DRAFT DECISION
TransGrid transmission determination
2018 to 2023

Attachment 2 – Regulatory asset base

September 2017

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on TransGrid's transmission determination for 2018–22. 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

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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
NSCAS	network support and control ancillary services
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

Shortened form	Extended form
RIN	regulatory information notice
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 TransGrid to provide prescribed transmission services.[1] 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.[2] The indexation of the RAB is one of the building blocks that form the annual building block revenue requirement for each year of the 2018–23 regulatory control period.[3] 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.[4]

This attachment presents our draft decision on the opening RAB value as at 1 July 2018 for TransGrid. It also presents our forecast RAB values for TransGrid over the 2018–23 regulatory control period.

2.1 Draft decision

We determine an opening RAB value of $6372.7 million ($nominal) as at 1 July 2018 for TransGrid. This value is $32.9 million (or 0.5 per cent) lower than TransGrid's proposed opening RAB of $6405.6 million ($nominal) as at 1 July 2018.[5] This is because we have amended TransGrid's proposed roll forward model (RFM) to correct minor input issues. We have also updated the RFM for actual 2016–17 CPI and the WACC input for 2017–18 as they have become available since TransGrid submitted its proposal.

To determine the opening RAB as at 1 July 2018, we have rolled forward the RAB over the 2014–18 regulatory control period to determine a closing RAB value at 30 June 2018.

Table 2.1 sets out our draft decision on the roll forward of the RAB values for TransGrid over the 2014–18 regulatory control period.

Table 2.1 AER's draft decision on TransGrid's RAB for the 2014–18 regulatory control period ($million, nominal)

	2014–15	2015–16	2016–17 [a]	2017–18 [b]
Opening RAB	6075.8	6190.6	6284.9	6301.9
Capital expenditure[c]	254.6	251.7	203.9	209.9

1 NER, cll. 6A.6.1.
2 NER, cll. 6A.4.2(3A) and (4).
3 NER, cll. 6A.5.4(a)(1) and (b)(1).
4 NER, cll. 6A.5.4(a)(2) and (3).
5 TransGrid, *Revenue proposal*, January 2017, p. 154; This RAB value is based on as-incurred capex.

Inflation indexation on opening RAB[d]	104.4	104.5	92.8	126.0
Less: straight-line depreciation[e]	244.2	261.9	279.7	265.0
Closing RAB	6190.6	6284.9	6301.9	6372.7
Other final year asset adjustment[f]				0.0
Opening RAB as at 1 July 2018				**6372.7**[g]

Source: AER analysis.

(a) Based on estimated capex. We will update the RAB roll forward for actual capex in the final decision.

(b) Based on estimated capex provided by TransGrid. We expect to update the RAB roll forward with a revised capex estimate in the final decision, and true-up the RAB for actual capex at the next reset.

(c) As-incurred, net of disposals, and adjusted for actual CPI.

(d) We will update the RAB roll forward for actual CPI for 2017–18 in the final decision.

(e) Adjusted for actual CPI. Based on forecast as-commissioned capex.

(f) This adjustment reflects the transfer of residual work in progress assets at the end of the 2009–14 regulatory control period into the new asset classes in the 2014–18 regulatory control period, where they will be commissioned. This adjustment has a net effect of zero to the opening RAB at 1 July 2018.

(g) There is no true-up required for 2013–14 capex as the approved opening RAB value of $6075.8 million at 1 July 2014 does not include any estimated capex. This is because 2013–14 was a transitional year for TransGrid and we were able to include the actual capex values for 2013–14 in our final decision for the 2014–18 regulatory control period.

We determine a forecast closing RAB value at 30 June 2023 of $6812.0 million ($nominal). This is $700.1 million (or 9.3 per cent) lower than the amount of $7512.1 million ($nominal) proposed by TransGrid. Our draft decision on the forecast closing RAB reflects the amended opening RAB as at 1 July 2018, and our draft decisions on the expected inflation rate (attachment 3), forecast capex (attachment 6) and forecast depreciation (attachment 5). We also do not accept TransGrid's proposal to roll in $25.7 million ($2017–18) to its RAB in 2018–19 for assets relating to the provision of network support and control ancillary services (NSCAS). While we accept that these assets should be rolled in the RAB to provide prescribed transmission services, we determine a roll-in value of zero. Our reasons are discussed further in section 2.4.2 and attachment 6.

