DRAFT DECISION
Evoenergy
Distribution Determination

2019 to 2024

Attachment 4
Regulatory depreciation

September 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to Evoenergy for the 2019–2024 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 – Annual revenue requirement

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 – Demand management incentive scheme

Attachment 12 – Classification of services

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Attachment 14 – Pass through events

Attachment 15 – Alternative control services

Attachment 16 – Negotiated services framework and criteria

Attachment 17 – Connection policy

Attachment 18 – Tariff structure statement

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Shortened forms

Shortened form	Extended form
capex	capital expenditure
distributor	distribution network service provider
NER	National Electricity Rules
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
WACC	weighted average cost of capital

4 Regulatory depreciation

Depreciation is the allowance provided so capital investors can recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by Evoenergy, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for Evoenergy's 2019–24 regulatory control period for its distribution and transmission (dual function assets) networks.[1] Evoenergy's dual function assets are high voltage assets which support the broader NSW/ACT transmission network owned and operated by TransGrid. The AER has decided to apply transmission pricing to these assets.[2] The regulatory depreciation allowance is the net total of the straight-line depreciation less the indexation of the RAB.

This attachment sets out our draft decision on Evoenergy'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.

4.1 Draft decision

We determine regulatory depreciation allowances of $206.1 million and $38.5 million ($ nominal) for Evoenergy's distribution and transmission networks respectively for the 2019–24 regulatory control period. Evoenergy proposed regulatory depreciation allowances of $208.7 million and $39.2 million ($ nominal) for its distribution and transmission networks respectively.[3] Our decision represents reductions of $2.5 million or 1.2 per cent and $0.7 million or 1.8 per cent from the proposed amounts. These reductions occur mainly as a consequence of our determinations on other components of Evoenergy's proposal that affect the forecast regulatory depreciation allowance. Specifically, they relate to:

- the opening RAB at 1 July 2019 (attachment 2)
- the expected inflation rate (attachment 3)
- forecast capital expenditure (attachment 5) and its effect on the projected RAB over the 2019–24 regulatory control period.[4]

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1 NER, cll. 6.12.1, 6.4.3.

2 AER, *Framework and approach ActewAGL Regulatory control period commencing 1 July 2019,* July 2017, p. 13

3 Evoenergy, *Regulatory proposal 2019–24*, *Attachment 7*: *Regulatory Asset Base* January 2018, p. 7-9, Table 7.12 and Table 7.13.

4 Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the RAB (attachment 2) also reflects our updates to the WACC for the 2019–24 regulatory control period.

For our draft decision on Evoenergy's regulatory depreciation:

- We accept Evoenergy's proposed asset classes and its straight-line depreciation method used to calculate the regulatory depreciation allowance. We accept Evoenergy's standard asset lives subject to an update to the standard asset life for equity raising costs for its transmission network.[5] We consider Evoenergy's proposed standard asset lives for its existing asset classes are largely consistent with those approved for the 2014–19 regulatory control period and comparable to the standard asset lives used for other distributors.
- We accept Evoenergy's proposed weighted average method to calculate the remaining asset lives as at 1 July 2019. This is because the proposed method applies the approach as set out in the AER's roll forward model (RFM). In accepting the weighted average method, we have updated Evoenergy's remaining asset lives as at 1 July 2019 to reflect our amendments to the RAB roll forward for the 2014–19 regulatory control period (attachment 2).

Table 4.1 and Table 4.2 set out our draft decision on the annual regulatory depreciation allowance for Evoenergy's 2019–24 regulatory control period for its distribution and transmission networks respectively.

Table 4.1 AER's draft decision on Evoenergy's depreciation allowance for the 2019–24 regulatory control period – distribution ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	54.8	57.9	61.1	64.1	67.9	305.9
Less: inflation indexation on opening RAB	19.4	19.7	20.0	20.1	20.6	99.7
Regulatory depreciation	**35.4**	**38.3**	**41.1**	**44.0**	**47.3**	**206.1**

Source: AER analysis.

