



**DRAFT DECISION**  
**Powerlink transmission**  
**determination**  
**2017–18 to 2021–22**

**Attachment 5 – Regulatory**  
**depreciation**

September 2016

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## Note

This attachment forms part of the AER's draft decision on Powerlink's transmission determination for 2017–22. 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 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Pricing methodology

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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

## 5 Regulatory depreciation

Depreciation is the allowance provided so capital investors recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by Powerlink, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for Powerlink's 2017–22 regulatory control period.<sup>1</sup> The regulatory depreciation allowance is the net total of the RAB depreciation (negative) and the indexation of the RAB (positive).

This attachment sets out our draft decision on Powerlink's regulatory depreciation allowance. It also presents our draft decision on the proposed depreciation schedules, including an assessment of the proposed standard and remaining asset lives used for forecasting depreciation.

### 5.1 Draft decision

We do not accept Powerlink's proposed regulatory depreciation allowance of \$623.2 million (\$ nominal) for the 2017–22 regulatory control period. Instead, we determine a regulatory depreciation allowance of \$605.8 million (\$ nominal) for Powerlink. This represents a decrease of \$17.4 million (or 2.8 per cent) on the proposed amount. In coming to this decision:

- We accept Powerlink's proposed straight-line method, and standard asset lives used to calculate the regulatory depreciation allowance. We consider that Powerlink's proposed standard asset lives are consistent with those approved at the 2012–17 transmission determination and comparable to the standard asset lives used for other TNSPs. Accordingly, we consider the standard asset lives would lead to a depreciation schedule that reflects the nature of the assets over their economic lives<sup>2</sup> (section 5.4.1).
- We accept Powerlink's proposed weighted average method to calculate the remaining asset lives as at 1 July 2017. This because the proposed method applies the approach as set out in the AER's roll forward model (RFM).
- We made determinations on other components of Powerlink's proposal that also affect the forecast regulatory depreciation allowance—the opening RAB as at 1 July 2017 (attachment 2), expected inflation rate (attachment 3) and forecast capital expenditure (capex) (attachment 6).

Table 5.1 sets out our draft decision on the annual regulatory depreciation allowance for Powerlink's 2017–22 regulatory control period.

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

<sup>2</sup> NER, cl. 6A.6.3(b)(1).

**Table 5.1 AER's draft decision on Powerlink's depreciation allowance for the 2017–22 regulatory control period (\$ million, nominal)**

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	268.9	285.4	303.8	316.4	323.3	1497.8
Less: inflation indexation on opening RAB	175.5	177.2	178.7	179.8	180.8	892.0
<b>Regulatory depreciation</b>	<b>93.4</b>	<b>108.2</b>	<b>125.1</b>	<b>136.6</b>	<b>142.5</b>	<b>605.8</b>

Source: AER analysis.

## 5.2 Powerlink's proposal

For the 2017–22 regulatory control period, Powerlink proposed a forecast regulatory depreciation allowance of \$623.2 million (\$ nominal). To calculate the depreciation allowance, Powerlink proposed:<sup>3</sup>

- to use the straight-line depreciation method employed in the AER's post-tax revenue model (PTRM)
- the closing RAB value as at 30 June 2017 derived from our roll forward model
- the weighted average remaining asset lives of assets in existence as at 30 June 2017 derived from the RFM for calculating the depreciation of existing assets
- to use proposed forecast capex for the 2017–22 regulatory control period
- standard asset lives for depreciating new assets associated with forecast net capex for the 2017–22 regulatory control period consistent with those approved in the 2012–17 transmission determination.

Table 5.2 sets out Powerlink's proposed depreciation allowance for the 2017–22 regulatory control period.

**Table 5.2 Powerlink's proposed depreciation allowance for the 2017–22 regulatory control period (\$ million, nominal)**

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	271.7	290.5	311.4	325.7	334.4	1533.7
Less: inflation indexation on opening RAB	177.3	180.1	182.5	184.4	186.3	910.6
<b>Regulatory depreciation</b>	<b>94.3</b>	<b>110.4</b>	<b>128.9</b>	<b>141.3</b>	<b>148.2</b>	<b>623.2</b>

Source: Powerlink, *Revenue proposal*, January 2016, PTRM.

