



**FINAL DECISION**  
**Powerlink transmission**  
**determination**  
**2017-22**

**Attachment 2 – Regulatory**  
**asset base**

April 2017

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## Note

This attachment forms part of the AER's final decision on Powerlink's transmission determination for 2017–22. It should be read with all other parts of the final decision.

This final decision consists of an Overview and 11 attachments. As many issues were settled at the draft decision stage or required only minor updates we have not prepared final decision attachments for:

- Regulatory depreciation
- Operating expenditure; and
- Corporate income tax.

The AER's final decision on these matters is set out in the Overview. For ease of reference the remaining attachments have been numbered consistently with the attachment numbering in our draft decision.

The final decision includes the following documents:

Overview

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 6 – Capital expenditure

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Pricing methodology

Attachment 13 – Pass through events

Attachment 14 – Negotiated services

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## Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DMIA	demand management innovation allowance
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
NTSC	negotiated transmission service criteria
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice

Shortened form	Extended form
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

## 2 Regulatory asset base

The regulatory asset base (RAB) is the value of the assets used by Powerlink to provide prescribed transmission services.<sup>1</sup> Our revenue determination specifies the RAB as at the commencement of the regulatory control period and the appropriate method for the indexation of the RAB.<sup>2</sup> The indexation of the RAB is one of the building blocks that form the annual building block revenue requirement for each year of the 2017–22 regulatory control period.<sup>3</sup> We set the RAB as the foundation for determining a TNSP's revenue requirements, and use the opening RAB for each regulatory year to determine the return on capital and return of capital (regulatory depreciation) building block allowances.<sup>4</sup>

This attachment presents our final decision on the opening RAB value as at 1 July 2017 for Powerlink. It also presents our forecast RAB values for Powerlink over the 2017–22 regulatory control period.

### 2.1 Final decision

We determine Powerlink's opening RAB to be \$7069.4 million (\$ nominal) as at 1 July 2017. The difference of \$12.7 million between this amount and Powerlink's revised proposal reflects our correction in the roll forward model (RFM) for an input error associated with 2015–16 movements in capitalised provisions—which are adjusted from actual capex being added to the RAB—and update for 2016–17 actual inflation that is now available.

To determine the opening RAB as at 1 July 2017, we have rolled forward the RAB over the 2012–17 regulatory control period to determine a closing RAB value at 30 June 2017. This roll forward includes an adjustment at the end of the 2012–17 regulatory control period to account for the difference between actual 2011–12 capex and the estimate approved at the 2012–17 determination.<sup>5</sup>

Table 2.1 sets out our final decision on the roll forward of the RAB values for Powerlink over the 2012–17 regulatory control period.

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<sup>1</sup> NER, cl. 6A.6.1.

<sup>2</sup> NER, cl. 6A.4.2(3A) and (4).

<sup>3</sup> NER, cl. 6A.5.4(a)(1) and (b)(1).

<sup>4</sup> NER, cl. 6A.5.4(a)(2) and (3).

<sup>5</sup> The end of period adjustment will be positive (negative) if actual capex is higher (lower) than the estimate approved at the 2012–17 determination.

**Table 2.1 AER's final decision on Powerlink's RAB for the 2012–17 regulatory control period (\$ million, nominal)**

	2012–13	2013–14	2014–15	2015–16	2016–17 <sup>a</sup>
Opening RAB	6428.8	6847.9	7149.0	7152.5	7110.3
Capital expenditure <sup>b</sup>	464.3	329.1	163.8	134.7	178.0
Inflation indexation on opening RAB	160.9	200.6	95.1	93.7	151.1
Less: straight-line depreciation <sup>c</sup>	206.0	228.7	255.3	270.7	273.8
Closing RAB	6847.9	7149.0	7152.5	7110.3	7165.7
Difference between estimated and actual capex (1 July 2011 to 30 June 2012)					–65.5
Return on difference for 2011–12 capex					–30.8
<b>Opening RAB as at 1 July 2017</b>					<b>7069.4</b>

Source: AER analysis.

- (a) Based on estimated capex.
- (b) As-incurred, net of disposals, and adjusted for actual CPI.
- (c) Adjusted for actual CPI. Based on as-commissioned capex.

We do not accept Powerlink's revised proposed forecast closing RAB as at 30 June 2022 of \$7406.4 million (\$ nominal). We instead determine the forecast closing RAB to be \$7355.7 million. This is \$50.6 million (or 0.7 per cent) lower than Powerlink's revised proposal. Our final decision on the forecast closing RAB reflects the amended opening RAB as at 1 July 2017, and our final decisions on the expected inflation rate (attachment 3), forecast depreciation (section 3.2 of the overview), and forecast capex (attachment 6).

Table 2.2 sets out our final decision on the forecast RAB values for Powerlink over the 2017–22 regulatory control period.

**Table 2.2 AER's final decision on Powerlink's RAB for the 2017–22 regulatory control period (\$ million, nominal)**

	2017–18	2018–19	2019–20	2020–21	2021–22
Opening RAB	7069.4	7151.5	7214.0	7266.4	7318.6
Capital expenditure <sup>a</sup>	171.0	175.8	183.4	195.4	187.3
Inflation indexation on opening RAB	173.2	175.2	176.7	178.0	179.3
Less: straight-line depreciation <sup>b</sup>	262.1	288.5	307.8	321.1	329.5
<b>Closing RAB</b>	<b>7151.5</b>	<b>7214.0</b>	<b>7266.4</b>	<b>7318.6</b>	<b>7355.7</b>



Source: AER analysis.

