DRAFT DECISION
Powerlink Queensland
Transmission Determination

2022 to 2027

Attachment 1
Maximum allowed revenue

September 2021

AUSTRALIAN
ENERGY
REGULATOR

Note

This attachment forms part of the AER's draft decision on Powerlink Queensland's transmission network revenue determination for the 2022–27 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 11 – Pricing methodology

Attachment 12 – Pass through events

Attachment 13 – Demand management innovation allowance mechanism

Contents

1 Maximum allowed revenue

This attachment sets out our draft decision on Powerlink's maximum allowed revenue (MAR) for the provision of prescribed transmission services over the 2022–27 regulatory control period. Specifically, it sets out our draft decision on:[1]

- the estimated total revenue cap, which is the sum of the annual expected MAR

- the annual building block revenue requirement

- the annual expected MAR

- the X factors.

We determine Powerlink's annual building block revenue requirement using a building block approach. We determine the X factors by smoothing the annual building block revenue requirement over the regulatory control period. The X factors are used in the CPI–X methodology to determine the annual expected MAR.

1.1 Draft decision

We determine a total annual building block revenue requirement of $3650.9 million (nominal, unsmoothed) for Powerlink for the 2022–27 regulatory control period. Our determination represents an increase of $86.6 million (2.4 per cent) to Powerlink's proposal and reflects the impact of our draft decisions on the various building block costs. This is largely driven by our draft decision approving a higher return on capital building block, which is $66.0 million higher than that proposed by Powerlink due to the higher rate of return we used reflecting updated market data as required by the binding 2018 Rate of Return Instrument (Instrument).[2] For the reasons discussed in the attachments to this draft determination, our decisions on Powerlink's proposed building block costs have a consequential impact on its annual building block revenue requirement.

We determine the annual expected MAR (smoothed) and X factor for each regulatory year of the 2022–27 period by smoothing the annual building block revenue requirement. Our draft decision is to approve an estimated total revenue cap of $3652.2 million (nominal) for Powerlink for the 2022–27 period. Our approved X factor for 2023–24 to 2026–27 is 0.57 per cent per annum.[3] This X factor is the same as that proposed by Powerlink. Accordingly, the impact of our changes from the proposal's revenue smoothing profile largely occur in the first year of the 2022–27 period.

At the time of making this draft decision, we have used placeholder values for certain components such as the rate of return and expected inflation. We will make further updates for these values as part of our final decision. It is for this reason that we expect the total revenue cap approved in our final decision to be different to this draft decision.

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[1]   NER, cll. 6A.4.2(a)(1)–(3), 6A.5.3(c) and 6A.6.8.

[2]   AER, *Rate of Return Instrument*, December 2018.

[3]   Powerlink is not required to apply an X factor for 2022–23 because we set the 2022–23 MAR in this decision.

Table 1.1 sets out our draft decision on Powerlink's annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap for the 2022–27 period.

Table 1.1 AER's draft decision on Powerlink's annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($ million, nominal)

	2022–23	2023–24	2024–25	2025–26	2026–27	Total
Return on capital	324.9	316.6	308.8	298.3	287.5	1536.2
Regulatory depreciation[a]	169.8	180.9	190.1	198.3	207.4	946.5
Operating expenditure[b]	212.1	219.3	223.6	229.4	234.9	1119.3
Revenue adjustments[c]	5.3	–6.0	0.1	2.4	6.1	7.9
Net tax amount	5.1	3.4	6.3	13.0	13.2	41.0
Annual building block revenue requirement (unsmoothed)	717.1	714.2	729.0	741.4	749.2	3650.9
Annual expected MAR (smoothed)	**706.5**	**718.3**	**730.2**	**742.4**	**754.8**	**3652.2[d]**
X factor (%)[e]	n/a[f]	0.57%	0.57%	0.57%	0.57%	n/a

Source: AER analysis.

(a)   Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.

(b)   Includes debt raising costs.

(c)   Includes revenue adjustments from the efficiency benefit sharing scheme (EBSS), capital expenditure sharing scheme (CESS) and demand management innovation allowance mechanism (DMIAM).

(d)   The estimated total revenue cap is equal to the total annual expected MAR.

(e)   The X factors will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected smoothed revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

(f)   Powerlink is not required to apply an X factor for 2022–23 because we set the 2022–23 MAR in this decision. The MAR for 2022–23 is around 10.5 per cent lower than the approved MAR for 2021–22 in real terms, or 8.4 per cent lower in nominal terms.

1.2 Powerlink's proposal

Powerlink proposed a total (smoothed) revenue cap of $3565.1 million (nominal) for the 2022–27 regulatory control period.

Table 1.2 sets out Powerlink's proposed annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap.

Table 1.2   Powerlink's proposed annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($million, nominal)

	2022–23	2023–24	2024–25	2025–26	2026–27	Total
Return on capital	309.0	302.1	295.6	286.5	277.1	1470.3
Regulatory depreciation[a]	169.2	180.3	189.6	197.7	206.9	943.7
Operating expenditure[b]	212.1	219.3	223.6	229.4	234.9	1119.3
Revenue adjustments[c]	7.7	–8.7	–0.8	1.0	6.0	5.2
Net tax amount	2.1	0.4	3.3	9.9	10.2	25.9
Annual building block revenue requirement (unsmoothed)	700.2	693.4	711.3	724.5	735.0	3564.4
Annual expected MAR (smoothed)	**689.7**	**701.1**	**712.8**	**724.7**	**736.8**	**3565.1[d]**
X factor (%)[e]	n/a[f]	0.57%	0.57%	0.57%	0.57%	n/a

Source: Powerlink, *2023–27 Revenue proposal, Post-tax revenue model,* January 2021.