<sup>3</sup> Powerlink, *Revenue proposal*, January 2016, pp. 96–98.



## 5.3 Assessment approach

We determine the regulatory depreciation allowance using the post-tax revenue model (PTRM) as a part of a TNSP's annual building block revenue requirement.<sup>4</sup> The calculation of depreciation in each year is governed by the value of assets included in the RAB at the beginning of the regulatory year, and by the depreciation schedules.<sup>5</sup>

Our standard approach to calculating depreciation is to employ the straight-line method as set out in the PTRM. Regulatory practice has been to assign a standard asset life to each category of assets that represents the economic or technical life of the asset or asset class.<sup>6</sup> We must consider whether the proposed depreciation schedules conform to the following key requirements:

- The schedules depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets.<sup>7</sup>
- The sum of the real value of the depreciation attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the RAB for the relevant transmission system.<sup>8</sup>

To the extent that a TNSP's revenue proposal does not comply with the above requirements, we must determine the depreciation schedules for calculating the depreciation for each regulatory year.<sup>9</sup>

The regulatory depreciation allowance is an output of the PTRM. We therefore have assessed the TNSP's proposed regulatory depreciation allowance by analysing the proposed inputs to the PTRM for calculating that allowance. The key inputs include:

- the opening RAB as at 1 July 2017
- the expected inflation rate for the 2017–22 regulatory control period
- the forecast net capex in the above period
- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the above period
- the weighted average remaining asset lives for each asset class—used for calculating the depreciation of existing assets.

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

<sup>5</sup> NER, cl. 6A.6.3(a).

<sup>6</sup> This is the standard practice for the AER, as well as other jurisdictional regulators. See for example, IPART, *Cost building block model template*, 20 June 2014, Table 1; ERAWA, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network*, September 2012, Appendix 2: Target Revenue Calculation (Revenue Model).

<sup>7</sup> NER, cl. 6A.6.3(b)(1).

<sup>8</sup> NER, cl. 6A.6.3(b)(2).

<sup>9</sup> NER, cl. 6A.6.3(a)(2)(ii).

Our draft decision on a TNSP's regulatory depreciation allowance reflects our determinations on the opening RAB as at 1 July 2017, expected inflation and forecast capex (the first three building block components in the above list).<sup>10</sup> Our determinations on these components of the TNSP's proposal are discussed in attachments 2, 3 and 6 respectively.

In this attachment, we assess Powerlink's proposed standard asset lives against:

- the approved standard asset lives in the transmission determination for Powerlink for the 2012–17 regulatory control period
- the standard asset lives of comparable asset classes approved in our recent transmission determinations for other Transmission Network Service Providers (TNSPs).

We use our standard approach for depreciating a TNSP's existing assets in the PTRM by using the remaining asset lives at the start of a regulatory control period as determined in the RFM. The proposed RFM uses our preferred weighted average method to establish a remaining asset life for each asset class. This method rolls forward the remaining asset life for an asset class from the beginning of the 2012–17 regulatory control period. We consider this method reflects the mix of assets within the asset class. It reflects when the assets were acquired over that period and the remaining asset lives of existing assets at the end of that period. The remaining value of all assets are used as weights at the end of the period.

### 5.3.1 Interrelationships

The regulatory depreciation allowance is a building block component of the annual building block revenue requirement.<sup>11</sup> Higher (or quicker) depreciation leads to higher revenues over the regulatory control period. It also causes the RAB to reduce more quickly (excluding the impact of further capex). This reduces the return on capital allowance, although this impact is usually smaller than the increased depreciation allowance in the short to medium term.<sup>12</sup>

Ultimately, however, a TNSP can only recover the capex it has incurred on assets once. The depreciation allowance reflects how quickly the RAB is being recovered and is based on the remaining and standard asset lives used in the depreciation calculation. It also depends on the level of the opening RAB and the forecast capex. Any increase in these factors also increases the depreciation allowance.

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<sup>10</sup> Our final decision will update the opening RAB as at 1 July 2017 for revised estimates of actual capex and inflation.