Table 2.2 sets out our draft decision on the forecast RAB values for TransGrid over the 2018–23 regulatory control period.

Table 2.2 AER's draft decision on TransGrid's RAB for the 2018–23 regulatory control period ($million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Opening RAB	6372.7	6431.9	6549.3	6663.9	6730.9
Capital expenditure[a]	160.1	234.8	244.2	201.7	228.9
Inflation indexation on opening RAB	159.3	160.8	163.7	166.6	168.3
Less: straight-line depreciation[b]	260.3	278.2	293.3	301.3	316.0

Closing RAB	**6431.9**	**6549.3**	**6663.9**	**6730.9**	**6812.0**

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.

We determine that the forecast depreciation approach is to be used to establish the opening RAB at the commencement of the 2023–28 regulatory control period for TransGrid.[6] We consider this approach will provide sufficient incentives for TransGrid to achieve capex efficiency gains over the 2018–23 regulatory control period.

2.2 TransGrid's proposal

TransGrid used our RFM to establish an opening RAB as at 1 July 2018 and our post-tax revenue model (PTRM) to roll forward the RAB over the 2018–23 regulatory control period.

TransGrid proposed an opening RAB value as at 1 July 2014 of $6075.8 million ($nominal).[7] Rolling forward this RAB and using depreciation based on forecast capex (approved for the 2014–18 regulatory control period), TransGrid proposed a closing RAB as at 30 June 2018 of $6405.6 million ($nominal). Table 2.3 sets out TransGrid's proposed roll forward of its RAB during the 2014–18 regulatory control period.

Table 2.3 TransGrid's proposed RAB for the 2014–18 regulatory control period ($million, nominal)

	2014–15	2015–16	2016–17[a]	2017–18[a]
Opening RAB	6075.8	6190.6	6284.9	6335.4
Capital expenditure[b]	254.6	251.7	204.4	210.0
CPI indexation on opening RAB	104.4	104.5	125.7	126.7
Less: straight-line depreciation[c]	244.2	261.9	279.7	266.4
Closing RAB	6190.6	6284.9	6335.4	6405.6
Opening RAB as at 1 July 2018				**6405.6**

Source: TransGrid-*Roll Forward Model*-0117-PUBLIC

(a) Based on estimated capex.

(b) As-incurred, net of disposals, and adjusted for actual CPI.

(c) Adjusted for actual CPI. Based on forecast as-commissioned capex.

6 NER, cl. S6A.2.2B(a).

7 TransGrid, *Revenue proposal*, January 2017, p. 154.

TransGrid proposed a closing forecast RAB as at 30 June 2023 of $7512.1 million ($nominal). This value reflects its proposed opening RAB, forecast capex, expected inflation, and depreciation (based on forecast capex) over the 2018–23 regulatory control period. Its projected RAB over the 2018–23 regulatory control period is shown in Table 2.4.

Table 2.4 TransGrid's proposed RAB for the 2018–23 regulatory control period ($million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Opening RAB	6405.6	6525.2	6725.0	6952.8	7212.3
Capital expenditure[a]	228.0[b]	325.3	367.1	405.5	458.7
Inflation indexation on opening RAB	153.2	156.0	160.8	166.2	172.4
Less: straight-line depreciation[c]	261.6	281.5	300.0	312.3	331.3
Closing RAB	**6525.2**	**6725.0**	**6952.8**	**7212.3**	**7512.1**

Source: TransGrid-*Post Tax Revenue Model*-0117-PUBLIC

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

(b) This includes TransGrid's proposed roll in for $25.7 million of NSCAS assets in 2018–19. See section 2.4.2 for further information.

(c) Based on as-commissioned capex.