- (a) As-incurred, and net of forecast disposals. In accordance with the timing assumptions of the post-tax revenue model (PTRM), the capex includes a half-WACC allowance to compensate for the six month period before capex is added to the RAB for revenue modelling.
- (b) Based on as-commissioned capex.

In our draft decision, we determined that the forecast depreciation approach was to be used to establish the opening RAB at the commencement of the 2022–27 regulatory control period for Powerlink.<sup>6</sup> Powerlink's revised proposal did not raise any issue in relation to this aspect of our draft decision. We therefore maintain our draft decision position on this issue for this final decision.

## 2.2 Powerlink's revised proposal

Powerlink's methodology for determining the opening RAB value at 1 July 2017 is unchanged from its initial proposal. Powerlink used our RFM to establish an opening RAB as at 1 July 2017 and our post-tax revenue model (PTRM) to roll forward the RAB over the 2017–22 regulatory control period.

Powerlink's revised proposal submitted an opening RAB value as at 1 July 2017 of \$7082.1 million (\$nominal).<sup>7</sup>

Powerlink's revised proposal adopted our draft decision's

- correction for the movements in capitalised provisions, which are adjusted from actual capex being added to the RAB
- correction to the benchmark equity raising costs in 2012–13.

Powerlink's revised proposal also updated the 2015–16 and 2016–17 capex estimates with actual capex for 2015–16 and a revised estimate for 2016–17.

Table 2.3 presents Powerlink's proposed roll forward of its RAB during the 2012–17 regulatory control period.

**Table 2.3 Powerlink's revised proposed RAB for the 2012–17 regulatory control period (\$ million, nominal)**

	2012–13	2013–14	2014–15	2015–16	2016–17 <sup>a</sup>
Opening RAB	6428.8	6847.9	7149.0	7152.5	7109.5
Capital expenditure <sup>b</sup>	464.3	329.1	163.8	133.6	178.2
CPI indexation on opening RAB	160.9	200.6	95.1	93.7	164.9

<sup>6</sup> NER, cl. S6A.2.2B(a).

<sup>7</sup> Powerlink, *Revised revenue proposal*, December 2016, p. 87.

Less: Straight-line depreciation <sup>c</sup>	206.0	228.7	255.3	270.7	273.8
Closing RAB	6847.9	7149.0	7152.5	7109.5	7178.5
Difference between estimated and actual capex (1 July 2011 to 30 June 2012)					-65.5
Return on difference for 2011–12 capex					-31.0
<b>Opening RAB as at 1 July 2017</b>					<b>7082.1</b>

Source: Powerlink, *Revised revenue proposal, Roll forward model*, December 2016.

- (a) Based on estimated capex.
- (b) As-incurred, net of disposals, and adjusted for actual CPI.
- (c) Adjusted for actual CPI. Based on as-commissioned capex.

Powerlink proposed a revised closing forecast RAB as at 30 June 2022 of \$7406.4 million (\$ nominal). This value reflects its revised proposed opening RAB, forecast capex, expected inflation, and depreciation (based on forecast capex) over the 2017–22 regulatory control period. Its projected RAB over the 2017–22 regulatory control period is shown in Table 2.4.

**Table 2.4 Powerlink's revised proposed RAB for the 2017–22 regulatory control period (\$ million, nominal)**

	2017–18	2018–19	2019–20	2020–21	2021–22
Opening RAB	7082.1	7168.3	7236.5	7296.4	7358.3
Capital expenditure <sup>a</sup>	178.7	185.0	194.3	208.0	202.0
Inflation indexation on opening RAB	170.0	172.0	173.7	175.1	176.6
Less: straight-line depreciation <sup>b</sup>	262.4	288.8	308.0	321.3	330.6
<b>Closing RAB</b>	<b>7168.3</b>	<b>7236.5</b>	<b>7296.4</b>	<b>7358.3</b>	<b>7406.4</b>

Source: Powerlink, *Revised revenue proposal, Post-tax revenue model*, December 2016.

- (a) As-incurred, and net of forecast disposals. Inclusive of a half-WACC to account for the timing assumptions in the PTRM.
- (b) Based on as-commissioned capex.

## 2.3 Assessment approach

We did not change our assessment approach for the RAB from our draft decision. Section 2.3 of our draft decision details that approach.

## 2.4 Reasons for final decision

We determine an opening RAB value for Powerlink of \$7069.4 million (\$ nominal) as at 1 July 2017, a decrease of \$12.7 million (\$ nominal) or 0.2 per cent from the revised proposal value. We forecast a closing RAB value of \$7355.7 million by 30 June 2022.

This represents a reduction of \$50.6 million, or 0.7 per cent compared to Powerlink's revised proposal. The reasons for our final decision are discussed below.

### 2.4.1 Opening RAB at 1 July 2017

We determine an opening RAB value of \$7069.4 million (\$ nominal) as at 1 July 2017 for Powerlink. This value is \$12.7 million (or 0.2 per cent) lower than Powerlink's revised proposed opening RAB of \$7082.1 million (\$ nominal) as at 1 July 2017.<sup>8</sup> This is because we consider there should be two adjustments made to Powerlink's revised proposed RFM inputs:

1. Updating Powerlink's estimate of inflation for 2016–17 with actual CPI for this period, as it is now available from the Australian Bureau of Statistics.<sup>9</sup>
2. Correcting a transcription error for 2015–16 movements in capitalised provisions, which are adjusted from actual capex being added to the RAB.<sup>10</sup>

In the draft decision, we made certain amendments to Powerlink's proposed inputs for the roll forward of its RAB over the 2011–15 regulatory control period. These amendments relate to:

- updating the 2015–16 inflation rate with actual CPI for RAB indexation
- correcting for the movements in capitalised provisions, which are adjusted from actual capex being added to the RAB
- correcting to the benchmark equity raising costs in 2012–13. Powerlink adopted these amendments in its revised proposal.