<sup>11</sup> The PTRM distinguishes between straight-line depreciation and regulatory depreciation, the difference being that regulatory depreciation is the straight-line depreciation minus the indexation adjustment.

<sup>12</sup> This is generally the case because the reduction in the RAB amount feeds into the higher depreciation building block, whereas the reduced return on capital building block is proportionate to the lower RAB multiplied by the WACC.

The RAB has to be maintained in real terms, meaning the RAB must be indexed for expected inflation.<sup>13</sup> The return on capital building block has to be calculated using a nominal rate of return (WACC) applied to the opening RAB.<sup>14</sup> As noted in attachment 1, the total annual building block revenue requirement is calculated by adding up the return on capital, depreciation, opex, tax and revenue adjustments building blocks. Because inflation on the RAB is accounted for in both the return on capital—based on a nominal rate—and the depreciation calculations—based on an indexed RAB—an adjustment must be made to the revenue requirement to prevent compensating twice for inflation.

To avoid this double compensation, we make an adjustment by subtracting the annual indexation gain on the RAB from the calculation of total revenue.<sup>15</sup> Our standard approach is to subtract the indexation of the opening RAB—the opening RAB multiplied by the expected inflation for the year—from the RAB depreciation. The net result of this calculation is referred to as regulatory depreciation.<sup>16</sup> Regulatory depreciation is the amount used in the building block calculation of total revenue to ensure that the revenue equation is consistent with the use of a RAB, which is indexed for inflation annually.

This approach produces the same total revenue requirement and RAB as if a real rate of return had been used in combination with an indexed RAB. Under an alternative approach where a nominal rate of return was used in combination with an un-indexed (historical cost) RAB, no adjustment to the depreciation calculation of total revenue would be required. This alternative approach produces a different time path of total revenue compared to our standard approach. In particular, overall revenues would be higher early in the asset's life (as a result of more depreciation being returned to the TNSP) and lower in the future—producing a steeper downward sloping profile of total revenue.<sup>17</sup> Under both approaches, the total revenues being recovered are in present value neutral terms—that is, returning the initial cost of the RAB.

Figure 5.1 shows the recovery of revenue under both approaches using a simplified example.<sup>18</sup> Indexation of the RAB and the offsetting adjustment made to depreciation results in smoother revenue recovery profile over the life of an asset than if the RAB was un-indexed.

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<sup>13</sup> NER, cl.6A.5.4(b)(1) and 6A.6.1(e)(3).

<sup>14</sup> NER, cl. 6A.6.2(a) and 6A.6.2(d)(2).

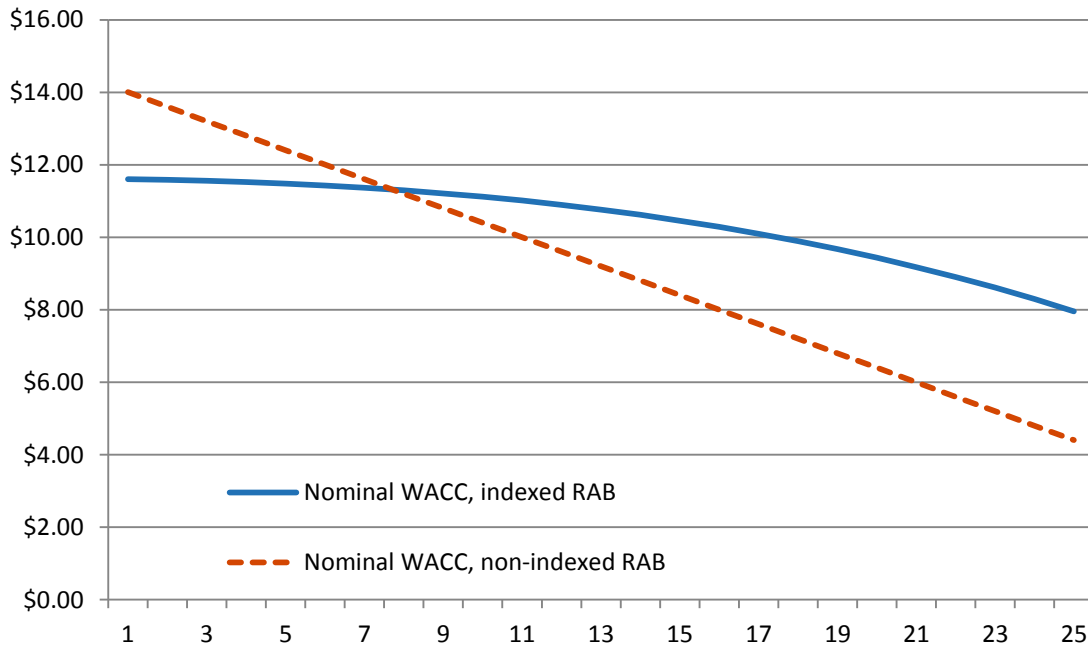
<sup>15</sup> NER, cl. 6A.5.4(b)(1)(ii).