(a)   Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.

(b)   Includes debt raising costs.

(c)   Includes revenue adjustments from EBSS and CESS.

(d)   The estimated total revenue cap is equal to the total annual expected MAR.

(e)   The X factors will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected smoothed revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

(f)   Powerlink is not required to apply an X factor for 2022–23 because we set the 2022–23 MAR in this decision.

1.3 Assessment approach

In this section, we describe the building block approach used to determine Powerlink's expected MAR. We also set out the annual revenue adjustment to be applied to Powerlink's MAR over the 2022–27 regulatory control period.

1.3.1 The building block approach

The expected MAR is calculated using the post-tax revenue model (PTRM).[4] The PTRM must be such that the expected MAR for each year of the regulatory control period is equal to the net present value (NPV) of the annual building block revenue requirement.[5] The total revenue cap is the sum of the MARs for the regulatory control period.[6] In turn, the annual building block revenue requirement must be determined using a building block approach.[7] Therefore, we adopt a building block approach when

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4   NER, cll. 6A.5.1 and 6A.5.3.

5   NER, cl. 6A.5.3(c)(1).

6   NER, cl. 6A.5.3(c)(4).

7   NER, cl. 6A.5.4.

making our decision on Powerlink's total revenue cap and expected MAR for each regulatory year of the regulatory control period. Under this approach, we determine the value of the building block costs that make up the annual building block revenue requirement for each regulatory year. These building block costs are set out in section 1.3.2.

We developed the PTRM, which brings together the various building block costs and calculates the annual building block revenue requirement for each year of the regulatory control period.[8] The PTRM also calculates the X factors required under the CPI–X methodology which is used to escalate the expected MAR for each year (other than the first year) of the regulatory control period.[9] Using the X factors and annual building block revenue requirement, the annual expected MAR (smoothed) is forecast for each year of the regulatory control period. Powerlink's revenue proposal must be prepared using our PTRM.[10] Our draft decision used version 5 of the PTRM, which was published after Powerlink submitted its revenue proposal.[11] This new version of the PTRM gives effect to the changes set out in the AER's final position paper on the treatment of inflation in its regulatory framework.[12]

The annual building block revenue requirement can be lumpy over the regulatory control period. To minimise price shocks, revenues are smoothed within a regulatory control period while maintaining the principle of cost recovery under the building block approach. Smoothing requires diverting some of the cost recovery to adjacent years within the regulatory control period so that the NPV of the annual expected MAR (smoothed revenues) is equal to the NPV of the annual building block revenue requirement (unsmoothed revenues). That is, a smoothed profile of the expected MAR is determined for the regulatory control period under the CPI–X methodology.

The expected MAR for the first year is generally set equal to the annual building block revenue requirement for the first year of the regulatory control period. At times, it may be more appropriate to set the expected MAR for the first year to align with the MAR from the last year of the previous regulatory control period to avoid any large revenue variation between periods (or P_0):[13]

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[8]   NER, cl. 6A.5.

[9]   NER, cll. 6A.5.3(b)(5), (c)(3) and (d) and 6A.6.8.

[10]   NER, cl. 6A.5.1(a).

[11]   AER, *Electricity transmission network service providers: Post-tax revenue model (version 5)*, 7 April 2021.

[12]   AER, *Final position – Regulatory treatment of inflation*, December 2020, pp. 6–8.

[13]   The MAR for year 1 of the next regulatory control period may include adjustment for the performance incentive that applied during the previous regulatory control period, and under or over recovery adjustments from previous regulatory years.

$$MAR_1 = AR_1 \text{ or } MAR_L$$

where:

MAR_1 = the maximum allowed revenue for year 1 of the regulatory control period

AR_1 = the annual building block revenue requirement for year 1 of the regulatory control period

MAR_L ~ the maximum allowed revenue for the last year of the previous regulatory control period.

In this determination for Powerlink, we first calculate annual building block revenue requirements for each year of the 2022–27 regulatory control period. To do this, we consider the various costs facing Powerlink and the trade-offs and interactions between these costs, service quality and across years. This reflects our holistic assessment of Powerlink's proposal.

We understand the trade-offs that occur between building block costs and test the sensitivity of these costs to their various driver elements. These trade-offs are discussed in the interrelationships section of the various attachments to this draft decision and are reflected in the calculations made in the PTRM.[14] Such understanding allows us to exercise judgement in determining the final inputs into the PTRM and the annual building block revenue requirements that result from this modelling.

Having determined the total annual building block revenue requirement for the 2022–27 period, we smooth the annual building block revenue requirements for each regulatory year across that period. This step reduces revenue variations between years, and calculates the expected MAR and X factor for each year.[15] The X factors equalise (in NPV terms) the total expected revenue cap to be earned by Powerlink with the total building block revenue requirement for the 2022–27 period.[16] The X factor profile must also minimise, as far as reasonably possible, the variance between the expected MAR and annual building block revenue requirement for the last regulatory year of the period.[17] By minimising this divergence, it helps to manage the prospect of a significant revenue change (and consequently prices) between the last year of the 2022–27 period, and first year of the following 2027–32 period. We consider a divergence of up to 3 per cent between the expected MAR and annual building block revenue requirement for the last year of the regulatory control period is reasonable, if this can promote smoother price changes over the regulatory control period.