We also noted the roll forward of Powerlink's RAB included estimated capex for 2015–16 and 2016–17, and estimated inflation for 2016–17, because these actual values were not yet available.<sup>11</sup>

In its revised proposal, Powerlink updated the 2015–16 estimated capex with actual amounts now available. Our review found that the 2015–16 actual capex in the revised proposal reconciles with the values presented in Powerlink's 2015–16 regulatory accounts and economic benchmarking RIN, subject to a small discrepancy with the movement in capitalised provisions input. We raised this with Powerlink and it confirmed that the revised proposal RFM contained a transcription error which required correcting.<sup>12</sup> Accordingly, our final decision corrects for this error.

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<sup>8</sup> Powerlink, *Revised revenue proposal*, December 2016, p. 87.

<sup>9</sup> The March quarter CPI is used as a proxy for the June financial year in Powerlink's 2012–17 regulatory control period.

<sup>10</sup> This involves an upward adjustment of \$1.1 million to gross actual capex in 2015–16.

<sup>11</sup> AER, *Draft decision, Attachment 2 – Regulatory asset base*, September 2016, p. 2–15.

<sup>12</sup> Powerlink, *Email response to AER information request #021*, 16 December 2016.

Powerlink's revised proposal also provided an updated estimate of 2016–17 capex. We accept Powerlink's revision to the net capex estimate of \$178.2 million (\$ nominal).<sup>13</sup> This amount is lower than in the initial proposal, reflecting more up-to-date data and therefore is the best forecast available. We note that the financial impact of any difference between actual and estimated capex for 2016–17 will be accounted for at the next reset.<sup>14</sup>

We also consider the extent to which our roll forward of the RAB to 1 July 2017 contributes to the achievement of the capital expenditure incentive objective.<sup>15</sup> As discussed in the draft decision, the review period for this transmission determination is limited to 2014–15 capex.<sup>16</sup> Consistent with our draft decision, the overspending requirement for an efficiency review of past capex is not satisfied.<sup>17</sup> Accordingly, the capex incurred in that year is regarded as likely to be prudent and efficient, and included in the RAB—this is discussed further in appendix E of capex attachment 6 of the draft decision. For the purposes of this final decision we have included Powerlink's actual capex in 2015–16 and estimated 2016–17 capex in the RAB roll forward to 1 July 2017. At the next reset, the 2015–16 and 2016–17 capex will form part of the review period for whether past capex should be excluded from the RAB for inefficiency reasons.<sup>18</sup> Our RAB roll forward applies the incentive framework approved in the previous transmission determination, which included the use of an actual depreciation approach.<sup>19</sup> As such, we consider that the 2012–17 RAB roll forward contributes to an opening RAB (as at 1 July 2017) that includes capex that reflects prudent and efficient costs, in accordance with the capital expenditure criteria.<sup>20</sup>

## 2.4.2 Forecast closing RAB at 30 June 2022

We forecast a closing RAB value of \$7355.7 million by 30 June 2022 for Powerlink, which represents a reduction of \$50.6 million (or 0.7 per cent) to Powerlink's revised proposal. This reduction reflects our final decision on the inputs for determining the forecast RAB in the PTRM and a correction to the allocation of movements in capitalised provisions, which are adjusted from forecast capex.<sup>21</sup> To determine the forecast RAB value for Powerlink, we amended the following PTRM inputs:

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<sup>13</sup> This amount includes a half-WACC allowance to compensate for the six month period before capex is added to the RAB.

<sup>14</sup> NER, cl. S6A.2.1(f)(3).

<sup>15</sup> NER, cl. 6A.14.2(b).

<sup>16</sup> AER, *Draft decision, attachment 2*, September 2016, p. 16.

<sup>17</sup> Powerlink's actual capex incurred in 2014–15 is below the forecast allowance set at the previous transmission determination; NER, cl. S6A.2.2A(c).

<sup>18</sup> Here, 'inefficiency' of past capex refers to three specific assessments (labelled the overspending, margin and capitalisation requirements) detailed in NER, cl. S6A.2.2A. The details of our ex post assessment approach for capex are set out in AER, *Capital expenditure incentive guideline*, November 2013, pp. 12–20.

<sup>19</sup> The use of actual depreciation is consistent with the depreciation approach established in the 2012–17 transmission determination for Powerlink, which reflected the rules at the time.

