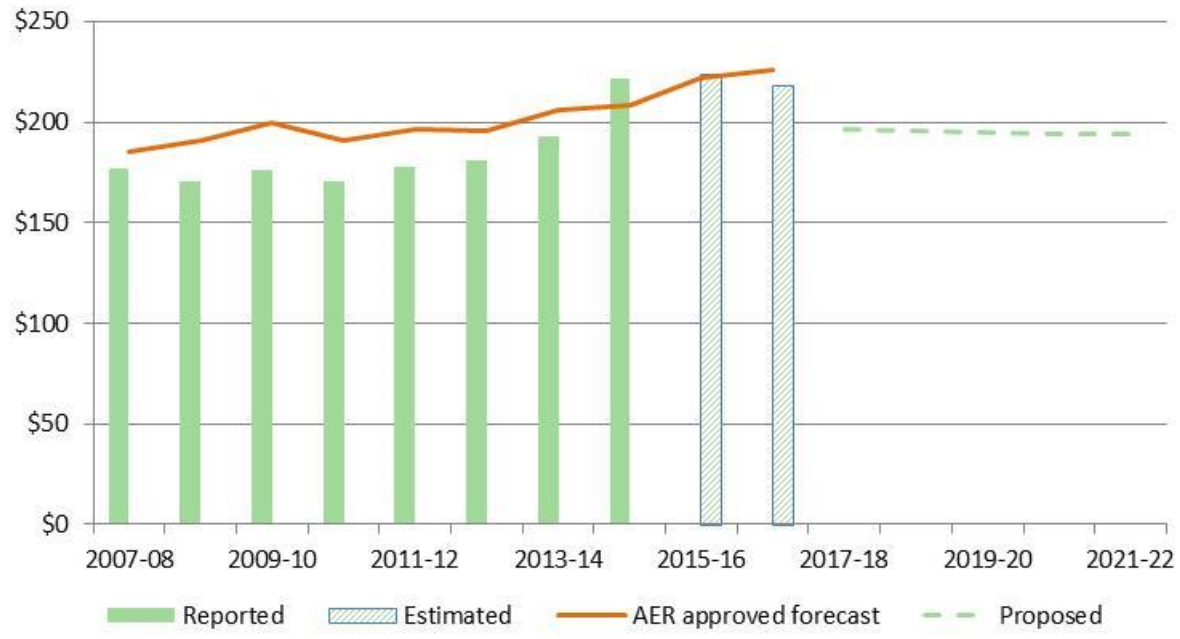
If a service provider's total forecast opex is materially different to our estimate and we find there is no satisfactory explanation for this difference, we may form the view that the service provider's forecast does not reasonably reflect the opex criteria. Conversely, if our estimate demonstrates that the service provider's forecast reasonably reflects the expenditure criteria, we will accept the forecast.[40]

35 NER, cl.6A.6.6(c).
36 NER, cl.6A.6.6(e).
37 NER, cl.6A.6.6(d).
38 AER, *Expenditure forecast assessment guideline*, November 2013.
39 AER, *Expenditure forecast assessment guideline*, November 2013, p. 7.
40 NER, cl.6A.6.6(c).

6.2 Key drivers of Powerlink's operating expenditure proposal

Powerlink proposed total operating expenditure of $976.7 million ($2016–17) for the 2017–22 regulatory control period.[41] This is approximately 7 per cent less than Powerlink's actual and opex for the current period.[42] It is approximately 8 per cent less than Powerlink's opex allowance for the current period.[43]

Figure 9: Powerlink operating expenditure ($million, 2016–17)



Source: AER analysis, Powerlink submitted: PTRM, regulatory proposal, reset RIN return and economic benchmarking RIN returns.

Powerlink's opex performance in the current period

Powerlink submitted that its 1.4 per cent opex under spend in the current period was driven by lower operating expenditure in the early part of the period, balanced against increased operating expenditure in the latter part of the period.[44] Powerlink attributed the increase in operating expenditure to business restructuring costs, transmission line maintenance and refurbishment needs and a new AEMC Levy.[45]

In respect Powerlink's relative performance when benchmarked against its peers, Powerlink submitted:[46]

41 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. vi.
42 Powerlink's submitted regulatory proposal, PTRM, reset RIN return and economic benchmarking RIN returns.
43 These percentage change figures, calculated from Powerlink's PTRM and RIN returns, are consistent with Powerlink's description set out in its regulatory proposal document on p. 60.
44 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 22.
45 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 27.
46 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 28.