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[14] There are trade-offs that are not modelled in the PTRM but are reflected in the inputs to the PTRM. For example, service quality is not explicitly modelled in the PTRM, but the trade-offs between service quality and price are reflected in the forecast capex and opex inputs to the model. Other trade-offs are obvious from the calculations in the PTRM. For example, while it may be expected that a lower regulatory asset base would also lower revenues, the PTRM shows that this will not occur if the reduction in the regulatory asset base is due solely to an increase in the depreciation rate. In such circumstances, revenues increase as the increased depreciation amount more than offsets the reduction in the return on capital caused by the lower regulatory asset base.

[15] NER, cl. 6A.6.8(a).

[16] NER, cl. 6A.6.8(c)(1).

[17] NER, cl. 6A.6.8(c)(2).

The building block costs (and the elements that drive those costs) used to determine the unsmoothed annual building block revenue requirements are set out in section 1.3.2.

1.3.2 The building block costs

The efficient costs to be recovered by Powerlink can be thought of as being made up of various building block costs. Our draft decision assesses each of the building block costs and the elements that drive these costs. The building block costs are approved reflecting trade-offs and interactions between the cost elements, service quality and across years.

Table 1.3 shows the building block costs that form the annual building block revenue requirement for each year and where discussion on the elements that drive these costs can be found within this draft determination.

Table 1.3   Building block costs

Building block costs	Attachments where elements are discussed
Return on capital	Regulatory asset base (Attachment 2)
	Rate of return (Attachment 3)
	Capital expenditure (Attachment 5)
Regulatory depreciation (return of capital)	Regulatory asset base (Attachment 2)
	Regulatory depreciation (Attachment 4)
	Capital expenditure (Attachment 5)
Operating expenditure	Operating expenditure (Attachment 6)
Estimated cost of corporate tax	Corporate income tax (Attachment 7)
Other revenue adjustments	
Adjustment for shared assets	Maximum allowed revenue (Attachment 1)
Operating efficiency benefits/penalties	Efficiency benefit sharing scheme (Attachment 8)
Capital efficiency benefits/penalties	Capital expenditure sharing scheme (Attachment 9)
Demand management innovation allowance	Demand management innovation allowance mechanism (Attachment 13)

1.3.3 Annual revenue adjustment process

The PTRM incorporates an expected inflation rate to calculate the expected MAR in nominal dollar terms, whereas the actual MAR from the second year onwards is adjusted for actual inflation. As discussed in the Instrument, we will also update Powerlink's return on debt annually.[18] This means the actual MAR from the second year onwards will also be adjusted for revised X factors after the annual return on debt update. This annual revenue adjustment process is set out below.

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[18]   AER, *Rate of return instrument*, December 2018, cl. 24, Note 29.

To enable the formula for the annual revenue adjustment process to operate correctly, we will refer to the expected MAR determined in this decision using the building block costs as the allowed revenue (AR). This is because the expected MAR determined using the building block costs does not incorporate performance incentive scheme revenue adjustments and pass through amounts that may apply to each regulatory year.

The AR for the subsequent year of the regulatory control period requires an annual adjustment based on the previous year's allowed revenue.[19] That is, the subsequent year's allowed revenue is determined by adjusting the previous year's allowed revenue for actual inflation and the X factor determined after the annual return on debt update:

$$AR_t \quad = \quad AR_{t-1} \text{ x } (1 + \Delta CPI) \text{ x } (1 - X_t)$$

where:

AR = the allowed revenue

t = time period/financial year (for t = 2 (2023–24), 3 (2024–25), 4 (2025–26), 5 (2026–27))

ΔCPI = the annual percentage change in the ABS Consumer price index all groups, weighted average of eight capital cities from December in year $t-2$ to December in year $t-1$

X = the smoothing factor determined in accordance with the PTRM as approved in the AER's final decision, and annually revised for the return on debt update in accordance with the formula specified in the *Rate of return instrument* calculated for the relevant year.[20]

The MAR used for transmission pricing is determined annually as part of the annual revenue adjustment process in accordance with the National Electricity Rules (NER). The MAR is determined each year by adding to (or deducting from) the allowed revenue:

- the service target performance incentive scheme revenue increment (or revenue decrement)[21]

- any approved pass through amounts.[22]

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[19] In the case of making the annual adjustment for year 2, the previous year's AR would be the same as the approved expected MAR for year 1 as contained in the PTRM.

[20] AER, *Rate of return instrument*, December 2018, cl. 9.

[21] NER, cl. 6A.7.4.

[22] NER, cll. 6A.7.2 and 6A.7.3.

The annual MAR is established according to the following formula:

$$\text{MAR}_t \quad = \quad \text{(allowed revenue)} + \text{(performance incentive)} + \text{(pass through)}$$

$$= \quad \text{AR}_t + \left(\left(\text{AR}_{t-2} \times \frac{1}{2} \right) + \left(\text{AR}_{t-1} \times \frac{1}{2} \right) \right) \times \text{S}_{ct} + \text{P}_t$$

where:

MAR	=	the maximum allowed revenue
AR	=	the allowed revenue
S	=	the percentage revenue increment or decrement determined in accordance with the service target performance incentive scheme
P	=	the pass through amount (positive or negative) that the AER has determined in accordance with clauses 6A.7.2 and 6A.7.3 of the NER
t	=	time period/financial year (for t = 2 (2023–24), 3 (2024–25), 4 (2025–26), 5 (2026–27))
ct	=	time period/calendar year (for ct = 2 (2022), 3 (2023), 4 (2024), 5 (2025)).