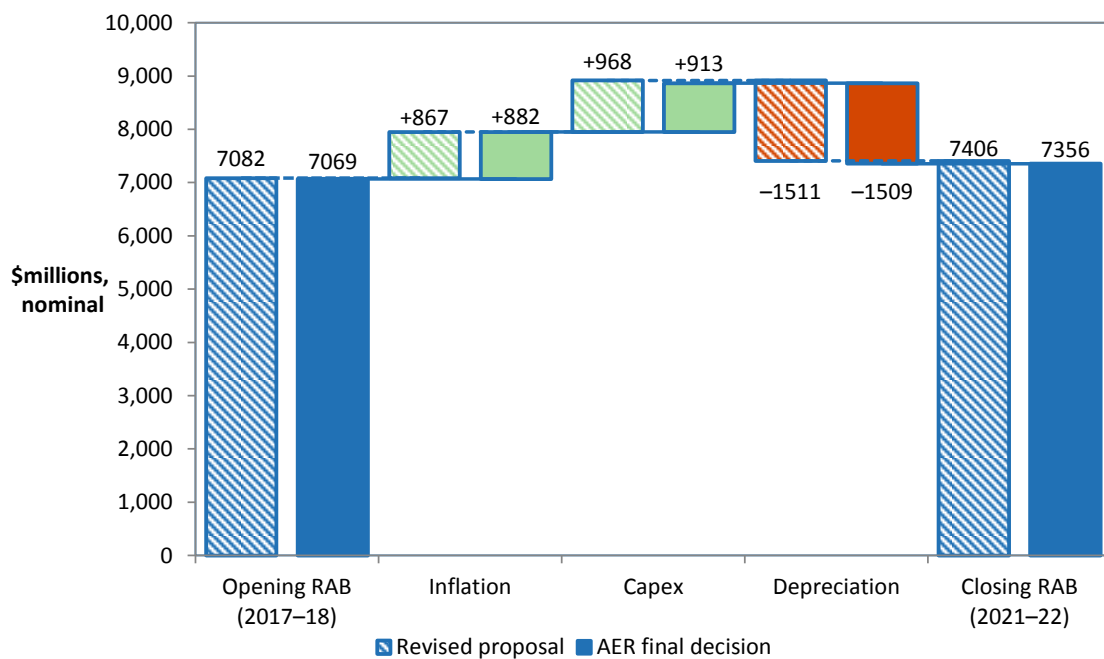
<sup>20</sup> NER, cll. 6A.5A(a), 6A.6.7(a), 6A.6.7(c) and 6A.14.2(b).

<sup>21</sup> This correction does not change the total amount of the revised proposed adjustment for movements in capitalised provision but the allocation of the amount across asset classes.

- We reduced Powerlink's revised proposed opening RAB as at 1 July 2017 by \$12.7 million (section 2.4.1).
- We reduced Powerlink's revised proposed forecast capex for the 2017–22 regulatory control period by \$55.1 million (\$ nominal) or 7.3 per cent (attachment 6).
- We reduced Powerlink's revised proposed forecast depreciation for the 2017–22 regulatory control period by \$17.1 million or 2.7 per cent (section 3.4 of Overview).

Figure 2.1 shows the key drivers of the change in Powerlink's RAB over the 2017–22 regulatory control period for this final decision. Overall, the closing RAB at the end of the 2017–22 regulatory control period is forecast to be 4.1 per cent higher than the opening RAB at the start of that period, in nominal terms.<sup>22</sup> The approved forecast net capex increases the RAB by about 12.9 per cent, while expected inflation increases it by about 12.5 per cent. Forecast straight-line depreciation, on the other hand, reduces the RAB by about 21.3 per cent.

**Figure 2.1 Key drivers of changes in the RAB (\$ million, nominal)**



Source: AER analysis.

### 2.4.3 Consumer Challenge Panel members' submissions

<sup>22</sup> However, in real dollar terms (\$2016–17) the closing RAB at the end of the 2017–22 regulatory control period is forecast to be 5.6 per cent lower than the opening RAB at the start of the period.

We received two submissions from members of the Consumer Challenge Panel (CCP) on issues related to the RAB and the overall profitability of Powerlink. The submissions describe the members' concerns that some service providers are achieving 'extraordinary' profits because the AER's implementation of the regulatory framework allows for overcompensation. The submissions suggest that the primary cause of this overcompensation is the interaction between the AER's approach to RAB indexation and the rate of return on capital. The submissions were made separately by Hugh Grant and David Headberry.<sup>23</sup>

More generally, we recognise an overarching concern that consumers have expressed about the profitability of some service providers. Consumers have raised this general concern in the last public forum and through consultation on Powerlink's revised proposal. Analysis of profitability outcomes for ordinary unregulated companies is complex. Undertaking equivalent analysis for regulated networks faces a number of additional hurdles that increase the complexity of the task.<sup>24</sup> Importantly, the building block framework does not clearly accommodate amendments to individual building blocks based on analysis of overall profitability. Nonetheless, we recognise that this matter involves complex issues that warrant further exploration, and consider that analysis of financial performance might be used to evaluate overall performance of the building block framework as set out in the rules, rather than to inform parameter estimates within a specific revenue determination.

To advance our understanding of these issues we have commenced further work on this topic. In particular, we have engaged an external consultant to undertake an initial scoping study into measures of financial performance that could be applied to the businesses we regulate. We will conduct public consultation on this issue after further progression of our engagement with the external consultant.

For this final decision, we briefly address the following key aspects of these submissions:

- Summary of the CCP members' core concerns
- The compatibility of an indexed RAB with the AER's approach to return on capital
  - Consistency of the AER's approach
  - The CCP member's proposed approach
- The analysis of profitability outcomes
- RAB growth and inefficiency.

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<sup>23</sup> The third member of the CCP assigned to the Powerlink review (Jo De Silva) also made a submission, but it addressed a range of non-RAB related issues.

<sup>24</sup> For instance: the disaggregation of regulated and unregulated revenue and assets; the absence of market value share prices and asset values; and the absence of historical financial statements where regulated networks were Government owned. All these issues are noted in AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 2 – Regulatory asset base*, September 2016, Section A.2.