Powerlink considers that its benchmarked performance is comparable to its peers when operating environment factors are taken into account. Powerlink also recognises its performance can still be improved.

Forecasting opex for the 2017–22 period

To forecast its controllable opex requitements[47] for the forthcoming period, Powerlink used the base–step–trend method. For its base year Powerlink used 2014–15, the most recent year for which full actual information is available. Powerlink submitted that it adjusted the base year costs by removing one–off or non–recurrent items.[48]

Powerlink submitted that it trended its base year expenditure forward using a real rate of change, calculated using output growth, real price growth and productivity growth:

- **Output growth**—Powerlink stated that it forecast output growth using its forecast of energy throughput (with a weight of 21.4 per cent), ratcheted maximum demand (22.1 per cent), weighted entry and exit points (27.8 per cent) and circuit line length (28.7 per cent). This increased its opex forecast by an annual average of 0.1 per cent for each year of the 2017–22 period.
- **Real price growth**—incorporating a labour input price change of 1.1 per cent, on average, for each year of the 2017–22 period. Also incorporating a real input price change of 0.7 per cent, on average, for each year of the 2017–22 period.
- **Productivity growth**—Powerlink forecast productivity improvements over the 2017–22 period, to provide an annual average productivity change of –1.2 per cent.

Powerlink's proposed total rate of change is, on average, for each year of the 2017–22 period, –0.5 per cent. Powerlink submitted that this resulted in a reduction in its total opex proposal of $26.2 million ($2016–17).

Powerlink submitted that it forecast non–controllable costs[49] using external or bottom–up cost builds.[50] These forecasts were added to its base–step–trend forecasts to form Powerlink's total opex forecast.

Powerlink did not propose any step changes for the 2017–22 period.

Questions

Do you consider Powerlink has sufficiently justified its opex proposal?

Do you consider Powerlink has adequately considered customer views in developing its opex proposal?

47 Controllable opex includes network operations, maintenance and corporate support. For details see Powerlink's regulatory proposal p. 63.

48 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 64.

49 Non–controllable costs include insurance costs, AEMC levy and debt raising costs. For details see Powerlink's regulatory proposal p. 63.

50 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 74.

7 Rate of return

The allowed rate of return is the forecast cost of funds a transmission business requires to invest in the network. To estimate this cost, we consider the cost of the two sources of funds for investments-equity and debt. The return on equity is the return shareholders of the business require to attract new investment. The return on debt is the interest rate the business pays when it borrows money to invest in capex. We consider that efficient transmission network businesses would fund their investments by borrowing 60 per cent of the required funds, while raising the remaining 40 per cent from equity.

We published our Rate of Return guideline in December 2013.[51] It sets out the method we propose to use to estimate the allowed rate of return for electricity and gas network businesses. The Rate of Return guideline is not binding, but if a business seeks to depart from it, the business must include reasons in its proposal for doing so. If we seek to depart from its guideline when making our draft or final decision, we must also include reasons for doing so.

7.1 Powerlink's proposed overall rate of return

Powerlink submitted that it applied our Rate of Return Guideline to estimate the rate of return for the 2017–22 period. Using our approach, Powerlink proposed a rate of return of 6.04 per cent. This comprises:

- 7.3 per cent return on equity
- 5.2 per cent return on debt
- 60 per cent gearing.

7.2 Return on equity (RoE)

Recognising there is not one perfect model to estimate the return on equity, our rate of return guideline approach draws on a variety of models and information which we have assessed as relevant. Our starting point is the standard capital asset pricing model (CAPM)—our 'foundation model.' We then use a range of models, methods, and information to inform our return on equity estimate. We use this information to either set the range of inputs into the CAPM foundation model or assist in determining a point estimate within the range of estimates of overall return on equity resulting from the CAPM foundation model.

We propose to use the Sharpe–Lintner capital asset pricing model (SLCAPM) as the foundation model, which runs as follows:

- The SLCAPM is estimated by adding to the risk free rate the product of the equity beta and market risk premium (MRP).
- Our approach is to estimate the risk free rate based on market conditions that prevail as close as possible to the commencement of the regulatory control period.
- Our point estimates for equity beta is 0.7.