Table 4.2 AER's draft decision on Evoenergy's depreciation allowance for the 2019–24 regulatory control period – transmission ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	10.7	11.3	11.8	12.3	13.0	59.1
Less: inflation indexation on opening RAB	4.3	4.2	4.1	4.0	4.0	20.6
Regulatory depreciation	**6.5**	**7.1**	**7.7**	**8.3**	**9.0**	**38.5**

Source: AER analysis.

[5] We have determined this asset life using our preferred approach of a weighted average (by opening RAB) of the standard asset lives for depreciable asset classes.

4.2 Evoenergy's proposal

For the 2019–24 regulatory control period, Evoenergy proposed total forecast regulatory depreciation allowances of $208.7 million and $39.2 million ($ nominal) for its distribution and transmission networks respectively. To calculate the depreciation allowances, Evoenergy proposed to use:[6]

- the straight-line depreciation method employed in the AER's post-tax revenue model (PTRM)
- the closing RAB value at 30 June 2019 derived from the AER's RFM
- the proposed forecast capex for the 2019–24 regulatory control period
- an expected inflation rate of 2.5 per cent per annum for the 2019–24 regulatory control period[7]
- the same standard asset lives as those approved in the 2014–19 distribution determination to calculate the forecast depreciation of new assets associated with forecast capex for the 2019–24 regulatory control period
- the weighted average remaining asset lives as at 30 June 2019 derived from the RFM to calculate the forecast depreciation of existing assets.

Table 4.3 and Table 4.4 set out Evoenergy's proposed depreciation allowances for the 2019–24 regulatory control period for its distribution and transmission networks respectively.

Table 4.3 Evoenergy's proposed depreciation allowance for the 2019–24 regulatory control period – distribution ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	54.8	58.4	62.3	67.2	71.2	314.0
Less: inflation indexation on opening RAB	19.8	20.4	21.1	21.8	22.3	105.3
Regulatory depreciation	**35.1**	**38.1**	**41.3**	**45.4**	**48.9**	**208.7**

Source: Evoenergy, *Proposed PTRM – Distribution*, January 2018.

[6] Evoenergy, *Regulatory proposal 2019–24*, *Attachment 7*: *Regulatory Asset Base* January 2018, pp. 7-7 to 7-9.

[7] Evoenergy, *Proposed PTRMs – Distribution and Transmission*, January 2018.

Table 4.4 Evoenergy's proposed depreciation allowance for the 2019–24 regulatory control period – transmission ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	10.8	11.4	12.0	13.1	13.8	61.0
Less: inflation indexation on opening RAB	4.4	4.4	4.3	4.5	4.4	21.8
Regulatory depreciation	**6.4**	**7.1**	**7.7**	**8.6**	**9.4**	**39.2**

Source: Evoenergy, *Proposed PTRM – Transmission*, January 2018.

4.3 Assessment approach

We determine the regulatory depreciation allowance using the PTRM as a part of a service provider's annual revenue requirement.[8] 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.[9]

Our standard approach to calculating depreciation is to employ the straight-line method set out in the PTRM. We consider the straight-line method satisfies the NER requirements in clause 6.5.5(b) as it provides an expenditure profile that reflects the nature of assets over their economic life.[10] 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. 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 of category of assets over the economic life of that asset or category of assets[11]
- the sum of the real value of the depreciation that is 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 distribution system.[12]

If a service provider's building block proposal does not comply with the above requirements, then we must determine the depreciation schedules for the purpose of calculating the depreciation for each regulatory year.[13]

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

8 NER, cll. 6.4.3(a)(3) and (b)(3).
9 NER, cl. 6.5.5(a).
10 NER, cl. 6.5.5(b)(1).
11 NER, cl. 6.5.5(b)(1).
12 NER, cl. 6.5.5(b)(2).
13 NER, cl. 6.5.5(a)(ii).

- the opening RAB at 1 July 2019
- the forecast net capex in the 2019–24 regulatory control period[14]
- the expected inflation rate for 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 life for each asset class—used for calculating the depreciation of existing assets.