Powerlink may also adjust the MAR for under- or over-recovery amounts.[23] That is, if the revenue amounts earned from providing prescribed transmission services in previous regulatory years are higher or lower than the sum of the approved MAR for those years, the difference can be included in the subsequent year's MAR. In the case of an under-recovery, the amount is added to the subsequent year's MAR. In the case of an over-recovery, the amount is subtracted from the subsequent year's MAR.

Table 1.4 sets out the timing of the annual calculation of the AR and performance incentive.

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[23]   NER, cl. 6A.23.3(e)(5).

Table 1.4 Timing of the calculation of allowed revenues and the performance incentive for Powerlink

t	Allowed revenue (financial year)	ct	Performance incentive (calendar year)
2	1 July 2023 – 30 June 2024	2	1 January 2022 – 31 December 2022
3	1 July 2024 – 30 June 2025	3	1 January 2023 – 31 December 2023
4	1 July 2025 – 30 June 2026	4	1 January 2024 – 31 December 2024
5	1 July 2026 – 30 June 2027	5	1 January 2025 – 31 December 2025

Note: The performance incentive for 1 January 2021–31 December 2021 is to be applied to the AR determined for 2022–23 (AR_1).

We are not required to determine the transmission charges for Powerlink. Nonetheless, we provide the indicative transmission charges (and the resulting impact on annual electricity bills) that flow from this revenue determination as discussed in section 1.4.3.

1.4 Reasons for draft decision

We determine a total annual building block revenue requirement of $3650.9 million (nominal) for Powerlink for the 2022–27 regulatory control period. This is an increase of $86.6 million (2.4 per cent) to Powerlink's proposed total annual building block revenue requirement of $3564.4 million for this period. This reflects the impact of our draft decision on the various building block costs. This increase is largely driven by the higher rate of return (Attachment 3) we have used in our draft decision reflecting updated market data as required by the binding Instrument.[24] The update for market data results in a higher rate of return on equity which more than offsets the decrease to the return on debt. This in turn impacts the return on capital building block and cost of corporate income tax in our draft decision compared to Powerlink's proposal.[25]

Figure 1.1 shows the building block components from our determination that make up the annual building block revenue requirement for Powerlink, and the corresponding components from its proposal.

The changes we made to Powerlink's proposed building blocks include (in nominal terms):

- an increase in the return on capital of $66.0 million (4.5 per cent) (Attachments 2, 3 and 5)

- an increase in the regulatory depreciation of $2.8 million (0.3 per cent) (Attachment 4)

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[24] AER, *Rate of Return Instrument*, December 2018.

[25] All else being equal, a higher rate of return on equity will increase the cost of corporate income tax because it increases the return on equity, a component of taxable income.

- an operating expenditure (opex) forecast in line with that proposed by Powerlink (Attachment 6)[26]

- an increase in the cost of corporate income tax of $15.0 million (58.0 per cent) (Attachment 7)

- an increase in the revenue adjustments of $2.7 million (52.3 per cent) (Attachments 8, 9 and 13).

Figure 1.1 AER's draft decision and Powerlink's proposed annual building block revenue requirement ($million, nominal)
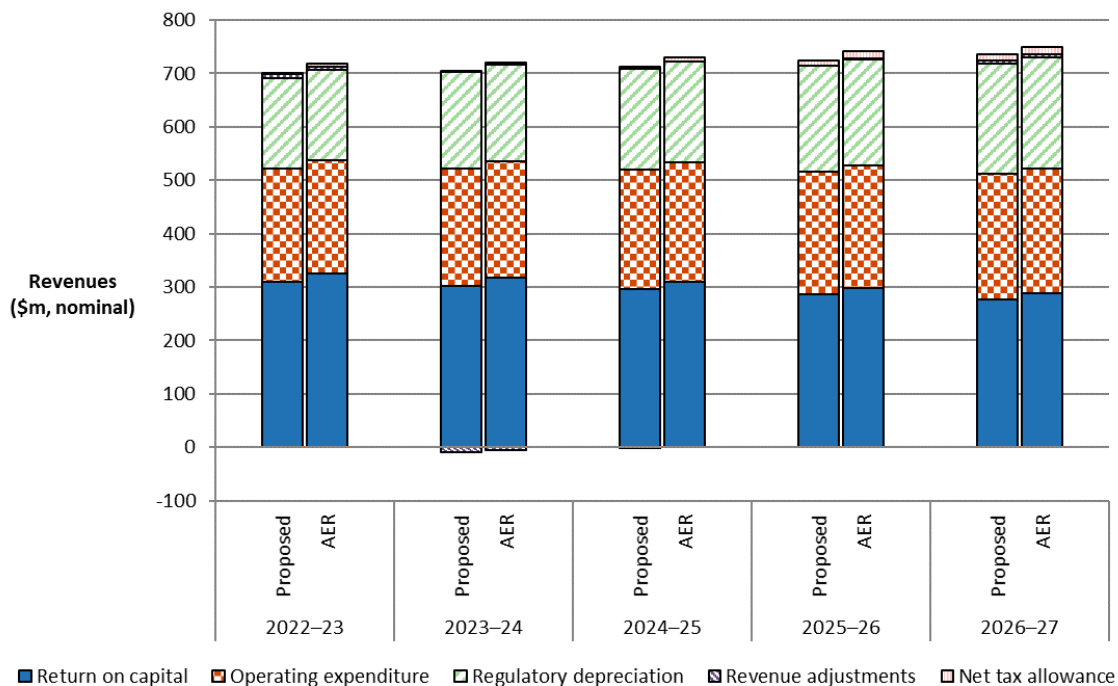
Source: AER analysis; Powerlink, *2023–27 Revenue proposal, Post-tax revenue model,* January 2021.

