



**DRAFT DECISION**  
**Essential Energy**  
**Distribution determination**

**2019–24**

**Attachment 4 – Regulatory**  
**depreciation**

November 2018

© Commonwealth of Australia 2018

This work is copyright. In addition to any use permitted under the Copyright Act 1968, all material contained within this work is provided under a Creative Commons Attributions 3.0 Australia licence, with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration, diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright, but which may be part of or contained within this publication. The details of the relevant licence conditions are available on the Creative Commons website, as is the full legal code for the CC BY 3.0 AU licence.

Requests and inquiries concerning reproduction and rights should be addressed to the Director, Corporate Communications,  
Australian Competition and Consumer Commission,  
GPO Box 3131,  
Canberra ACT 2601  
or [publishing.unit@acc.gov.au](mailto:publishing.unit@acc.gov.au).

Inquiries about this publication should be addressed to:

Australian Energy Regulator  
GPO Box 520  
Melbourne Vic 3001

Tel: 1300 585165

Email: [AERInquiry@aer.gov.au](mailto:AERInquiry@aer.gov.au)

## Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to Essential Energy for the 2019–24 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following attachments:

### 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

Attachment 13 – Control mechanism

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

# Contents

<b>Note</b> .....	<b>4-2</b>
<b>Contents</b> .....	<b>4-3</b>
<b>Shortened forms</b> .....	<b>4-4</b>
<b>4 Regulatory depreciation</b> .....	<b>4-5</b>
<b>4.1 Draft decision</b> .....	<b>4-5</b>
<b>4.2 Essential Energy’s proposal</b> .....	<b>4-6</b>
<b>4.3 AER’s assessment approach</b> .....	<b>4-7</b>
4.3.1 Interrelationships.....	4-9
<b>4.4 Reasons for draft decision</b> .....	<b>4-11</b>
4.4.1 Standard asset lives .....	4-11
4.4.2 Remaining asset lives .....	4-12

## Shortened forms

Shortened form	Extended form
AASB	Australian Accounting Standards Board
AER	Australian Energy Regulator
capex	capital expenditure
disposal	asset disposal
distributor	distribution network service provider
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
WACC	weighted average cost of capital
WARL	weighted average remaining life

---

## 4 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 Essential Energy (Essential), we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for Essential's 2019–24 regulatory control period.<sup>1</sup> 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 Essential'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 a regulatory depreciation allowance of \$716.1 million (\$ nominal) for Essential for the 2019–24 regulatory control period. Essential proposed a regulatory depreciation allowance of \$685.8 million (\$ nominal).<sup>2</sup> Our decision represents an increase of \$30.3 million or 4.4 per cent on the proposed amount.

This increase occurs mainly as a consequence of our determinations on other components of Essential's proposal that affect the forecast regulatory depreciation allowance. Specifically, they relate to:

- the expected inflation rate (attachment 3), which is the key driver of the increase in the depreciation allowance compared to the proposal
- forecast capital expenditure (attachment 5) including its effect on the projected RAB over the 2019–24 regulatory control period.<sup>3</sup>

For our draft decision on Essential's regulatory depreciation:

- We accept Essential's proposed asset classes, its straight-line depreciation method, and the standard asset lives (with the exception of the 'Equity raising costs' asset class) used to calculate the regulatory depreciation allowance. We also accept the proposed asset life assigned to a new asset class related to property leases. We consider Essential's proposed standard asset lives for its existing asset classes are consistent with those approved for the 2014–19 regulatory control period and largely comparable to the standard asset lives used for other

---

<sup>1</sup> NER, cl. 6.12.1, 6.4.3.

<sup>2</sup> Essential, Proposed PTRM, April 2018.

<sup>3</sup> 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.

distributors. The change to the 'Equity raising costs' asset class is an update based on more recent available information and is discussed in section 4.4.1.

- We accept Essential's proposed weighted average method to calculate the remaining asset lives as at 1 July 2019 for depreciating its existing assets. This is because the proposed method applies the approach as set out in the AER's roll forward model (RFM).

Table 4.1 sets out our draft decision on the annual regulatory depreciation allowance for Essential's 2019–24 regulatory control period.

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

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	292.8	334.1	365.6	399.5	404.4	1796.4
Less: inflation indexation on opening RAB	199.2	209.5	217.0	224.1	230.5	1080.2
<b>Regulatory depreciation</b>	<b>93.5</b>	<b>124.6</b>	<b>148.6</b>	<b>175.4</b>	<b>173.9</b>	<b>716.1</b>

Source: AER analysis.