<sup>16</sup> If the asset lives are extremely long, such that the RAB depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the RAB depreciation in such circumstances

<sup>17</sup> A change of approach from an indexed RAB to an un-indexed RAB would result in an initial step change increase in revenues to preserve NPV neutrality.

<sup>18</sup> The example is based on the initial cost of an asset of \$100, a standard economic life of 25 years, a real WACC of 7.32%, expected inflation of 2.5% and nominal WACC of 10%. Other building block components such as opex, tax and capex are ignored for simplicity as they would affect both approaches equally.

**Figure 5.1 Revenue path example – indexed vs un-indexed RAB (\$ nominal)**



Source: AER analysis.

Figure 2.1 in attachment 2 shows the relative size of the inflation and straight-line depreciation, and their impact on the RAB based on Powerlink's proposal. A ten per cent increase in the straight-line depreciation causes revenues to increase by about 1.5 per cent.

## 5.4 Reasons for draft decision

We accept Powerlink's proposed straight-line depreciation method for calculating the regulatory depreciation allowance as set out in the PTRM. However, we reduced Powerlink's proposed forecast regulatory depreciation allowance for the 2017–22 regulatory control period by \$17.4 million (or 2.8 per cent) to \$605.8 million. This amendment reflects our determinations regarding other components of Powerlink's revenue proposal that affect the forecast regulatory depreciation allowance—the opening RAB as at 1 July 2017 (attachment 2), expected inflation rate (attachment 3) and forecast capital expenditure (attachment 6).

### 5.4.1 Standard asset lives

We accept Powerlink's proposed standard asset lives for its existing asset classes. These asset lives are consistent with the approved standard asset lives in the determination for Powerlink's 2012–17 regulatory control period and are comparable

with the standard asset lives approved in our recent transmission determinations for other TNSPs.<sup>19</sup>

Consumer Challenge Panel (CCP) members Hugh Grant and David Headberry raised concerns with the standard asset lives used by the AER in its models and the consistency of these lives across businesses. They submitted that Powerlink has inappropriately used shorter asset lives than other TNSPs. The CCP members had a particular concern with the substation asset class where asset lives ranged from 36 years to 73 years. The CCP members' submission also suggested that the standard asset lives for the purposes of depreciating the RAB should reflect the actual age of asset on replacement rather than the notional expected life of the assets used in providing the service.<sup>20</sup>

We agree that the same asset types should have the same standard asset life applied across TNSPs, taking into account any environmental or operational factors that may impact on the expected useful life of the asset. However, each asset class used in the PTRM is not for a single asset type, but covers a group of similar assets. As the overall make-up of assets entering a certain asset class may differ by business, we consider it reasonable for there to be variation in the average standard asset life for an asset class applied across businesses. For example, Powerlink has disaggregated its transmission line assets into three separate asset classes of 'Transmission lines - overhead', 'Transmission lines - underground' and 'Transmission line - refit', while some other TNSPs have employed less disaggregation or different labelling for their transmission line assets. Due to this reason, a strict like-for-like comparison of the standard asset lives used by the TNSPs may not be possible for all asset classes.