2.3 Assessment approach

We roll forward TransGrid's RAB during the 2014–18 regulatory control period to establish the opening RAB at 1 July 2018. This value can be adjusted for any differences in forecast and actual capex, and disposals.[8] It may also be adjusted to reflect any changes in the use of the assets, with only assets used to provide prescribed transmission services to be included in the RAB.[9]

To determine the opening RAB, we developed an asset base RFM that a TNSP must use in preparing its revenue proposal.[10] The RFM rolls forward TransGrid's RAB from the beginning of the final year of the 2009–14 regulatory control period, through the 2014–18 regulatory control period, to the beginning of the 2018–23 regulatory control period. Our approach to rolling forward the RAB generally involves an adjustment to account for the difference between the actual capex and the estimate approved for the final year of the previous regulatory control period.[11] However, this adjustment is not required for establishing TransGrid's opening RAB as at 1 July 2018 as the approved

[8] NER, cll. S6A.2.1(f)(3) and (6).

[9] NER, cll. S6A.2.1(f)(8) and S6A.2.3.

[10] NER, cll. 6A.6.1(b), 6A.6.1(e) and S6A.1.3(5).

[11] The end of period adjustment will be positive (negative) if actual capex is higher (lower) than the estimate approved at the 2014–18 determination.

opening RAB value of $6075.8 million at 1 July 2014 does not include any estimated capex. This is because 2013–14 was a transitional year for TransGrid and we were able to include the actual values for 2013–14 in our final decision for the 2014–18 regulatory control period.

The roll forward occurs for each year by:

- Adding an inflation (indexation) adjustment to the opening RAB for the relevant year. This adjustment is consistent with the inflation factor used in the annual indexation of the maximum allowed revenue (MAR).[12]
- Adding actual or estimated capex to the RAB for the relevant year.[13] We review a TNSP's past capex and may exclude past capex from being rolled into the RAB where total capex exceeds the regulatory allowance.[14] The details of our assessment approach for capex overspend are set out in the *Capital expenditure incentive guideline*.[15] We note that under the transitional rules, our review of past capex does not apply to TransGrid prior to 1 July 2015.[16] Also, the review of past capex does not include the last two years of the 2014–18 regulatory control period—these will instead be reviewed at the next reset.[17] We check actual capex amounts against audited regulatory accounts data and generally accept the capex reported in those accounts in rolling forward the RAB.[18] However, there may be instances where adjustments are required to the annual regulatory accounts data.[19]
- Subtracting depreciation from the RAB for the relevant year, calculated in accordance with the rates and methodologies allowed (if any) in the transmission determination for TransGrid's 2014–18 regulatory control period.[20] Depreciation based on forecast or actual capex can be used to roll forward the RAB.[21] For this draft decision, we use depreciation based on forecast capex for rolling forward the RAB for TransGrid's 2014–18 regulatory control period.[22]

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12 NER, cl. 6A.6.1(e)(3).

13 NER, cl. S6A.2.1(f)(4).

14 NER, cl. S6A.2.2A.

15 AER, *Capital expenditure incentive guideline*, November 2013, pp. 12–20.
Under the NER, cl S6A.2.2A(b), the exclusion of inefficient capex could only come from three areas: overspend in capex, margin paid to third party and capitalisation of opex as defined in cll. S6A.2.2A (c), (d) and (e) of the NER.

16 NER, cl.11.58.5 (a).

17 NER, cl. S6A.2.2(a1). The two year lag ensures that actual capex (instead of estimated capex) is available when the review of past capex commences.

18 We will update any estimated capex with actual capex at the time of the next reset.

19 For example, we make adjustment for movements in provisions if the actual capex amounts reported in the RIN include capitalised provisions.

20 NER, cl. S6A.2.1(f)(5).

21 NER, cl. 6A 4.2(a1).

22 The use of forecast depreciation is consistent with the depreciation approach established in the transmission determination for the 2014–18 regulatory control period for TransGrid. See AER, *TransGrid transmission determination 2015–18,* April 2015*,* p. 18.

- Subtracting any gross proceeds for asset disposals for the relevant year from capex to be added to the RAB.[23] We check these amounts against audited regulatory accounts data.