Note: Revenue adjustments include EBSS and CESS and DMIAM amounts. Opex includes debt raising costs.

1.4.1   X factor, annual expected MAR and estimated total revenue cap

For this draft decision, we determine an X factor for Powerlink of 0.57 per cent per annum for the four years of the regulatory control period from 2023–24 to 2026–27.[27] The NPV of the annual building block revenue requirement is $3204.3 million (nominal) as at 1 July 2022. Based on this NPV and applying the CPI–X method, we determine that the annual expected MAR (smoothed) for Powerlink is $706.5 million in 2022–23

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[26]   We have accepted Powerlink's opex proposal. Any difference between our draft decision and Powerlink's proposed opex building block is due to an update for expected inflation in our draft decision.

[27]   Powerlink is not required to apply an X factor for 2022–23 because we set the 2022–23 MAR in this decision.

increasing to $754.8 million in 2026–27. The resulting estimated total revenue cap for Powerlink is $3652.2 million for the 2022–27 regulatory control period.

Figure 1.2 shows our draft decision on Powerlink's annual expected MAR (smoothed revenue) and the annual building block revenue requirement (unsmoothed revenue) for the 2022–27 period.

Figure 1.2 AER's draft decision on Powerlink's revenue for the 2022–27 regulatory control period ($ million, nominal)
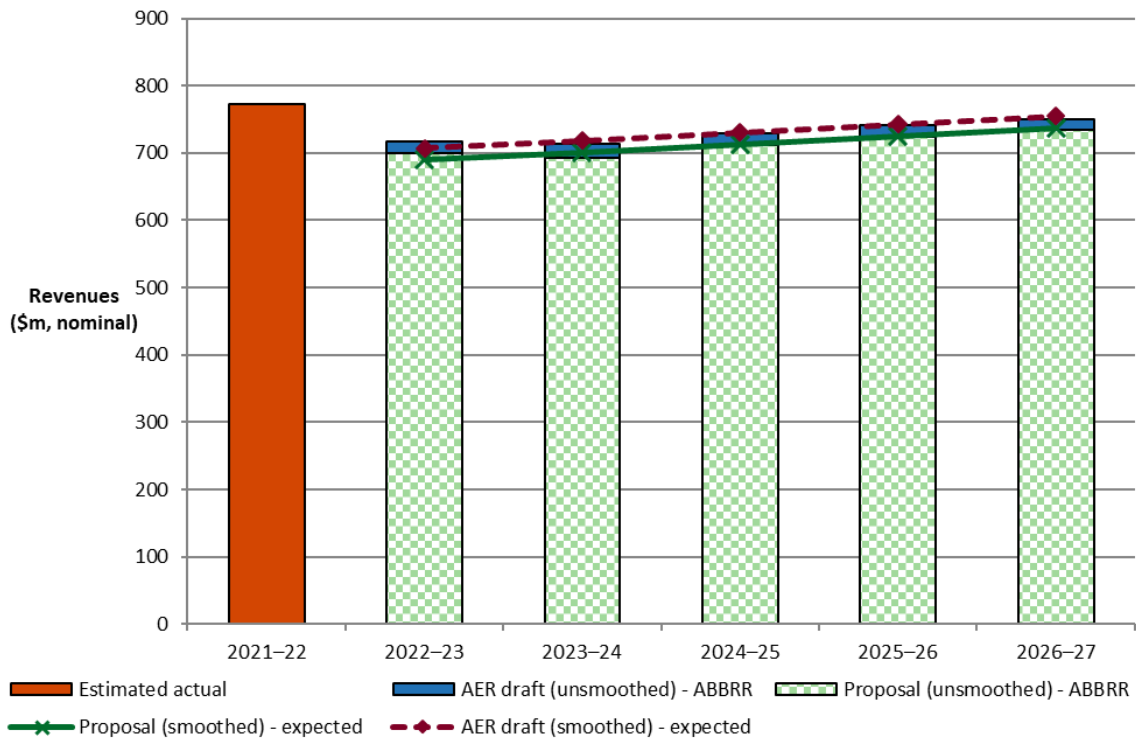
Source: AER analysis.

Note: Annual building block revenue requirement (ABBRR).

To determine the expected MAR for Powerlink, we have set the MAR for the first regulatory year at $706.5 million (nominal), which is $10.7 million lower than the annual building block revenue requirement. We then apply an expected inflation rate of 2.25 per cent per annum and an X factor of 0.57 per cent per annum to determine the expected MAR in subsequent years.[28] We consider that our profile of X factors results in an expected MAR in the last year of the regulatory control period that is as close as reasonably possible to the annual building block revenue requirement for that year.[29]

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[28]   NER, cl. 6A.5.3(c)(3).

[29]   NER, cl. 6A.6.8(c)(2). We consider a divergence of up to 3 per cent between the expected MAR and annual building block revenue requirement for the last year of the regulatory control period is appropriate, if this can achieve smoother price changes for users over the regulatory control period. In the present circumstances, based on the X factors we have determined for Powerlink, this divergence is around 0.75 per cent.

Our draft decision results in an average decrease of 0.4 per cent per annum (nominal) in the expected MAR over the 2022–27 period.[30] This consists of an initial decrease of 8.4 per cent from 2021–22 to 2022–23, followed by average annual increases of 1.7 per cent during the remainder of the 2022–27 period.[31]

Our draft decision also results in the average annual unsmoothed revenue to be 12.4 per cent lower than that allowed in the 2017–22 period, in real terms ($2021–22). This is primarily because we have determined a lower return on capital amount in this draft decision for the 2022–27 period than that approved in the 2017–22 determination.