We are also cautious of the potential for a selective review of asset lives that may distort the overall depreciation outcomes. The CCP members' submission compared the asset lives provided in the Economic benchmarking RIN and highlighted that Powerlink's substation asset class has a shorter asset life compared to other network service providers, which reported standard lives ranging from 36 years to 73 years.<sup>21</sup> The asset life of 73 years for substation assets noted by the CCP members was reported by ActewAGL, a distribution network service provider. We have confirmed with ActewAGL that this was an entry error and that the corrected value is 45 years.<sup>22</sup> We also note that the grouping of the assets reported under the Economic benchmarking RIN for ActewAGL and Powerlink are very different as shown in Table

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<sup>19</sup> AER, *Final decision: AusNet Services (SP AusNet) transmission determination 2014–17, Final Decision PTRM*, January 2014, AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18*, April 2013, p. 149; AER, *Final decision: TransGrid transmission determination 2015–16 to 2017–18, Attachment 5 – Regulatory depreciation*, April 2015, p. 5-10; AER, *Draft decision: TasNetworks transmission determination 2015–16 to 2018–19, Attachment 5: Regulatory depreciation*, November 2014, p. 5-14.

<sup>20</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, pp. 52–53. The range of standard asset lives reported by the CCP includes both TNSPs and DNSPs, based on data reported in the RINs.

<sup>21</sup> CCP (Hugh Grant and David Headberry), *Submission to the AER Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, pp. 52–53. The range of standard asset lives reported by the CCP includes both TNSPs and DNSPs, based on data reported in the RINs.

<sup>22</sup> ActewAGL, *Email to the AER, RE: Request for assistance on RIN data*, 8 September 2016.

5.3, such that we consider the direct comparison based on the data may not be reliable.

**Table 5.3 ActewAGL and Powerlink Economic benchmarking RIN asset categories**

ActewAGL	Powerlink
Overhead network assets less than 33kV (wires and poles)	Overhead transmission assets
Underground network assets less than 33kV (cables)	Underground transmission assets
Distribution substations including transformers	Switchyard, substation and transformer assets
Overhead network assets 33kV and above (wires and towers / poles etc)	“Other” assets with long lives
Underground network assets 33kV and above (cables, ducts etc)	“Other assets with short lives
Zone substations and transformers	
Meters	
“Other” assets with long lives	
“Other” assets with short lives	

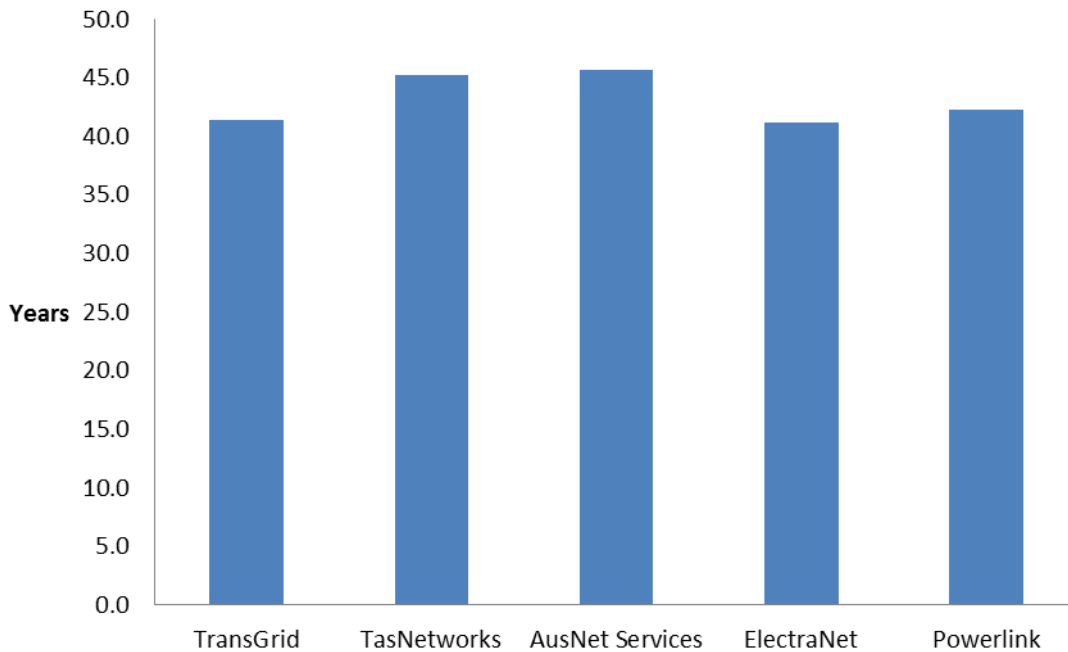
Source: ActewAGL 2015–19 Economic benchmarking RIN and Powerlink 2017–22 Economic benchmarking RIN.