These annual adjustments give the closing RAB for any particular year, which then becomes the opening RAB for the following year. Through this process, the RFM rolls forward the RAB to the end of the 2014–18 regulatory control period. The PTRM used to calculate the annual building block revenue requirement for the 2018–23 regulatory control period generally adopts the same RAB roll forward approach as the RFM although the adjustments to the RAB are based on forecasts, rather than actual amounts.

We also decide whether depreciation for establishing TransGrid's RAB as at the commencement of the 2023–28 regulatory control period is to be based on actual or forecast capex.[24]

The opening RAB for the 2023–28 regulatory control period can be determined using depreciation based either on forecast or actual capex incurred during the 2018–23 regulatory control period. To roll forward the RAB using depreciation based on forecast capex, we would use the forecast depreciation contained in the PTRM for the 2018–23 regulatory control period, adjusted for actual inflation. If the approach to roll forward the RAB using depreciation based on actual capex was adopted, we would recalculate the depreciation based on actual capex incurred during the 2018–23 regulatory control period.

Our decision on whether to use actual or forecast depreciation must be consistent with the capex incentive objective. We have regard to:[25]

- the incentives the service provider has to undertake efficient capex
- substitution possibilities between assets with different lives and the relative benefits of each
- the extent of overspending and inefficient overspending relative to the allowed forecast
- the capex incentive guideline
- the capital expenditure factors.

2.3.1 Interrelationships

The RAB is an input into the determination of the return on capital and depreciation (return of capital) building block allowances.[26] Factors that influence the RAB will

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[23] NER, cl. S6A.2.1(f)(6).

[24] NER, cl. S6A.2.2B(a).

[25] NER, cl. S6A.2.2B(c).

[26] The size of the RAB also impacts the benchmark debt raising cost allowance. However, this amount is usually relatively small and therefore not a significant determinant of revenues overall.

therefore flow through to these building block components and the annual building block revenue requirement. Other things being equal, a higher RAB increases both the return on capital and depreciation allowances.

The RAB is determined by various factors, including:

- the opening RAB (meaning the value of existing assets at the beginning of the regulatory control period)
- net capex[27]
- depreciation
- indexation adjustment – so the RAB is presented in nominal terms, consistent with the rate of return.

The opening RAB depends on the value of existing assets and will depend on actual net capex, actual inflation outcomes and depreciation in the past.

The RAB when projected to the end of the regulatory control period increases due to both forecast new capex and the indexation adjustment. The size of the indexation adjustment depends on expected inflation (which also affects the nominal rate of return or WACC) and the size of the RAB at the start of each year.

Depreciation reduces the RAB. The depreciation allowance depends on the size of the opening RAB, the forecast net capex and depreciation schedules applied to the assets. By convention, the indexation adjustment is also offset against depreciation to prevent double counting of inflation in the RAB and WACC, which are both presented in nominal terms. This reduces the depreciation building block that feeds into the annual building block revenue requirement.

We maintain the RAB in real terms by indexing for inflation.[28] A nominal rate of return (WACC) is multiplied by the opening RAB to produce the return on capital building block.[29] To prevent the double counting of inflation through the nominal WACC and indexed RAB,[30] the regulatory depreciation building block has an offsetting reduction for indexation of the RAB.[31] 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. If the RAB was un-indexed, there would be no need

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27 Net capex is gross capex less disposals. The rate of return or WACC also influences the size of the capex. This is because capex is not depreciated in the year it is first incurred, but added to the RAB at the end of the year. Instead, the capex amount is escalated by half a WACC to arrive at an end of year value. It then begins depreciating the following year.