## Summary of the CCP members' core concerns

The CCP members submitted that Powerlink has achieved extraordinary profitability levels in recent years, above both the regulator's targeted rate of return and comparable returns in the private sector. One submission stated:<sup>25</sup>

As PLQ [*Powerlink*] earned a profit of \$218m, this implies that the return on equity for the financial year ending 2016, was about 46% based on the equity injection plus retained earnings. While not as extreme as the highest return on equity achieved by PLQ in earlier years, it is still very high compared to the returns on equity achieved by firms in the competitive sector, and well above the notional return on equity allowed in the draft decision of 6.5% or even that claimed by PLQ of 7.3% in its initial proposal and the 6.5% return on equity in its revised proposal.

Another submission stated:<sup>26</sup>

- Powerlink achieved actual return on equity levels of 18% to 75%, which amounted to 1.5–8.1 times the AER's theoretical return on equity levels. ...
- By comparison, most ASX50 companies have struggled to achieve annual return on equity levels of 5% over that period. ...

This demonstrates the deficiencies with the AER's return on capital determination methodology and how the AER is inappropriately providing guaranteed returns on **artificial** investments. [*emphasis in original*]

These concerns about Powerlink's overall profitability were consistent with previous submissions from CCP members on Powerlink's initial proposal.<sup>27</sup> The CCP members identified a number of factors that contributed to this systematic overcompensation, across many areas of the building block framework.<sup>28</sup> However, the submissions identified one RAB-related issue as the 'main driver' of the CCP members' concerns about excess profitability.<sup>29</sup> Specifically, the CCP members submitted that the AER's methodology for determining the networks' return on capital allowance does not appropriately consider the impacts of RAB indexation.<sup>30</sup> One submission stated:<sup>31</sup>

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<sup>25</sup> CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, p. 23.

<sup>26</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 4.

<sup>27</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016; and CCP (Hugh Grant), *The methodology for the comparisons of the Electricity Networks' return on equity with the returns of ASX 50 companies - in the context of the Powerlink/Telstra comparison*, 26 July 2016.

<sup>28</sup> We deal with each of the specific CCP factors in the relevant attachments to our draft and final decisions (for instance, in our specific opex or capex attachments).

<sup>29</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 31.

<sup>30</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 4; and CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, p. 22.



Whilst Powerlink's high gearing ratio contributes to its extraordinary profitability, the main driver of Powerlink's extraordinary profitability is the AER's provision of excessive 'return on capital' allowances arising from the inconsistency between the AER's WACC determination methodology and the artificially inflated capital bases that it applies its % returns to.

Elsewhere, it provided this summary of the core issue:

In essence:

- The AER's methodology for estimating the required percentage returns (for both equity and debt) is based on the returns that investors require on their **actual** capital investments
- However, the AER calculates its return on capital allowances by multiplying those percentage returns to **artificially inflated** capital bases

In relation to return on equity, the AER estimates the percentage return on equity that it considers investors require to invest in businesses with similar risk profiles to the electricity networks.

Importantly, the AER's calculation of that percentage return uses a market risk premium (MRP) that equity investors require derived from share market information – i.e. it is based on the MRP required by companies that do not inflate their equity investment base.

Consequently the AER is applying an outcome from the share market that is not applicable to the setting of the return on equity for entities that inflate their asset base. *[emphasis in original]*

The second CCP member's submission stated:<sup>32</sup>

As many of the Australian energy networks reflect similar outcomes to that seen of PLQ [*Powerlink*] (ie about 55-65% interest bearing debt and 5-15% of actual injected equity and retained earnings), it is quite clear that the AER guideline fails to reflect the actuality of how the networks are structured financially. A direct result of this is that the networks are extremely profitable (much more so than firms operating in the competitive sector) because of the AER decision to allow the networks to gain a rate of return on equity for the indexation element of the regulated asset base.

This diagnosis of the central cause of the 'extraordinary' profits was consistent with previous submissions by CCP members Hugh Grant and David Headberry on the initial Powerlink proposal.<sup>33</sup> Further, one of the latest submission suggested that the AER's

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<sup>31</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 31.

<sup>32</sup> CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, p. 25.

<sup>33</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016; and CCP (Hugh Grant), *The methodology for the comparisons of the Electricity Networks'*



draft decision response to the profitability analysis in earlier submissions included a number of incorrect, unsubstantiated and misleading statements.<sup>34</sup>

### ***The compatibility of an indexed RAB with the AER's approach to return on capital***

In this section, we address the CCP member's claims as follows:

- The submission that our return on capital methodology is inconsistent with indexation of the RAB
- The CCP member's proposed mechanism to resolve this perceived inconsistency.

In summary:

- Achieving the net present value (NPV)=0 criterion is a fundamental objective of the building block regulatory framework. It can be achieved in several different ways. These include using a real rate of return and a nominal (indexed) RAB; using a nominal rate of return and a historical (unindexed) RAB; or using a nominal rate of return and a nominal RAB (as is required by the NER). We addressed these issues in detail in our draft decision and elaborate further below in this section.
- In particular, indexation of the RAB to maintain its value in real terms is consistent with our approach to the rate of return. We remain unpersuaded by the CCP's submission that there is any inconsistency between our approach to estimating the rate of return and with the approach to indexation of the RAB required by the NER.
- Specifically, the NER requires us to use a nominal rate of return and a nominal RAB to determine the return on capital building block. To ensure consistency and to achieve the NPV=0 criterion, we deduct the inflation adjustment on the opening RAB from our estimated straight-line depreciation allowance. This has an offsetting effect on the amount of revenue that network businesses can charge customers each year.
- Because of this offsetting adjustment, our approach is equivalent in NPV terms to an approach using an unindexed RAB and a nominal rate of return, or an approach using an indexed RAB and a real rate of return. Our approach also produces the cash flow profile that is equivalent to the approach of using an indexed RAB and a real rate of return. On the other hand, the approach of using an unindexed RAB and nominal rate of return produces the cash flow profile that brings forward depreciation relative to our approach—that is, customers pay more upfront and then less in the later part of the RAB life.
- In contrast, the CCP members have proposed an approach which fails to achieve the NPV=0 criterion, the impact of which is inconsistent with the NER.