We note that the asset lives in Powerlink's Economic benchmarking RIN are prepared at a much broader level of asset categories compared to the PTRM asset categories it employs. Although the Economic benchmarking RIN may provide a high level comparison of asset lives between the TNSPs, we consider it more appropriate to focus on the standard asset lives as provided in the PTRMs. By calculating the weighted average of the standard asset lives in the PTRM, we consider this will provide a more accurate comparison of the standard asset lives used by TNSPs for depreciation purposes.

Figure 5.2 shows the weighted average standard asset lives of all TNSPs in the NEM.<sup>23</sup> It shows that Powerlink's weighted average standard asset life is broadly comparable with that of the other TNSPs.

<sup>23</sup> Excludes the interconnectors—Directlink and Murraylink.

**Figure 5.2 Powerlink's weighted average standard asset lives compared to other transmission service providers' weighted average standard asset lives (years)**



Source: AER analysis.

Note: The opening RAB values for each asset class as set out in the approved PTRMs are used as the weights. Non-depreciable assets such as 'Land' and 'Easements' are excluded from the calculation.

Table 5.4 shows how Powerlink's standard asset lives compare for its main network asset classes to other TNSPs based on PTRM data. It shows that the differences in the standard asset lives are marginal (particularly in terms of their impact on overall depreciation) and reflect slight variations on what assets are included in each asset class, as indicated by the different asset class labels used across the TNSPs.

**Table 5.4 Powerlink's main network asset classes' standard asset lives compared to other transmission service providers' standard asset lives (years)**

Powerlink asset class	Powerlink asset life	TransGrid asset life	ElectraNet asset life	AusNet Services asset life	TasNetworks asset life
Substations primary plant <sup>a</sup>	40	40	44.8	45	60, 45, 15
Substations secondary systems <sup>b</sup>	15	15	15	15	15, 4
Communications other assets <sup>c</sup>	15	10	15	15	45, 10, 5
Transmission lines <sup>d</sup>	50, 45, 30	50, 45, 25	55, 40, 27	60	60, 45, 10

Source: AER analysis.

- (a) TransGrid: 'Substations'; ElectraNet: 'Substation primary plant'; AusNet Services: 'Switchgear' and 'Transformers'; TasNetworks: 'Substation assets - long, medium and short life'.
- (b) TransGrid: 'Secondary systems'; ElectraNet: 'Substation secondary systems - electronic'; AusNet Services: 'Secondary'; TasNetworks: 'Protection and control - short life'.
- (c) TransGrid: 'Communications (short life)'; ElectraNet: 'Communication other'; AusNet Services: 'Communications'; TasNetworks: 'Communication assets - long, medium and short life'.
- (d) Powerlink: 'Transmission lines - overhead', 'Transmission lines - underground' and 'Transmission lines - refit'; TransGrid: 'Transmission lines', 'Underground cables' and 'Transmission line life extension'; ElectraNet: 'Transmission lines - overhead', 'Transmission lines - underground' and 'Transmission line refit'; AusNet Services: 'Towers and conductors'; TasNetworks: 'Transmission line assets - long, medium and short life'.

Further, we note that the NER requires that the depreciation schedules must reflect the nature of the assets or category of assets over the economic life of that asset or category of assets.<sup>24</sup> While we agree with the CCP members' submission that the standard asset lives for depreciation purposes should be generally close to the actual asset life at replacement, it does not necessarily mean that any discrepancy between the two would require changes. This is because the depreciation schedule is a forward looking assumption necessary for new investment. For example, a TNSP's cost benefit assessment for capital investment may include the depreciation cost. For this reason, the TNSP may adopt the manufacturer's design life or the expected economic life of the assets for depreciation purposes to determine the optimal timing and form of investment. The design life or the expected economic life of the asset may reflect the minimum life that most of the assets are expected to last and may therefore differ from the actual asset lives at replacement.