Our draft decision on a service provider's regulatory depreciation allowance reflects our determinations on the opening RAB at 1 July 2019, expected inflation and forecast capex (the first three building block components in the above list).[15] Our determinations on these components of the service provider's proposal are discussed in attachments 2, 3 and 5 respectively.

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

- the approved standard asset lives in the distribution determination for the 2014–19 regulatory control period
- the standard asset lives of comparable asset classes approved in our recent distribution determinations for other service providers.

We use our standard approach for depreciating a service provider'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. Evoenergy's proposal has adopted our preferred weighted average method to calculate a remaining asset life for each asset class as at 1 July 2019. This method rolls forward the remaining asset life for an asset class from the beginning of the 2014–19 regulatory control period. We consider this method reflects the mix of assets within the asset class. It also reflects when the assets were acquired over that period and the remaining asset lives of existing assets at the end of that period. The residual asset values are used as weights to calculate the remaining lives at the end of the period.[16]

4.3.1 Interrelationships

The regulatory depreciation allowance is a building block component of the annual revenue requirement.[17] Higher (or quicker) depreciation leads to higher revenues over

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[14] Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the RAB (attachment 2) also reflects our updates to the WACC for the 2019–24 regulatory control period.

[15] Our final decision will update the opening RAB as at 1 July 2019 for revised estimates of actual capex and inflation.

[16] The residual asset values used to calculate the WARL are based on actual depreciation rather than forecast depreciation.

[17] 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.

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.[18]

Ultimately, however, a service provider can only recover the capex that it incurred on assets once. The depreciation allowance reflects how quickly the RAB is being recovered, and it 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.

The RAB has to be maintained in real terms, meaning the RAB must be indexed for expected inflation.[19] The return on capital building block has to be calculated using a nominal rate of return (WACC) applied to the opening RAB.[20] As noted in attachment 1, the total annual 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.[21] 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.[22] 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 service provider) and lower in the future—producing a steeper downward sloping

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18 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.

19 NER, cl. 6.5.1(e)(3).

20 NER, cl. 6.5.2(d)(2).

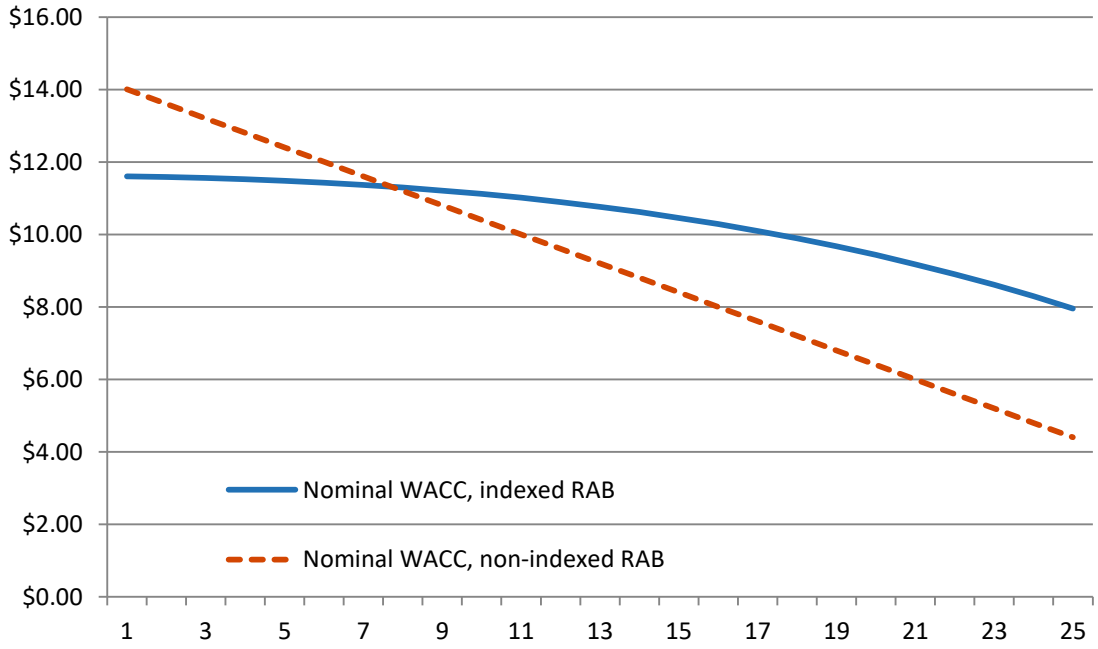
21 NER, cl. 6.4.3(b)(1)(ii).