Figure 1.3 compares our draft decision building blocks with Powerlink's proposal for the 2022–27 period, and the approved unsmoothed revenue for the 2017–22 period.

Figure 1.3 Total revenue by building block components ($ million, 2021–22)
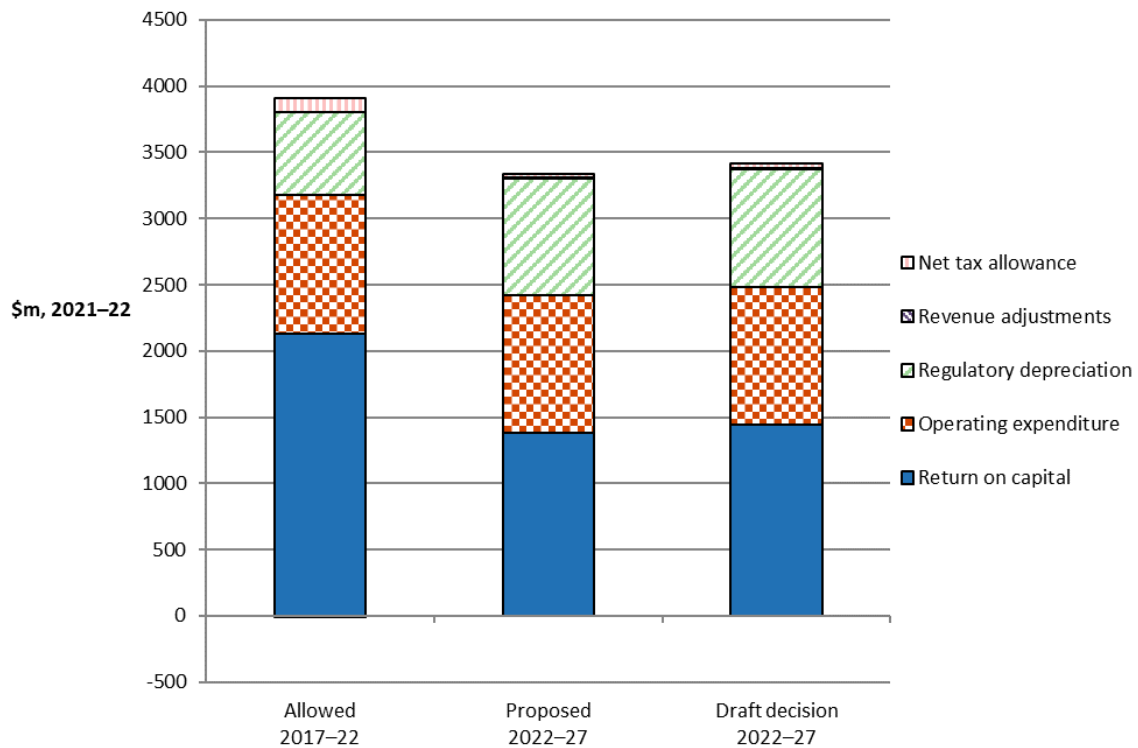
Source: AER analysis.

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[30]   In real 2021–22 dollar terms, our approved expected MAR for Powerlink results in an average decrease of 2.6 per cent per annum over the 2022–27 regulatory control period.

[31]   In real 2021–22 dollar terms, this consists an initial decrease of 10.5 per cent from 2021–22 to 2022–23, followed by annual decrease of 0.6 per cent during the remainder of the 2022–27 regulatory control period.

1.4.2 Shared assets

Service providers, such as Powerlink, may use assets to provide both prescribed transmission services we regulate and unregulated services, for example by the stringing of telecommunications cables on the electricity network poles for the provision of telecommunication services. These assets are called 'shared assets'.[32] If the revenue from shared assets is material,[33] ten per cent of the unregulated revenues that a service provider earns from shared assets will be used to reduce the service provider's revenue for prescribed transmission services.[34]

Shared asset revenue reductions are subject to a materiality threshold. Unregulated use of shared assets is material when a service provider's annual average unregulated revenues from shared assets in a specific regulatory year is expected to be greater than 1 per cent of its expected MAR for that regulatory year.[35]

Powerlink submitted its annual unregulated revenues from shared assets are forecast to be between 0.4 and 0.5 per cent of its proposed expected MAR in each year of the 2022–27 regulatory control period, and do not exceed the AER's materiality threshold.[36] Powerlink therefore proposed no reduction in its total revenues for each year of that period.

We consider Powerlink's forecast unregulated revenues are reasonable, based on its reporting of historical shared assets revenue. However, Powerlink's forecast unregulated revenues must be compared to the regulated revenues we determine, rather than those proposed by Powerlink. We have determined higher expected MARs in our draft decision, therefore the materiality threshold continues not to be met in any year of the 2022–27 period. As such, our draft decision does not apply any shared asset revenue adjustment.[37]

1.4.3 Indicative average transmission charges

Powerlink is the transmission network service provider for Queensland. Therefore, our draft decision on Powerlink's expected MAR will ultimately affect the annual electricity bills paid by customers in Queensland. There are several steps required to translate our revenue decision into indicative transmission charges, and then to estimate the bill impact.

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[32]   NER, cl. 6A.5.5.

[33]   The shared asset principles establish that use of share assets should be material before cost reductions are applied. The NER does not define materiality in this context. Our approach to what constitutes a material use of shared assets is that unregulated use of shared assets in a specific regulatory year is material when a service provider's annual average unregulated revenue from shared assets is expected to be greater than one per cent of its MAR for that regulatory year.