## 4.2 Essential Energy's proposal

For the 2019–24 regulatory control period, Essential proposed a total forecast regulatory depreciation allowance of \$685.8 million (\$ nominal). To calculate the depreciation allowance, Essential proposed to use:<sup>4</sup>

- 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
- the weighted average approach to determine remaining asset lives at 1 July 2019 derived from the RFM to calculate the forecast depreciation of existing assets
- standard asset lives for depreciating new assets associated with forecast capex for the 2019–24 regulatory control period that are the same (with one addition) as those approved in the 2014–19 distribution determination
- a new asset class for 'Capitalised property leases', which has been added to the PTRM. Essential proposed assigning a standard asset life of 8 years, consistent with the average lease term.

<sup>4</sup> Essential, Proposed PTRM and RFM, April 2018.

Table 4.2 sets out Essential's proposed depreciation allowance for the 2019–24 regulatory control period.

**Table 4.2 Essential's proposed depreciation allowance for the 2019–24 regulatory control period (\$ million, nominal)**

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Straight-line depreciation	293.0	334.8	366.7	401.2	406.6	1802.3
Less: inflation indexation on opening RAB	205.4	216.2	224.2	231.9	238.8	1116.5
<b>Regulatory depreciation</b>	<b>87.6</b>	<b>118.6</b>	<b>142.5</b>	<b>169.3</b>	<b>167.9</b>	<b>685.8</b>

Source: Essential, *Proposed PTRM*, April 2018.

### 4.3 AER's assessment approach

We determine the regulatory depreciation allowance using the PTRM as a part of a service provider's annual revenue requirement.<sup>5</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>6</sup>

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.<sup>7</sup> 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<sup>8</sup>
- 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.<sup>9</sup>

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.<sup>10</sup>

<sup>5</sup> NER, cl. 6.4.3(a)(3) and (b)(3).

<sup>6</sup> NER, cl. 6.5.5(a).

<sup>7</sup> NER, cl. 6.5.5(b)(1).

<sup>8</sup> NER, cl. 6.5.5(b)(1).

<sup>9</sup> NER, cl. 6.5.5(b)(2).

<sup>10</sup> NER, cl. 6.5.5(a)(ii).



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

- the opening RAB at 1 July 2019
- the forecast net capex in the 2019–24 regulatory control period<sup>11</sup>
- 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
- 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).<sup>12</sup> 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 Essential'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. Essential'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.<sup>13</sup>

---

<sup>11</sup> 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.

<sup>12</sup> Our final decision will update the opening RAB as at 1 July 2019 for revised estimates of actual capex and inflation.

<sup>13</sup> The residual asset values used to calculate the WARL are based on actual depreciation rather than forecast depreciation.

### 4.3.1 Interrelationships

The regulatory depreciation allowance is a building block component of the annual revenue requirement.<sup>14</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>15</sup>

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.<sup>16</sup> The return on capital building block has to be calculated using a nominal rate of return (WACC) applied to the opening RAB.<sup>17</sup> 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.<sup>18</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>19</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

---

<sup>14</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>15</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.

<sup>16</sup> NER, cl. 6.5.1(e)(3).

<sup>17</sup> NER, cl. 6.5.2(d)(2).

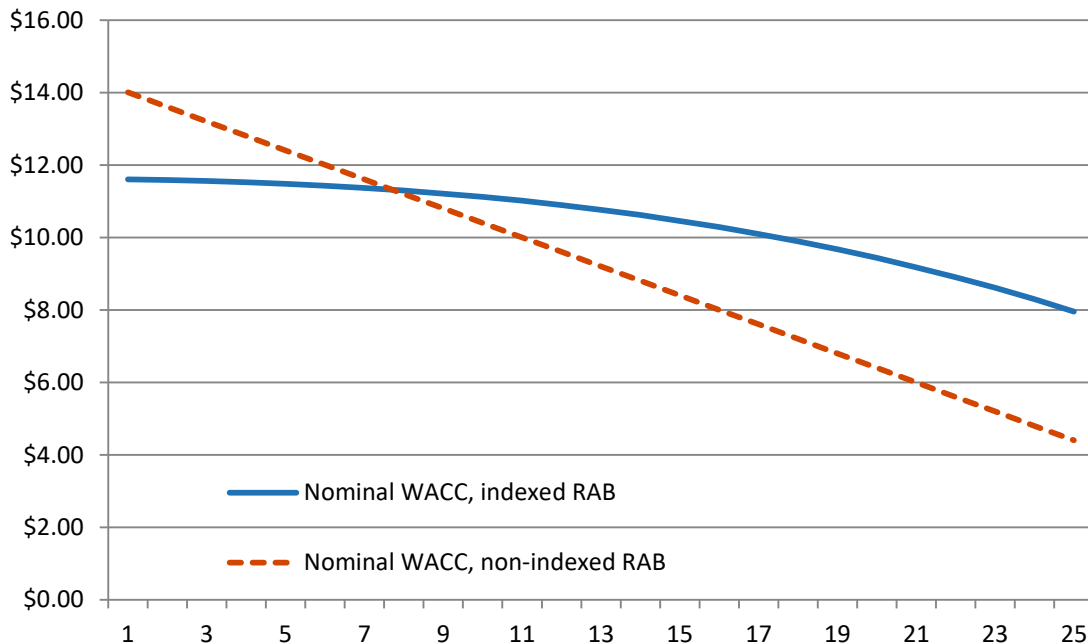
<sup>18</sup> NER, cl. 6.4.3(b)(1)(ii).