28 NER, cll. 6A.5.4(b)(1) and 6A.6.1(e)(3).

29 NER, cll. 6A.6.2(a) and 6A.6.2(d)(2).

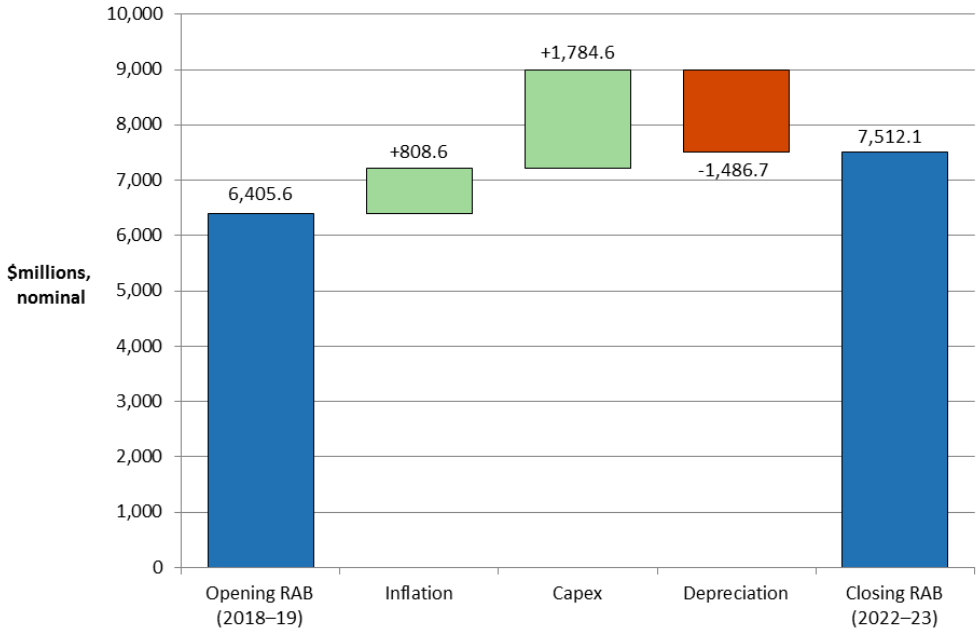
30 NER, cl. 6A.5.4(b)(1)(ii).

31 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. Please also refer to section 5.3.1 of attachment 5 of this draft decision for further explanation of the offsetting adjustment to the depreciation.

for an offsetting adjustment to the depreciation calculation of total revenue. This alternative approach provides for overall revenues being 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.[32] The implications of an un-indexed RAB are discussed further in attachment 5.

Figure 2.1 shows the key drivers of the change in the RAB over the 2018–23 regulatory control period as proposed by TransGrid. Overall, the closing RAB at the end of the 2018–23 regulatory control period would be 17.3 per cent higher than the opening RAB at the start of that period based on the proposal, in nominal terms. The proposed forecast net capex increases the RAB by 27.9 per cent, while expected inflation increases it by 12.6 per cent. Forecast depreciation, on the other hand, reduces the RAB by 23.2 per cent.

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



Source: TransGrid-*Post Tax Revenue Model-0117*-PUBLIC, January 2017

TransGrid's proposed forecast depreciation for the 2018–23 regulatory control period is $1486.7 million ($nominal). While we have largely accepted TransGrid's depreciation proposal in terms of the assigned asset lives, we amended the proposed standard asset life for the 'Transmission line life extension' asset class as it did not satisfy the

[32] 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.

requirements of the NER. This is discussed in attachment 5. The depreciation amount largely depends on the opening RAB, which in turn depends on capex in the past.[33]

Forecast net capex is also a significant driver of the increase in the RAB. We are not satisfied TransGrid's proposed total forecast capex of $1784.6 million[34] ($nominal) for the 2018–23 regulatory control period reasonably reflects the capex criteria. We have therefore rejected TransGrid's proposed capex and have substituted our estimate of $1069.7 million ($nominal) for the 2018–23 regulatory control period.[35] Refer to attachment 6 for the discussion on forecast capex.

A ten per cent increase in the opening RAB causes revenues to increase by about 7.3 per cent. However, the impact on revenues of the annual change in RAB depends on the source of the RAB change, as some drivers affect more than one building block cost.[36]

2.4 Reasons for draft decision

We determine an opening RAB value for TransGrid of $6372.7 million ($nominal) as at 1 July 2018, a reduction of $32.9 million ($nominal) or 0.5 per cent from the proposed value. We forecast a closing RAB value of $6812.0 million by 30 June 2023. This represents a reduction of $700.1 million, or 9.3 per cent compared with TransGrid's proposal. The reasons for our draft decision are discussed below.