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*return on equity with the returns of ASX 50 companies - in the context of the Powerlink/Telstra comparison*, 26 July 2016.

<sup>34</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 26.

## *Consistency of the AER's approach*

We do not agree with the CCP members' submissions that we are inconsistently or incorrectly combining a market based rate of return with an indexed RAB.<sup>35</sup> We have set out in our draft decision an illustration that there is no difference in revenue (in NPV terms) between the following approaches:<sup>36</sup>

1. Our approach, where the RAB is indexed for inflation, in conjunction with an offsetting adjustment to the straight-line depreciation allowance and a nominal rate of return.
2. An alternative approach, where the RAB is unindexed (i.e. it does not get adjusted for inflation), and the same nominal rate of return is used. This approach should therefore directly address the concern raised by the CCP. It shows numerically that there is no excess revenue where the market return on capital is applied to a RAB which is not adjusted for inflation. This should address the concern expressed in the CCP submission that: '...the AER is applying an outcome from the share market that is not applicable to the setting of the return on equity for entities that inflate their asset base'.<sup>37</sup>

Further, as demonstrated in the draft decision, both approaches satisfy the 'NPV=0' criterion. As described by Partington and Satchell,<sup>38</sup> this is important because:

The zero NPV investment criterion has two important properties. First, a zero NPV investment means that the ex-ante expectation is that over the life of the investment the expected cash flow from the investment meets all the operating expenditure and corporate taxes, repays the capital invested and there is just enough cash flow left over to cover investors' required return on the capital invested. Second, by definition a zero NPV investment is expected to generate no economic rents. Thus, ex-ante no economic rents are expected to be extracted as a consequence of market power. The incentive for investment is just right, encouraging neither too much investment, nor too little.

The reason for this, as explained in more detail in our draft decision,<sup>39</sup> is that calculation of the depreciation allowance is linked to how the return on capital is estimated. The NER requires us to index the RAB and to multiply it by a nominal (including the effects of inflation) rate of return on capital, so we make a corresponding

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<sup>35</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 39; CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, pp. 22–25.

<sup>36</sup> AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 2 – Regulatory asset base*, September 2016, Section A.1.1.

<sup>37</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 39.

<sup>38</sup> Graham Partington and Stephen Satchell, *Report to the AER: Discussion on the allowed cost of debt*, 5 May 2016, p. 14.

<sup>39</sup> AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 2 – Regulatory asset base*, September 2016, Section A.1.4.

reduction to the depreciation building block allowance to reduce it for the 'double counting' of inflation. In the simplest possible terms, each dollar added to the RAB reflecting indexation was a dollar removed from annual revenue. If the dollar had not been added to the RAB as indexation in a particular year, it would have been paid by consumers that year. The dollar added to the RAB as indexation will then be repaid by consumers (that is, increase annual revenue) in a later year.<sup>40</sup> This is why the two approaches are NPV equivalent; they differ only in the timing for when consumers pay the dollar.<sup>41</sup>

More fully, we stated in our draft decision that:<sup>42</sup>

The RAB is indexed for inflation in order to maintain its real value as required by the NER.<sup>43</sup> An offsetting adjustment of equivalent size to the indexation amount is removed from the depreciation allowance.<sup>44</sup> A nominal rate of return (WACC) is multiplied by the opening RAB to produce the return on capital allowance.<sup>45</sup> We do not consider using the inflation indexed RAB in this calculation will result in an inflated revenue allowance as suggested by the CCP members' submission.<sup>46</sup> The approach is net present value (NPV) neutral over the life of the assets in the RAB. In contrast, the CCP members' proposed approach is not NPV neutral, as it suggests a rate of return be earned on only part of the RAB.

For these reasons, we remain satisfied that our approach to estimating the return on capital is appropriate and consistent with the approach required by the rules for indexation of the RAB.

### ***The CCP member's proposed approach***

The submission by CCP member Hugh Grant in response to our draft decision on Powerlink's proposal reiterated his view that the inflation indexation of the RAB is inconsistent with the AER's approach to return on capital.<sup>47</sup> It stated that:<sup>48</sup>

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<sup>40</sup> Note that consumers may not be identical from one year to the next. Our approach is designed to evenly spread the cost of an asset across the life of the asset in real terms, so that all consumers who benefit from the asset pay the same real amount.

<sup>41</sup> There is compensation for the time value of money—in the simplest possible terms, this is an interest payment while the dollar is invested in the RAB.

<sup>42</sup> AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 2 – Regulatory asset base*, September 2016, Section 2.4.3.

<sup>43</sup> NER, cl. 6A.6.1(e)(3).

<sup>44</sup> NER, cl. 6A.5.4(b)(1)(ii).

<sup>45</sup> NER, cl. 6A.6.2(a).

<sup>46</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 3.

<sup>47</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 4; CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 33.

<sup>48</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 43.