51 AER, *Rate of return guideline*, December 2013.

- As at December 2013, our point estimate for MRP is 6.5.
- The range and point estimate for the expected return on equity is calculated based on the range and point estimates from the corresponding input parameters. For example, the lower bound of the expected return on equity range is calculated by applying the point estimate for the risk free rate and the lower bound estimates of the equity beta and MRP. A probability will not be assigned to values within the range, but it will not be assumed that all values within the range are equally probable.

Powerlink's RoE proposal

Powerlink's return on equity is based on the approach set out in the Rate of Return Guideline.

Powerlink applied our approach to estimating the risk free rate. As there are no observable Commonwealth Government Securities bonds with a term to maturity of precisely 10 years in the 20 day period up to 15 September 2015, Powerlink interpolated between the two closest bonds. From this approach, the estimated risk free rate is 2.72 per cent.

Powerlink adopted our point estimate for equity beta, 0.7 per cent.

Powerlink also adopted our point estimate for MRP, 6.5 per cent.

7.3 Return on debt (RoD)

The AER rate of return guideline sets out a new methodology for the estimation of the return on debt. This methodology departed from previous practice in two key respects:

- First, we proposed to estimate the RoD by gradually transitioning from the current "on-the-day" approach to a 10 year "trailing average" approach. The on-the-day approach resets the return on debt allowed based on prevailing interest rates around the start of the regulatory period. Under the trailing average approach the return on debt is estimated as the simple average of the historic rate of return on ten-year debt during a period in time in each of the last ten years.
- Second, we proposed to allow the RoD to vary from year to year during the regulatory period.

Powerlink's RoD proposal

Powerlink submitted that it used our approach to estimate the return on debt. Further, that based on our approach in recent decisions, Powerlink used a simple average of the Bloomberg and Reserve Bank of Australia estimates of yields on fixed rate loans.[52] Using this approach, Powerlink derived its indicative return on debt estimate of 5.2 per cent.

52 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 91.

7.4 Value of imputation credits (gamma)

In the building block model an allowance is made for the estimated tax paid by the benchmark firm. In Australia companies typically pay tax at the rate of 30 per cent on their profit. However, under the Australian taxation system, investors can receive an 'imputation credit' (gamma) for income tax paid at the company level. For investors that meet certain eligibility criteria, this credit can be used to offset their tax liabilities. If the amount of imputation credits received exceeds an investor's tax liability, that investor can receive a cash refund for the balance. Imputation credits are a benefit to investors in addition to any cash dividend or capital gains from owning shares.

The rate of return guideline proposes that the value of imputation credits would be estimated as a market-wide parameter, rather than estimating this on an industry or business specific basis. Under the guideline, it would be determined as the product of:

- a distribution rate (referred to in our guideline as the 'payout ratio'), which represents the proportion of imputation credits generated by the benchmark entity that is distributed to investors
- a utilisation rate, which is the extent to which investors can use the imputation credits they receive to reduce their tax or to get a refund.

In the guideline, our assessment of this evidence produced an estimate of 0.7 for the utilisation rate and 0.7 for the distribution rate. The guideline therefore proposed an estimate of 0.5. However, in the recent NSW determinations we re-examined the evidence and clarified our understanding of the utilisation rate as the utilisation value to investors in the market per dollar of imputation credits distributed. This re-examination, in addition to new evidence and advice considered since the guideline, led us to depart from the 0.5 value of imputation credits we proposed in the guideline. Instead, we chose a value for imputation credits of 0.4 from within a range of 0.3 to 0.5.

Powerlink's gamma proposal

Powerlink submitted that it used our value of 0.4 for imputation credits.

Questions

Do you have any comments on Powerlink's proposed approach to calculating the rate of return?

8 Consumer engagement

This section summarises the consumer engagement strategies and activities described by Powerlink in its revenue proposal. We consider this is a valuable resource for readers to get a sense of Powerlink's consumer engagement approaches. However, we also encourage consumers to review the consumer engagement material contained in the revenue proposal and make submissions.

When assessing the revenue proposal we will have regard to how a business engaged with its consumers and accounted for their long term interests.

8.1 Consumer engagement in the NER

Under the NER, consumer engagement is a factor we can consider when making our revenue determinations.[53] We will examine whether and how well a transmission business considered and responded to consumer views, equipped consumers to participate in consultation, made issues tangible and obtained a cross-section of views. We will make our assessment on a case-by-case basis, considering whether it would have been reasonable to engage on a particular issue. We will monitor consumer engagement activities through our consumer challenge panel and by our ongoing engagement with stakeholders. We may publicly comment on any shortcomings in a businesses' consumer engagement that we identify from a regulatory proposal.