2.4.1 Opening RAB at 1 July 2018

We determine an opening RAB value of $6372.7 million ($nominal) as at 1 July 2018 for TransGrid. This value is $32.9 million (or 0.5 per cent) lower than TransGrid's proposed opening RAB of $6405.6 million ($nominal) as at 1 July 2018.[37] To determine the opening RAB as at 1 July 2018 we have rolled forward the RAB over the 2014–18 regulatory control period to determine a closing RAB value as at 30 June 2018. In doing so we reviewed the key inputs of TransGrid's proposed RFM, such as actual inflation, rate of return, gross capex values, asset disposal values, forecast depreciation amounts and asset lives. We found these were generally correct and they

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33 For this draft decision, we have included TransGrid's estimated capex in 2016–17 and 2017–18 in the RAB roll forward to 1 July 2018. At the next reset, the 2016–17 and 2017–18 capex will form part of the review period for whether past capex should be excluded for inefficiency reasons.

34 This includes TransGrid's proposed roll in for $25.7 million of NSCAS assets in 2018–19. See section 2.4.2 for further information.

35 These capex values are consistent with those used for the RAB roll forward and include a half-WACC adjustment to take the values to end of year terms.

36 If capex causes the RAB increase—return on capital, depreciation, and debt raising costs all increase too. If a reduction in depreciation causes the RAB increase, revenue could increase or decrease. In this case, the higher return on capital is offset (perhaps more than offset) by the reduction in depreciation allowance. Inflation naturally increases the RAB in nominal terms. However, the real impact from changing the inflation forecast is inconsequential as revenues are updated annually by actual inflation and the X factor, which is generally unaffected by the assumed forecast inflation rate.

37 TransGrid, *Revenue proposal*, January 2017, p. 154; This RAB value is based on as-incurred capex.

reconcile with relevant data sources such as ABS data, regulatory accounts and the 2014–18 decision models.[38] However, we made the following amendments to the proposed RFM to correct minor input issues and update the CPI and WACC values:

- amended the final year adjustment inputs in TransGrid's proposed RFM to be consistent with the values in the approved RFM at the 2015 reset and the regulatory accounts[39]
- updated TransGrid's estimate of inflation for 2016–17 with actual CPI and the WACC input for 2017–18 in the RFM, as they have become available since TransGrid submitted its proposal.[40]

We also consider the extent to which our roll forward of the RAB to 1 July 2018 contributes to the achievement of the capital expenditure incentive objective.[41] We note that under the transitional rules, in making this transmission determination, the review of past capex does not apply to TransGrid prior to 1 July 2015.[42] Given this, the review period for this transmission determination is limited to 2015–16 capex.[43] TransGrid's actual capex incurred in 2015–16 is below the forecast allowance set at the previous transmission determination. Therefore, the overspending requirement for an efficiency review of past capex is not satisfied.[44] Accordingly, the capex incurred in that year is regarded as prudent and efficient, and included in the RAB—this is discussed further in attachment 6.

Further, for the purposes of this draft decision, we have included TransGrid's estimated capex in 2016–17 and 2017–18 in the RAB roll forward to 1 July 2018. At the next reset, the 2016–17 and 2017–18 capex will form part of the review period for whether past capex should be excluded for inefficiency reasons.[45] Our RAB roll forward applies the incentive framework approved in the previous transmission determination, which included the use of a forecast depreciation approach in combination with the application of the CESS.[46] As such, we consider that the 2014–18 RAB roll forward

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38 At the time of this draft decision, the roll forward of TransGrid's RAB includes estimated capex values for 2016–17 and 2017–18. We will update the 2016–17 estimated capex with actuals in the final decision. We may also update the 2017–18 estimated capex with a revised estimate in the final decision.

39 This adjustment reflects the transfer of residual work in progress assets at the end of the 2009–14 regulatory control period into the new asset classes in the 2014–18 regulatory control period, where they will be commissioned. This adjustment has a net effect of zero to the opening RAB at 1 July 2018.