...in order to address the WACC/RAB inconsistency within the current rules (which require the RAB to be indexed), the AER needs to modify its WACC estimation methodology to reflect that the % returns are applied to inflated capital bases.

This proposed solution appears to be a subtle change from the previous CCP proposal to apply our return on capital to reduced RABs that reflect the CCP estimate of Powerlink's actual debt and equity investments.<sup>49</sup> In that submission, the authors indicated that:

The AER needs to revise its return on capital determination methodology to apply its percentage returns to capital bases that are more reflective of Powerlink's actual investments, e.g.:

- A debt base of around 55% of Powerlink's RAB
- An equity base of around 10% of Powerlink's RAB.

The latest submission by CCP member David Headberry appears to maintain the previously proposed approach, where the return on debt and the return on equity are applied to reduced proportions of the RAB.<sup>50</sup>

These two alternative approaches are functionally equivalent. CCP member Hugh Grant has previously stated that the same outcome can be obtained under either approach.<sup>51</sup>

As outlined in Chapter 6 of this report, in order to address the inconsistencies within the current rules (which require the RAB to be indexed), the AER needs to either:

- Modify its methodology for estimating the required percentage returns to reflect that they will be applied to inflated capital bases; or
- Apply its percentage returns to capital bases (i.e. debt and equity bases) that are more reflective of the networks' actual investments

The approaches are numerically equivalent because the resultant revenue outcome is the same whether we calculate the return on capital building block allowance by:

- reducing the RAB (by a percentage reduction to reflect historical RAB indexation), then multiplying this reduced RAB by the market rate of return; or

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<sup>49</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 3.

<sup>50</sup> However, the latest submission proposed a debt base between 65% and 80% of Powerlink's RAB, and an equity base of 6% of Powerlink's RAB. CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, pp. 22–23.

<sup>51</sup> ResponseAbility (Hugh Grant), *Assets or liabilities? The need to apply fair regulatory values to Australia's electricity networks*, 5 May 2016, pp. 85–87.

- reducing the market rate of return (by the same percentage reduction to reflect historical RAB indexation) then multiplying this reduced rate of return by the (full) RAB.

Importantly, as demonstrated in our draft decision, both proposals fail to achieve the NPV=0 principle, and therefore have an effect equivalent to re-valuing the RAB. In contrast, our current approach fulfils the NPV=0 principle, fulfils the legislative requirements and contains no internal inconsistency.

We note that the latest submission from CCP member Hugh Grant rejects the proposition that these two alternative approaches are equivalent, or that they constitute the effective removal of RAB indexation:<sup>52</sup>

In essence, the AER's draft decision for Powerlink has:

- Ignored CCP4's primary recommendation – i.e. that the AER needs to revise its WACC estimation methodology to reflect that its % returns are applied to artificially inflated capital bases
- Focused its commentary on misrepresenting and taking “pot shots” on the potential alternative solution, e.g.:
  - Suggesting that CCP4 is challenging the rule requirement to index the RAB – despite CCP4 (HG) [*Hugh Grant*] reiterating to the AER many times that it was **not** challenging that requirement
  - Suggesting that CCP4 is proposing solutions that would violate the NPV = Zero principle (based on the above misrepresentation)

***It is extremely disappointing that the AER has devoted 15 pages in its draft determination responding to an issue that CCP4 did not recommend (removal of RAB indexation).*** [*emphasis in original*]

Further, this submission stated:<sup>53</sup>

Importantly, Hugh Grant's submissions and engagement with the AER as a CCP member have **never** challenged the RAB indexation rule requirement. [*emphasis in original*]

We consider that our draft decision accurately described the substance of the CCP member submissions.<sup>54</sup> We have already included one relevant quote from the CCP

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<sup>52</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 44.

<sup>53</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 43.

<sup>54</sup> CCP (Hugh Grant), *Presentation at AER public forum, Preliminary perspectives on Powerlink's 2018–22 revenue proposal*, 15 March 2016, pp. 27, 48; CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 3, 44–45, 47; and CCP (Hugh Grant), *Presentation at AER public forum, Preliminary perspectives on the AER's draft 2018–22 revenue determination for Powerlink Queensland*, 19 October 2016, pp. 4–5, 40.

members' submission on the initial Powerlink proposal above, but we present it here with additional context:<sup>55</sup>

The AER's methodology for determining the networks' 'return on capital' allowances does not appropriately deal with the impacts of RAB indexation.

The AER's methodology for determining the networks' returns (for both equity and debt) is based on the returns that investors require on their **actual** investments. However the AER calculates its 'return on capital' allowances by multiplying those percentage returns to artificially inflated capital bases resulting in the AER providing return on capital allowances well above the required levels.

CCP4 recommends that the AER revises its return on capital determination methodology by applying its percentage returns to capital bases that are more reflective of the networks' actual investments, i.e.:

- A debt base of around 55% of Powerlink's RAB
- An equity base of around 10% of Powerlink's RAB [*emphasis in original*]

This quote makes clear that the proposed approach is intended to remove the effect of RAB indexation on the return on capital building block. It is not clear to us how the latest CCP member submission can be reconciled with these earlier statements. Our draft decision includes a detailed explanation of the effects of excluding the RAB indexation component when calculating the return on capital.<sup>56</sup> To 'allow' RAB indexation but then exclude the indexation component of the RAB when subsequently calculating building blocks is, in practice, the same as disallowing that portion of RAB indexation.<sup>57</sup> Our assessment of either (numerically equivalent) approach has always considered the underlying substance of the proposal.