Our obligation to have regard to the extent to which a transmission businesses' forecast includes expenditure to address the concerns of consumers forms part of our overall task of determining whether the transmission businesses' proposed forecasts reasonably reflect the efficient and prudent costs of achieving the capex (or opex) objectives.[54] Therefore, if proposed expenditure is not required to achieve one or more of the capex (or opex) objectives, even with evidence of consumer support we will not be satisfied that the proposed expenditure reasonably reflects the capex and opex criteria.

Furthermore, the extent to which the proposed forecasts include expenditure to address the concerns of consumers during the course of its engagement with consumers is only one of nine or more factors that we must have regard to in determining whether we are satisfied that the proposed capex (or opex) reasonably reflects the capex (or opex) criteria.[55] In this sense, the factor relating to consumer engagement alone is not determinative.[56]

If a transmission business submits that particular expenditure programs will address the concerns of consumers identified through its consumer engagement, we will consider whether such claims are supported by solid evidence of the preferences of affected consumers. This may include consideration of whether the engagement was sufficient to identify key areas of consumer concern, whether consumers have been adequately informed

53 NER, cl. 6A.6.6(e)(5A), cl. 6A.6.7(e)(5A).
54 NER, cl. 6A.6.6(e)(5A).
55 NER, cl. 6A.6.6(e)(5A).
56 NER, cl. 6A.6.6(e)(5A).

of relevant price implications, and how the expenditure proposed would address those customer concerns.

8.2 Our consumer engagement guideline

Our consumer engagement guideline sets out a framework for electricity and gas network service providers to better engage with consumers. It aims to help the businesses develop strategies to engage systematically, consistently and strategically with consumers on issues that are significant to both parties. The guideline sets out our expectations when considering service provider consumer engagement activities:

Priorities—we expect service providers to identify consumer cohorts, and the current views of those cohorts and their service provider; outline their engagement objectives; and discuss the processes to best achieve those objectives.

Delivery—we expect service providers to address the identified priorities via robust and thorough consumer engagement.

Results—we expect service providers to articulate the outcomes of their consumer engagement processes and how they measure the success of those processes reporting back to us, their business and consumers

Evaluation and review—we expect service providers to periodically evaluate and review the effectiveness of their consumer engagement processes.

Below, we summarise the businesses submitted approach to consumer engagement. For details, we encourage readers to review the revenue proposals and supporting documentation. As a guide, we have referenced below where each business has included consumer engagement content in their revenue proposal package of materials.

8.3 Powerlink's consumer engagement strategy

Powerlink submitted that it:

- engaged with stakeholders early in the process of developing its regulatory proposal to get input on its methods and processes rather than just on its outputs[57]
- hired research firm ACCSR to undertake research to better understand customer perceptions of Powerlink[58]
- established a Customer and Consumer Panel incorporating directly connected customers, consumer advocates and industry representatives[59]
- hosted a demand and energy forecasting forum in March 2015
- hosted an annual transmission network forum in July 2015
- developed a strategy to host forums on its network area plans

57 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 11.
58 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 13.
59 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 15.

- undertook one-on-one briefings with key stakeholders, including Queensland Government, AEMC, Energex, Ergon Energy, Queensland Resources Council and the Energy Users Association
- undertook a transmission pricing webinar in October 2015
- established sections of its corporate website for stakeholder engagement and the revenue proposal process.

Powerlink further submitted descriptions of how its stakeholder engagement activities and related feedback influenced its approach and revenue proposal outcomes.[60]

Question

Please provide your comments on the quality of the consumer engagement conducted by Powerlink in preparing its revenue proposal.

60 Powerlink, *2018–22 Powerlink Queensland revenue proposal*, January 2016, p. 17.

9 Summary of questions

Questions

Has Powerlink applied an appropriate method to calculate its depreciation allowance?

Has Powerlink sufficiently justified its capex proposal?

Has Powerlink adequately considered customer views in developing its capex proposal?

Do you consider Powerlink has sufficiently justified its opex proposal?

Do you consider Powerlink has adequately considered customer views in developing its opex proposal?

Do you have any comments on Powerlink's proposed approach to calculating the rate of return?

Please provide your comments on the quality of the consumer engagement conducted by Powerlink in preparing its revenue proposal.