[34]   AER, *Shared asset guideline*, November 2013, p. 15.

[35]   Ibid, p. 8–9.

[36]   Powerlink, *Revenue proposal*, January 2021, p. 138.

[37]   We will reassess the materiality of the forecast shared asset unregulated revenues for our final decision.

Since we regulate Powerlink's prescribed transmission services under a revenue cap, changes in the consumption of electricity will affect the transmission charges ultimately paid by customers. We estimate the indicative effect of our draft decision on forecast average transmission charges in Queensland by:

- taking Powerlink's annual expected MAR determined in this draft decision, and

- dividing it by the forecast annual energy delivered in Queensland as published by the Australian Energy Market Operator (AEMO), after adjusting for certain energy components such as energy losses and energy delivered by embedded generators directly to distribution networks.[38]

Based on our approach, we estimate that this draft decision will result in a decrease in annual average transmission charges from 2021–22 to 2026–27.[39]

Figure 1.4 shows the indicative average transmission charges over the period 2017–22 to 2022–27 in real 2021–22 dollar terms based on the expected revenues established in our draft decision compared to Powerlink's proposed revenue requirement. The average transmission charges are expected to decrease from around $16.7 per MWh in 2021–22 to $14.9 per MWh in 2026–27.

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[38]   AEMO, Publication: *ESOO 2020 (Electricity Statement of Opportunities - electricity and consumption forecast),* Version: *27/08/2020*, Category: *operational (sent out).* See: http://forecasting.aemo.com.au/Electricity/-AnnualConsumption/Operational; Component adjustments prepared by AEMO as part of Powerlink's Transmission Annual Planning Report (TAPR): Powerlink, *IR#002 - Energy Forecast Response*, 12 March 2021.

[39]   On average, the draft decision transmission smoothed revenues will decrease by 0.4 per cent ($ nominal) per annum from 2021–22 to 2026–27. The forecast energy delivered in Queensland will decrease by an average of 0.3 per cent per annum across that period. As a result, the indicative transmission charge will decrease by 0.1 per cent ($ nominal) per annum from 2021–22 to 2026–27.

Figure 1.4 Indicative transmission price path for Queensland ($/MWh, $2021–22)
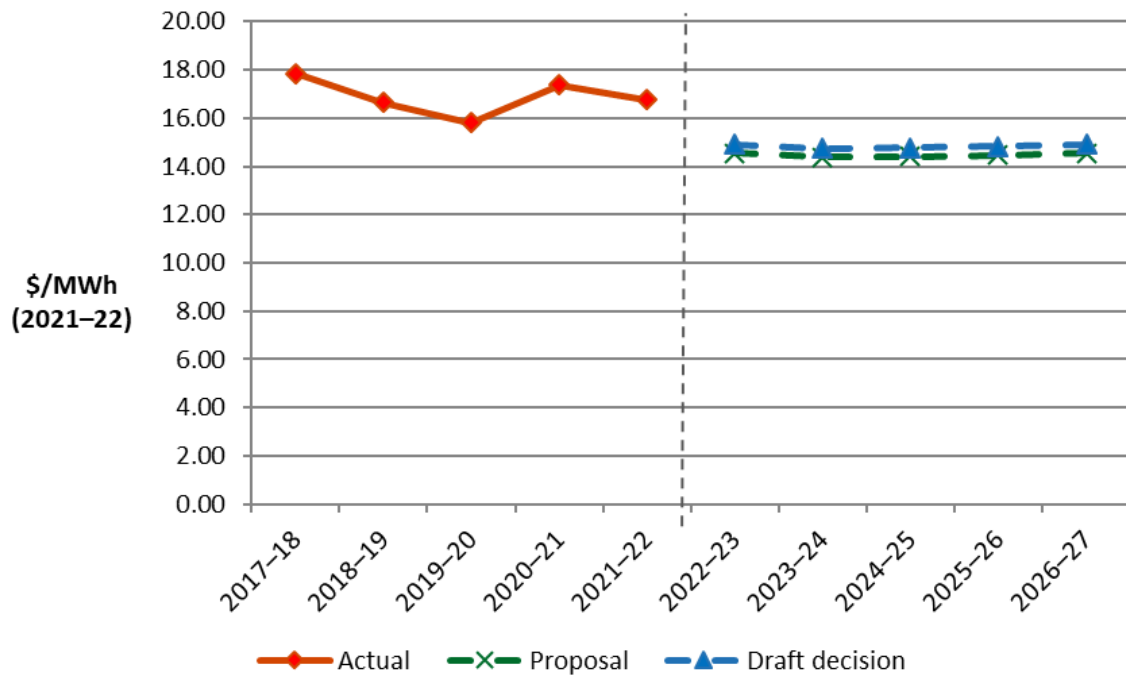
Source: AER analysis.

Notes: The price path for the transmission network is based on actual and forecast energy throughput amounts for Powerlink's transmission network across Queensland.

Revenue used to calculate the 'Actual' indicative price path includes revenue from Inter- and Intra-Regional Settlements Residue collections and may not fully reflect the price path experienced by end-users.