22 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

profile of total revenue.[23] Under both approaches, the total revenues being recovered are in present value neutral terms—that is, returning the initial cost of the RAB.

Figure 4.1 shows the recovery of revenue under both approaches using a simplified example.[24] 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.

Figure 4.1 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 Evoenergy's proposal. A 10 per cent increase in the straight-line depreciation causes revenues to increase by about 4.5 per cent.[25]

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[23] 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.

[24] 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.

[25] We have analysed the sensitivity of straight-line depreciation relative to total revenue based on input data provided in Evoenergy's proposal PTRMs (combined distribution and transmission networks).

4.4 Reasons for draft decision

We accept Evoenergy's proposed straight-line depreciation method for calculating the regulatory depreciation allowance as set out in the PTRM. We also accept the proposed asset classes and standard asset lives (subject to one update), and made updates to the remaining asset lives.

However, we reduced Evoenergy's proposed forecast regulatory depreciation allowance by $2.5 million or 1.2 per cent and $0.7 million or 1.8 per cent ($ nominal) for its distribution and transmission networks respectively. This amendment reflects our determinations regarding other components of Evoenergy's regulatory proposal that affect the forecast regulatory depreciation allowance:

- the opening RAB as at 1 July 2019 (attachment 2)
- the expected inflation rate (attachment 3)
- the forecast capital expenditure (attachment 5) and its effect on the projected RAB over the 2019–24 regulatory control period.[26]

Our assessment of Evoenergy's proposed standard and remaining asset lives are discussed in turn in the following subsections.

4.4.1 Standard asset lives

We accept Evoenergy's proposed standard asset lives for its existing asset classes in respect of the forecast capex to be incurred in the 2019–24 regulatory control period subject to an update to the standard asset life for equity raising costs for its transmission network. We have updated the standard asset life for the transmission network 'Equity raising costs' asset class using our preferred approach of a weighted average (by opening RAB) of the standard asset lives for depreciable asset classes.

Evoenergy's asset lives are otherwise consistent with the approved standard asset lives for the 2014–19 regulatory control period and are largely comparable with the standard asset lives approved in our recent determinations for other distributors.[27]

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[26] Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the RAB (attachment 2) also reflects our updates to the WACC for the 2019–24 regulatory control period.

[27] AER, *Final decision: Jemena distribution determination 2016–20*, attachment 5, May 2016, p. 10; AER, *Final decision: Powercor distribution determination 2016–20*, May 2016, attachment 5, p. 12; AER, *Final decision: United Energy distribution determination 2016–20*, May 2016, attachment 5, p. 10; AER, *Final decision: CitiPower distribution determination 2016–20*, attachment 5, May 2016, p. 12; AER, *Final decision: AusNet Services distribution determination 2016–20*, May 2016, attachment 5, p. 10; AER, *Final decision: Ausgrid distribution determination 2014–19, attachment 5,* April 2015, p. 10; AER, *Final decision: Endeavour distribution determination 2014–19, attachment 5,* April 2015, p. 9; AER, *Final decision: Essential Energy distribution determination 2014–19, attachment 5,* April 2015, p. 9; AER, *Final decision: ActewAGL distribution determination 2014–19, attachment 5,* April 2015, p. 10; AER, *Final decision, Energex distribution determination 2015–20, attachment 5*, October 2015, p, 10; AER, *Final decision, Ergon Energy distribution determination 2015–20, attachment 5*, October 2015, p. 10; and AER, *Final decision, SA Power Networks distribution determination 2015–20, attachment 5*, October 2015, p. 9;

Table 4.5 and Table 4.6 set out our draft decision on Evoenergy's standard asset lives for the 2019–24 regulatory control period for its distribution and transmission networks respectively. We are satisfied that:[28]

- the 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
- 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 Evoenergy.