40 In our final decision we will update the estimate for 2017–18 expected inflation with actual CPI. The December quarter CPI is used as a proxy for the June financial year in TransGrid's 2014–18 regulatory control period.

41 NER, cl. 6A.14.2(b).

42 NER, cl.11.58.5(a).

43 NER, cl. S6A.2.2A(a1).

44 NER, cl. S6A.2.2A(c).

45 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.

46 AER, *TransGrid transmission determination 2015–18,* April 2015*,* p. 18.

contributes to an opening RAB (as at 1 July 2018) that includes capex that reflects prudent and efficient costs, in accordance with the capital expenditure criteria.[47]

However, we do have concerns with the size of the forecast capex, the largest driver of the increase in the RAB over the 2018–23 regulatory control period, proposed by TransGrid. In this draft decision we have reduced TransGrid's proposed forecast capex by $714.9 million ($nominal), or 40.1 per cent over the 2018–23 regulatory control period.

2.4.2 Forecast closing RAB at 30 June 2023

We forecast a closing RAB value of $6812.0 million by 30 June 2023 for TransGrid, which represents a reduction of $700.1 million (or 9.3 per cent) to TransGrid's proposal. This reduction reflects our draft decision on the inputs for determining the forecast RAB in the PTRM. The change in the size of the RAB depends on our assessment of its various components. Inflation and capex increase the RAB, while depreciation reduces it. To determine the forecast RAB value for TransGrid, we amended the following PTRM inputs:

- We reduced TransGrid's proposed opening RAB as at 1 July 2018 by $32.9 million or 0.5 per cent (section 2.4.1).
- We reduced TransGrid's proposed forecast capex for the 2018–23 regulatory control period by $714.9 million ($nominal) or 40.1 per cent (attachment 6). We also determine that NSCAS assets to be rolled into the RAB in 2018–19 at a zero value.
- We reduced TransGrid's proposed forecast depreciation for the 2018–23 regulatory control period by $37.5 million or 2.5 per cent (attachment 5).
- We increased the proposed expected inflation rate which increased the forecast RAB value by $10.1 million or 1.2 per cent (attachment 3).

2.4.2.1 Transfer of assets into the RAB

We do not accept TransGrid's proposal to roll-in $25.7 million ($2017–18) to its RAB in 2018–19 for assets relating to the provision of NSCAS. These assets were originally procured by AEMO under a commercial arrangement with TransGrid to provide NSCAS from 4 February 2013 to 30 June 2019. TransGrid proposed to roll in the depreciated value of these assets via a capex adjustment to its forecast RAB at the commencement of 2019–20. TransGrid noted that these assets would continue to provide NSCAS as part of the provision of prescribed transmission services after the contract with AEMO has expired on 30 June 2019.[48]