1.4.4   Expected impact of combined decisions on electricity bills

The annual electricity bill for customers in Queensland reflects the combined cost of all the electricity supply chain components—wholesale energy generation, transmission, distribution, metering, and retail costs. This draft decision primarily relates to the transmission charges for Powerlink's prescribed transmission services, which represent approximately 8.9 per cent on average for both residential customers' and small business customers' annual electricity bill in Queensland.[40]

We estimate the expected bill impact by varying Powerlink's transmission charges in accordance with our draft decision, while holding all other component costs that make up the electricity bill constant. This approach isolates the effect of our draft decision on the core transmission charges for Powerlink only. However, this does not imply that

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[40]   Powerlink, *TRP 2023-27 - RIN Workbook 7 – Indicative bill impacts,* January 2021. Transmission component of the annual electricity bill calculated from Figure 2.4 in AEMC, *Final report residential electricity price trends 2020,* December 2020, p. 7.

other components will remain unchanged across the regulatory control period.[41] Our draft decision determines higher revenues than proposed by Powerlink—largely due to the impact of updated market data on the rate of return. As a result, expected bill reductions are slightly lower than Powerlink's proposal holding all else constant.

Based on this approach in our draft decision, we expect that the transmission component of the average annual residential electricity bill in 2026–27 to reduce by about $1 (nominal) or 0.1 per cent from the 2021–22 total bill level.

Our estimated impact is based on the typical annual electricity usage of 4600 kWh per annum for a residential customer in Queensland.[42] Therefore, customers with different usage will experience different changes in their bills. We also note that there are other factors, such as metering, wholesale and retail costs, which affect electricity bills.

Similarly, for average small business customers in Queensland—for which transmission charges represent approximately 8.9 per cent of a typical annual electricity bill—we have estimated the bill impact for two customer categories:

- Small business (low usage) customers consuming 6443 kWh per annum.[43]

- Small businesses (high usage) customers consuming 20 000 kWh per annum.[44]

We expect our draft decision will result in the transmission component of the average annual electricity bill for a small business customer (low usage) in 2026–27 to reduce by about $1 (nominal) or 0.1 per cent from the 2021–22 total bill level.

Likewise, the transmission component of the average annual electricity bill for a small business customer (high usage) in 2026–27 is expected to reduce by about $3 (nominal) or 0.1 per cent from the 2021–22 total bill level.

Table 1.5 shows the estimated impact from our draft decision and Powerlink's proposal on the average annual electricity bills for residential and small business customers in Queensland over the 2022–27 regulatory control period.

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[41] It also assumes that actual energy consumption will equal the forecast adopted in our draft decision. Since Powerlink operates under a revenue cap, changes in energy consumption will also affect annual electricity bills across the 2022–27 regulatory control period.

[42] Representative of residential customers in South East Queensland supplied by retailers in the Energex distribution network region. See AER, *Final determination - Default market offer prices 2021–22*, 27 April 2021, p. 21.

[43] Representative of small business customers in regional Queensland supplied by Ergon Energy Retailer. See QCA, *Technical appendices final determination - Regulated electricity prices for 2021–22*, June 2021, p. 49.

[44] Representative of small business customers in South East Queensland supplied by retailers in the Energex distribution network region. See AER, *Final determination - Default market offer prices 2021–22*, 27 April 2021, p. 21.

Table 1.5   Estimated impact of Powerlink's revenue proposal and the AER's draft decision on average annual electricity bills for the 2022–27 regulatory control period ($ nominal)

	2021–22	2022–23	2023–24	2024–25	2025–26	2026–27
AER draft decision						
Residential annual electricity bill	1455[a]	1443	1445	1448	1451	1454
Annual change[c]		−12 (−0.8%)	1 (0.1%)	3 (0.2%)	3 (0.2%)	3 (0.2%)
Small business with 6443 kWh consumption annual bill	2085[b]	2068	2070	2074	2079	2084
Annual change[c]		−17 (−0.8%)	2 (0.1%)	4 (0.2%)	5 (0.2%)	5 (0.2%)
Small business with 20 000 kWh consumption annual bill	5517[a]	5473	5478	5489	5501	5514
Annual change[c]		−44 (−0.8%)	5 (0.1%)	11 (0.2%)	12 (0.2%)	13 (0.2%)
Powerlink proposal						
Residential annual electricity bill	1455[a]	1441	1442	1445	1448	1451
Annual change[c]		−14 (−1%)	1 (0.1%)	3 (0.2%)	3 (0.2%)	3 (0.2%)
Small business with 6443 kWh consumption annual bill	2085[b]	2064	2066	2070	2075	2080
Annual change[c]		−21 (−1%)	2 (0.1%)	4 (0.2%)	5 (0.2%)	5 (0.2%)
Small business with 20 000 kWh consumption annual bill	5517[a]	5462	5467	5478	5490	5503
Annual change[c]		−55 (−1%)	5 (0.1%)	11 (0.2%)	12 (0.2%)	13 (0.2%)

Source: AER analysis; Powerlink, *Post-Tax Revenue Model,* January 2021.

(a)   AER, *Final determination - Default market offer prices 2021–22*, 27 April 2021, p. 21.

(b)   QCA, *Final determination - Regulated retail electricity prices for 2021–22*, June 2021, p. 6.

(c)   Annual change amounts and percentages are indicative. They are derived by varying the transmission component of 2021–22 bill amounts in proportion to yearly expected revenue divided by Powerlink's forecast energy. Actual bill impacts will vary depending on electricity consumption and tariff class.

A. Shortened forms

Shortened form	Extended form
ABS	Australian Bureau of Statistics
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AR	Allowed revenue
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CPI	Consumer price index
DMIAM	Demand management innovation allowance mechanism
EBSS	Efficiency benefit sharing scheme
Instrument	2018 Rate of Return Instrument
MAR	Maximum allowed revenue
NER	National Electricity Rules
NPV	Net present value
Opex	Operating expenditure
PTRM	Post-tax revenue model
RAB	Regulatory asset base
RIN	Regulatory information notice
TNSP	Transmission network service provider