4.4.2 Remaining asset lives

We accept Evoenergy's proposed weighted average method to calculate the remaining asset lives as at 1 July 2019. The proposed method applies the approach as set out in our RFM. In accepting the weighted average method, we have updated Evoenergy's remaining asset lives to reflect our adjustments to the proposed RFM. As discussed in attachment 2, we made some updates to inputs in Evoenergy's proposed RFM and accordingly updated the remaining asset lives as at 1 July 2019. This is because some of the inputs in the RFM, such as actual inflation, affect the value of assets in the RAB and in turn, the calculation of the remaining asset lives as at 1 July 2019.[29]

Table 4.5 and Table 4.6 set out our draft decision on the remaining asset lives as at 1 July 2019 for Evoenergy's distribution and transmission networks respectively.

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and AER, *Draft decision: TasNetworks distribution determination 2017–19 – attachment 5*, September 2016, pp. 16–17.

[28] NER, cll. 6.5.5(b)(1)–(2).

[29] Our draft decision on the RAB (attachment 2) also reflects our updates for the outcome of the remittal decision for the 2014–19 regulatory control period. The calculation of the remaining asset lives at 30 June 2019 is affected by updates to 2014–15 ERC, 2014–19 nominal vanilla WACC and 2014–19 forecast inflation. The effect of these updates on the remaining asset lives calculation is minimal.

Table 4.5 AER's draft decision on Evoenergy's standard and remaining asset lives at 1 July 2019 – distribution (years)

Asset class	Standard asset life	Remaining asset life as at 1 July 2019[a]
Opening distribution assets	n/a	9.7
Zone substation	40.0	36.2
Distribution substations	40.0	35.2
Distribution overhead lines	50.0	45.4
Distribution underground lines	60.0	55.4
IT & communication systems (networks)	10.0	7.1
Motor vehicles	7.0	4.6
Other non-system assets (networks)	5.0	3.7
IT systems (corporate)	5.0	4.1
Telecommunications (corporate)	5.0	5.0
Other non-system assets (corporate)	5.0	2.8
Land	n/a	n/a
Buildings	60.0	54.6
Equity raising costs	44.5	37.9

Source: AER analysis.

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 2017–18 and 2018-19 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 2017–18 and 2018–19 are based on estimates. For the final decision, we will update the 2017–18 estimated capex values with the actual values and may update the 2018–19 estimated capex with revised estimates. Therefore, for the final decision we will recalculate Evoenergy's remaining asset lives as at 1 July 2019 using the method set out in this draft decision.

Table 4.6 AER's draft decision on Evoenergy's standard and remaining asset lives at 1 July 2019 – transmission (years)

Asset class	Standard asset life	Remaining asset life as at 1 July 2019[a]
Opening distribution assets	n/a	9.7
Sub-transmission overhead	40.0	34.8
Sub-transmission underground	60.0	59.7
Zone substation	40.0	34.5
IT & communication systems (networks)	10.0	7.3
Motor vehicles	7.0	4.8
Other non-system assets (networks)	5.0	3.7
IT systems (corporate)	5.0	4.1
Telecommunications (corporate)	5.0	5.0
Other non-system assets (corporate)	5.0	2.7
Land	n/a	n/a
Buildings	60.0	55.4
Equity raising costs	36.7	38.2

Source: AER analysis.

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 2017–18 and 2018-19 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 2017–18 and 2018–19 are based on estimates. For the final decision, we will update the 2017–18 estimated capex values with the actual values and may update the 2018–19 estimated capex with revised estimates. Therefore, for the final decision we will recalculate Evoenergy's remaining asset lives as at 1 July 2019 using the method set out in in this draft decision.