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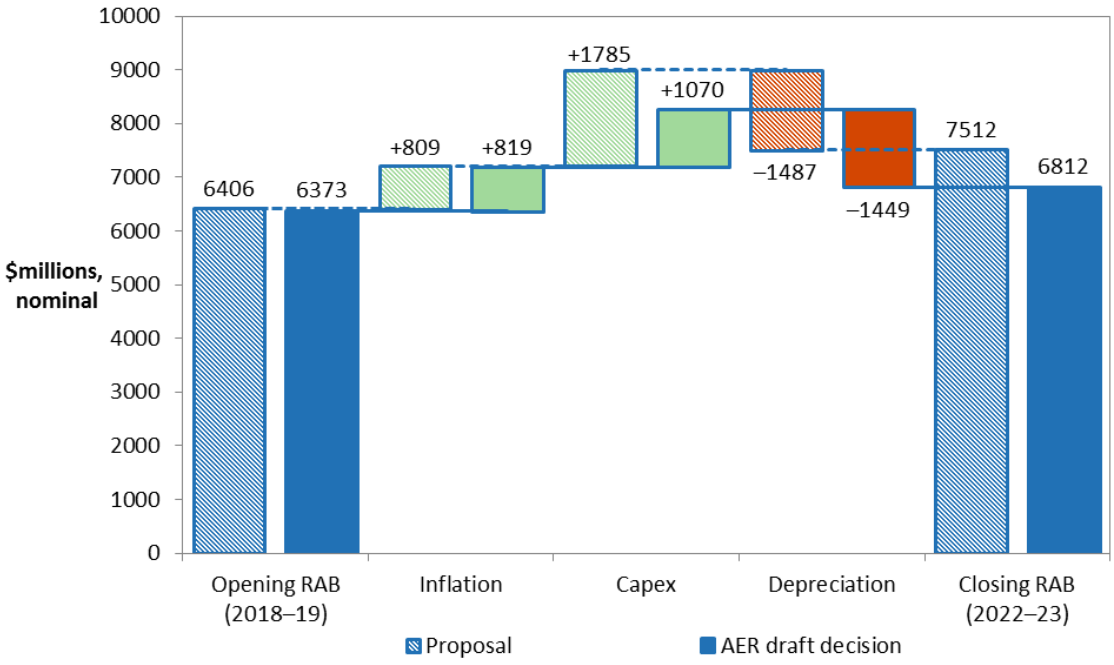
47 NER, cll. 6A.5A(a), 6A.6.7(a), 6A.6.7(c) and 6A.14.2(b).

48 TransGrid, *Revenue proposal*, January 2017, p. 155.

We accept that these assets should be included in the RAB so that they can continue to provide NSCAS as part of prescribed transmission services from 30 June 2019 onwards. However, we do not accept TransGrid's proposed $25.7 million roll-in value. Instead, we determine that these assets be rolled into the RAB at a zero value. This is because TransGrid has more than fully recovered its initial investment under the agreement with AEMO. Therefore, we consider that TransGrid would effectively be 'double dipping' on the recovery of these assets if we allowed the assets to be transferred into the RAB at a value greater than zero. We also consider that the inclusion of these assets in the RAB at a zero value would reasonably reflect the prudent and efficient costs that a TNSP in TransGrid's circumstances would require to maintain the reliability and security of its transmission system. See attachment 6 for further discussion on our decision on the proposed roll-in of the NSCAS assets.

Figure 2.2 shows the key drivers of the change in TransGrid's RAB over the 2018–23 regulatory control period for this draft decision. Overall, the closing RAB at the end of the 2018–23 regulatory control period is forecast to be 6.9 per cent higher than the opening RAB at the start of that period, in nominal terms. The approved forecast net capex increases the RAB by 16.8 per cent, while expected inflation increases it by 12.8 per cent. Forecast depreciation, on the other hand, reduces the RAB by 22.7 per cent.

Figure 2.2 Key drivers of changes in the RAB ($million, nominal)



Source: AER analysis.

2.4.3 Application of depreciation approach in RAB roll forward for next reset

We determine that the depreciation approach to be applied to establish the RAB at the commencement of the 2023–28 regulatory control period will be based on the

depreciation schedules (straight-line) using forecast capex at the asset class level approved for the 2018–23 regulatory control period. We consider this approach will provide sufficient incentives for TransGrid to achieve capex efficiency gains over the 2018–23 regulatory control period.

As discussed in attachment 10, we will apply the CESS to TransGrid over the 2018–23 regulatory control period. We consider that the CESS will provide sufficient incentives for TransGrid to achieve capex efficiency gains over that period. We are satisfied that the use of a forecast depreciation approach in combination with the application of the CESS and our other ex post capex measures are sufficient to achieve the capex incentive objective.[49] Further, this approach is consistent with our *Framework and approach*, and as noted in TransGrid's proposal.[50]

[49] Our ex post capex measures are set out in the capex incentives guideline, AER, *Capital expenditure incentive guideline for electricity network service providers*, November 2013, pp. 13–19, 20–21. The guideline also sets out how all our capex incentive measures are consistent with the capex incentive objective.

[50] AER, *Final decision: Framework and approach paper for TransGrid – Regulatory control period commencing 1 July 2018*, pp. 18-22; TransGrid, *Revenue proposal*, January 2017, p. 154.