We recognise that this is a complex issue and the profitability outcomes of some service providers are an overarching concern for consumers. Nonetheless, as in our draft decision, we are not persuaded that our approach to estimating the return on capital is inconsistent with our approach to RAB indexation, or incorrect.

### ***Analysis of profitability outcomes***

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<sup>55</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 47.

<sup>56</sup> AER, *Draft decision, Powerlink transmission determination, 2017–19 to 2021–22, Attachment 2 – Regulatory asset base*, September 2016, p. 2-30 to 2-33.

<sup>57</sup> The June 2016 CCP submission made no explicit statement on whether depreciation (return of capital) would continue or cease on the portion of the RAB reflecting past indexation. The draft decision modelled the effect of continuing to apply depreciation to the RAB component reflecting past indexation. Ceasing this return of capital would further exacerbate the departure from the NPV=0 principle. Earlier CCP submissions (outside of the explicit Powerlink review) endorsed cessation of this component as well, see (for example) ResponseAbility (Hugh Grant), *Assets or liabilities? The need to apply fair regulatory values to Australia's electricity networks*, 5 May 2016, pp. 7, 83–89.

The submissions to the draft decision from the CCP members reiterated the view that the ‘extraordinary profitability levels’ from their analysis show that the AER’s approach is incorrect. One of the latest CCP member submissions presented substantially the same analysis as was included in previous submissions.

In particular, the CCP member submitted that:<sup>58</sup>

- Powerlink achieved actual return on equity levels of 18% to 75%, which amounted to 1.5–8.1 times the AER’s theoretical return on equity levels. ...
- By comparison, most ASX50 companies have struggled to achieve annual return on equity levels of 5% over that period. ...

This demonstrates the deficiencies with the AER’s return on capital determination methodology and how the AER is inappropriately providing guaranteed returns on **artificial** investments. [*emphasis in original*]

For the reasons set out in our draft decision, we remain unpersuaded by this analysis. There are a number of important reasons why market outperformance might not lead to the conclusion that the regulatory regime was systematically over compensating service providers. We addressed this matter in more detail in our draft decision.<sup>59</sup> We note that the submission indicated that the CCP member was not convinced by our draft decision analysis. Nonetheless, we are not satisfied that the updated submission sufficiently addresses our concerns as set out in the draft decision.

Moreover, even to the extent that profitability analysis could inform conclusions about the overall performance of the framework, we consider the submission does not overcome a number of conceptual and practical hurdles necessary to reach robust conclusions about Powerlink’s level of observed profitability. Accordingly, while we recognise the overarching concern that consumers have on the observed profitability of some service providers, having regard to the CCP member’s analysis, we are not persuaded that the AER’s return on capital determination methodology is incorrect.

### ***RAB growth and inefficiency***

In addition to commenting on RAB indexation issues, the submission from CCP member David Headberry identified another issue directly related to the RAB.<sup>60</sup> The AER’s draft decision permitted the RAB to increase in nominal terms in the 2017–22 regulatory control period. The CCP member submitted that this increase was a concern, given an earlier report by the AER highlighting that Powerlink is one of the

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<sup>58</sup> CCP (Hugh Grant), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 23 December 2016, p. 4.

<sup>59</sup> AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 2 – Regulatory asset base*, September 2016, Section A.2.

<sup>60</sup> CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink’s electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, pp. 6–7.



less efficient networks in the NEM with regard to asset productivity.<sup>61</sup> The CCP member recommended that the AER should benchmark the RAB for networks over time in relative terms (for example, against peak demand and numbers of customers served) to assess the liability that future consumers will incur in terms of capital tied up in the assets used to provide the network services.<sup>62</sup>

While Powerlink's RAB is growing in nominal terms, it is declining in real terms over the 2017–22 regulatory control period.<sup>63</sup> We also note that a number of economic benchmarks from the annual benchmarking report are relevant to our assessment of capex. For TNSPs, economic benchmarking can give an indication of how the efficiency of each service provider has changed over time. However, as discussed in the capex attachment to the draft decision,<sup>64</sup> we consider it is not currently robust enough to draw conclusions about the relative efficiency of these service providers. While we have had regard to the annual benchmarking report in our capex assessment, we have not used it deterministically.

#### **2.4.4 Application of depreciation approach in RAB roll forward for next reset**

When we roll forward Powerlink's RAB for the 2017–22 regulatory control period at the next reset we must adjust for depreciation. Our final decision is to roll forward the RAB for the commencement of Powerlink's 2022–27 regulatory control period using depreciation based on forecast capex (updated for actual inflation). This approach is consistent with our draft decision and the framework and approach.<sup>65</sup> We note Powerlink's revised proposal did not raise any issue in relation to this aspect of our draft decision.

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<sup>61</sup> The submission did not provide a reference for the report but our understanding is that this is referring to our 2014 annual benchmarking report.

<sup>62</sup> CCP (David Headberry), *Response to the AER Draft Decision and Revised Proposal to Powerlink's electricity transmission network for a revenue reset for the 2017-2019 regulatory period*, 19 December 2016, p. 7.

<sup>63</sup> See Figure 2.1 and footnote 22.

<sup>64</sup> AER, *Draft decision, Powerlink determination 2017-18 to 2021-22: Attachment 6 – Capital expenditure*, September 2016, pp. 6-23 to 6-26.

<sup>65</sup> AER, *Draft decision, attachment 2*, December 2016, p. 19; AER, *Final decision: Framework and approach for Powerlink*, June 2015, pp. 11–12.