We note that the Category analysis RIN provides the mean economic life for each asset type. The asset lives in Powerlink's Category analysis RIN are not directly aligned with the standard asset lives in its PTRM due to different asset classifications between the two. Nevertheless, we have attempted to map the asset age profile in the

<sup>24</sup> NER, cl. 6A.6.3(b)(1).



Category analysis RIN with the standard asset lives in the PTRM. We found that Powerlink's standard asset lives in the PTRM broadly align with the average economic lives provided in its Category analysis RIN for similar asset types. Therefore, we accept Powerlink's proposed standard asset lives because they reflect the nature of the assets or category of assets over the economic life of that asset or category of assets.<sup>25</sup> Appendix B of attachment 6 discusses Powerlink's replacement capex and the role of asset lives in our assessment of its proposal in more detail.

Table 5.5 sets out our draft decision on Powerlink's standard asset lives for the 2017–22 regulatory control period. We are satisfied the proposed standard asset lives would lead to a depreciation schedule that reflects the nature of the assets over the economic lives of the asset classes, and that the sum of the real value of the depreciation attributable to the assets is equivalent to the value at which the assets was first included in the RAB for Powerlink.<sup>26</sup>

### 5.4.2 Remaining asset lives

We accept Powerlink's proposed weighted average method to calculate the remaining asset lives as at 1 July 2017. The proposed method applies the approach as set out in our RFM. In accepting the weighted average method, we note we will have to update the remaining asset lives for the final decision.<sup>27</sup> This is because of required updates to the actual capex values in the RFM, which are inputs for calculating the weighted average remaining asset lives.

Table 5.5 sets out our draft decision on the remaining asset lives as at 1 July 2017 for Powerlink.

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<sup>25</sup> NER, cl. 6A.6.3(b)(1).

<sup>26</sup> NER, cl. 6A.6.3(b)(1)–(2).

<sup>27</sup> At the time of this draft decision, the roll forward of Powerlink's RAB includes estimated capex values for 2015–16 and 2016–17. In the final decision, we will update the 2015–16 estimated capex values with the actual values, and may amend the 2016–17 estimated capex depending on the availability of more recent estimates.

**Table 5.5 AER's draft decision on Powerlink's standard and remaining asset lives as at 1 July 2017 (years)**

Asset class	Standard asset life	Remaining asset life as at 1 July 2017 <sup>a</sup>
Transmission lines - overhead	50.0	30.2
Transmission lines - underground	45.0	19.8
Transmission lines - refit	30.0	28.0
Substations primary plant	40.0	27.1
Substations secondary systems	15.0	10.2
Communications other assets	15.0	11.4
Comms - civil works	40.0	16.9
Network switching centres	12.0	7.5
Land	n/a	n/a
Easements	n/a	n/a
Commercial buildings	40.0	30.0
Computer equipment	5.0	3.8
Office furniture & miscellaneous	7.0	4.0
Office machines	7.0	4.7
Vehicles	7.0	5.0
Moveable plant	7.0	4.5
Insurance spares	n/a	n/a
Equity raising costs	43.0	34.4

Source: AER analysis; Powerlink, *Revenue proposal*, January 2016, PTRM.

n/a: not applicable. We have not assigned a standard asset life to some asset classes because the assets allocated to those asset classes are not subject to depreciation.

(a) The 2015–16 and 2016–17 capex values are used to calculate the weighted average remaining asset lives in the RFM. At the time of this draft decision, the capex values for 2015–16 and 2016–17 are based on estimates. For the final decision, we will update the 2015–16 estimated capex values with the actual values and update the 2016–17 estimated capex with revised estimates. Therefore, for the final decision we will recalculate Powerlink's remaining asset lives as at 1 July 2017 using the method approved in this draft decision.