<sup>19</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

(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 profile of total revenue.<sup>20</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 4.1 shows the recovery of revenue under both approaches using a simplified example.<sup>21</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.

**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 Essential's proposal. A 10 per cent

<sup>20</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>21</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.

increase in the straight-line depreciation causes revenues to increase by about 3.7 per cent.<sup>22</sup>

## 4.4 Reasons for draft decision

We accept Essential'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 (with the exception of the 'Equity raising costs' asset class), and the remaining asset lives.

However, we increased Essential's proposed forecast regulatory depreciation allowance by \$30.3 million (or 4.4 per cent) to \$716.1 million (\$ nominal). This amendment reflects our determinations regarding other components of Essential's regulatory proposal that affect the forecast regulatory depreciation allowance:

- the expected inflation rate (attachment 3), which is the key driver of the increase in the depreciation allowance compared to the proposal
- the forecast capital expenditure (attachment 5) and its effect on the projected RAB over the 2019–24 regulatory control period.<sup>23</sup>

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

### 4.4.1 Standard asset lives

With one exception, we accept Essential'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. These asset lives are 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.<sup>24</sup>

---

<sup>22</sup> We have analysed the sensitivity of straight-line depreciation relative to total revenue based on input data provided in Essential's proposal PTRM.

<sup>23</sup> 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.

<sup>24</sup> 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; and AER, *Draft decision: TasNetworks distribution determination 2017–19 – attachment 5*, September 2016, pp. 16–17.

The standard asset life for the 'Equity raising costs' asset class needs to be reviewed each regulatory control period and updated where appropriate. We consider the asset life should reflect the lives of the mix of assets making up the approved forecast net capex, because the equity raising cost benchmark is associated with that forecast.<sup>25</sup> This means the standard asset life for this asset class decreases to 39.5 years from 44.7 years proposed by Essential.

We also accept Essential's proposed new asset class for 'Capitalised property leases' and associated standard asset life of eight years. Essential stated the eight year asset life was consistent with the average term of the property leases.

The annual costs associated with property leases had previously been treated as operating expense. Essential noted that the change to capitalising this expense is consistent with accounting standard AASB16.

As discussed in attachment 5, we agree that capitalising property leases is a reasonable approach to recovery of these costs. We also agree that the rate of depreciation of this asset class should reflect the underlying term of the leases to best reflect the utilisation of this asset type. We asked Essential for details on the terms of the property leases. A weighted average of the terms of Essential's various property leases supports the proposed eight year standard asset life is reasonable.<sup>26</sup> We therefore consider the proposal reflects the expected average economic life of the leases to be capitalised in the asset class for the 2019–24 regulatory control period. However, we note that this standard asset life should be reviewed at each reset.

Table 4.3 sets out our draft decision on Essential's standard asset lives for the 2019–24 regulatory control period. We are satisfied that:<sup>27</sup>

- 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 were first included in the RAB for Essential.

#### 4.4.2 Remaining asset lives

We accept Essential'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. Table 4.3 sets out our draft decision on the remaining asset lives as at 1 July 2019 for Essential.

---

<sup>25</sup> For this reason, we used forecast net capex as the weights to establish the weighted average standard asset life for amortising equity raising costs.

<sup>26</sup> Essential, email, *RE: Essential - AER information request #019 - Capitalised property leases*, 20 July 2018.

<sup>27</sup> NER, cl. 6.5.5(b)(1)–(2).

**Table 4.3 AER’s draft decision on Essential's standard and remaining asset lives at 1 July 2019 (years)**

Asset class	Remaining asset life as at 1 July 2019 <sup>a</sup>	Standard asset life
Sub-transmission lines and cables	35.7	54.9
Distribution lines and cables	41.1	53.8
Substations	23.3	40.2
Transformers	26.7	45.8
Low voltage lines and cables	33.6	51.5
Customer metering and load control	20.1	25.9
Communications	5.5	7.0
Land	n/a	n/a
Easements	n/a	n/a
IT systems	4.2	5.0
Furniture, fittings, plant and equipment	5.7	13.0
Motor vehicles	7.2	8.0
Buildings	45.1	50.0
Land (non-system)	n/a	n/a
Other non-system assets	8.4	15.0
Capitalised property leases	n/a	8.0
Equity raising costs	37.0	39.5

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. The asset class for 'Capitalised property leases' is new, so it has no remaining asset life at this time.

(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 Essential's remaining asset lives as at 1 July 2019 using the method set out in this draft decision.