FINAL DECISION
TransGrid transmission determination
2018 to 2023

Attachment 10 – Capital expenditure sharing scheme

May 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's final decision on TransGrid's transmission determination for 2018–23. It should be read with all other parts of the final decision.

The final decision includes the following documents:

Overview

TransGrid transmission determination 2018–23

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 8 – Corporate income tax

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Attachment 10 – Capital expenditure sharing scheme

Attachment A – Negotiating framework

Attachment B – Pricing methodology

Contents

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

10 Capital expenditure sharing scheme

The capital expenditure sharing scheme (CESS) provides financial rewards to transmission network service providers (TNSPs) whose capex becomes more efficient and financial penalties for those that become less efficient. Consumers benefit from improved efficiency through lower regulated revenues.

The CESS approximates efficiency gains and efficiency losses by calculating the difference between approved forecast and actual capex. It shares these gains or losses between TNSPs and consumers. Under the CESS a TNSP retains 30 per cent of an under-spend or over-spend, while consumers retain 70 per cent of the under-spend on over-spend. This means that for a one dollar saving in capex the TNSP keeps 30 cents of the benefit while consumers keep 70 cents of the benefit.

This attachment sets out our final decision for both the determination of the revenue impacts as a result of the CESS applying from the 2015–18 period and the application of the CESS for TransGrid in the 2018–23 regulatory control period.

10.1 Final decision

Revenue impacts for 2018–23 regulatory control period

Our final decision is to determine a total CESS revenue increment amount of $33.6 million ($2017–18) from the application of the CESS in the 2015–18 period.

The minor difference between our final decision and TransGrid's revised proposal is due to a calculation change to reflect indexation of the RAB within the 2015–18 period.

Table 10.1 sets out our final decision on the revenue impact spread over the 2018–23 regulatory control period arising from the application of the CESS in the 2015–18 period compared to TransGrid's revised proposal.

Table 10.1 AER's final decision on TransGrid's CESS revenue increments for the 2018–23 regulatory control period ($million, 2017–2018)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
TransGrid's revised proposal	6.7	6.7	6.7	6.7	6.7	33.7
AER final decision	6.7	6.7	6.7	6.7	6.7	33.6

Source: TransGrid, *Revised revenue proposal*, December 2017, p. 124; AER analysis.

Note: Numbers may not add up due to rounding.

In our draft decision, we did not accept TransGrid's proposed CESS revenue increment from the application of the CESS in the 2015–18 period. This was because we made the following adjustments to the spreadsheet used to calculate the CESS amount:

- the adoption of a different CPI adjustment

- the adoption of updated discount rates
- applying a different calculation methodology with respect to smoothing the CESS revenue increment across the 2018–23 regulatory control period.

TransGrid's revised proposal adopted the amendments made in our draft decision, but further modified the CESS calculations to align with the underlying calculations in the PTRM and RFM. Specifically, TransGrid's revised proposal:

- removed the six months return on capital in the year that the underspend or overspend occurred
- capitalised the six months return on capital instead (that is, adding six months WACC to the underspend or overspend)
- adjusted cash flows in years after the underspend or overspend to reflect the indexation adjustment in the return of capital building block, which means cash flows reflect the real WACC (nominal WACC less expected inflation).

TransGrid submitted a report from HoustonKemp that explained why it proposed these modifications.[1]

We have reviewed the submitted material. We broadly accept TransGrid's modifications to our draft decision CESS calculation (implemented as an Excel spreadsheet). We can summarise the high-level differences in this way:[2]

- Our draft decision calculation focused on the base financing benefit from a capex overspend or underspend. It asked, 'What is the value to the utility of the additional cash flow from the savings in capex?'
- The revised proposal calculation focused on the operation of the PTRM. It asked, 'What revenue was included in the revenue building blocks in regard to the capex not spent?'

The CCP submission described these two calculation approaches and stated:[3]

> The two approaches should, in principle, proved [sic] the same or very nearly the same answer. The fact that they do not raises a question as to whether there are errors in one or both models.

We consider that the two calculation approaches do reconcile, once appropriate regard is had to the timing of cash flows across regulatory control periods. The financing benefit presented in the draft decision did not account for the distribution of those returns across regulatory control periods. The CESS calculation template for this final

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1 HoustonKemp, *Review of the CESS model, A report for TransGrid*, 30 November 2017.

2 These two perspectives are described in some detail in the CCP submission. See CCP9, *Submission to the AER, Response to draft decision and revised proposal for revenue reset for TransGrid for 2018–23*, January 2018, p. 87–90.

3 CCP9, *Submission to the AER, Response to draft decision and revised proposal for revenue reset for TransGrid for 2018–23*, January 2018, p. 89.

decision now does so, reflecting the modifications proposed in TransGrid's revised proposal. Hence, there is no error in the modelling (either in the final decision CESS template or the PTRM itself).

This determination provides the first implementation of the CESS calculation template, so we discuss these model changes in some detail so as to provide a basis for subsequent regulatory determinations that will also use the same template.

The important distinction in TransGrid's revised proposal is between changes to cash flow (revenue recovered each year) and changes to asset values (which reflects revenue that will be recovered in future years). The distinction matters for CESS calculations because the RAB roll forward in the RFM at the conclusion of the regulatory control period will use actual capex, not forecast capex, and so the opening RAB for the following regulatory control period will use updated asset values. Changes in asset values as a result of capex underspend or overspend are relevant only to the extent that they change cash flows in the remainder of the regulatory control period.

The simplest example relates to the movement of capex from mid-year values (when capex is incurred on average, assuming capex is evenly spread across the year) to end-year values (when cash flows occur in the regulatory models). In the draft decision, this was recognised through a six-month WACC adjustment included in the financing benefit as if a direct cash flow was received for the underspend or overspend. In the final decision, the same adjustment is instead recognised as a change in asset values (in other words, it is capitalised and added to the value of capex underspend or overspend). While the two approaches would be equivalent if carried through to the end of asset life, the RFM will adjust asset values at the end of the regulatory control period. Therefore, the relevant financing benefit is the change in cash flows in the remainder of the regulatory control period, as calculated under the capitalisation approach applied in the PTRM.[4]

The distinction between cash flows and asset values is also relevant to inflation compensation. The regulatory framework (that is, the combined operation of our PTRM, RFM and annual revenue adjustment process) works to provide a real rate of return plus compensation for actual inflation outcomes.[5] Inflation compensation on the RAB is provided through a change in asset values—that is, indexation of the RAB.[6] The financing benefit calculation in the draft decision treated this inflation compensation as an implicit cash flow each year. This final decision recognises that inflation compensation is delivered through a change in asset values and so the CESS

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4 This is consistent with the position in the Framework and approach paper. See AER, *Framework and approach for TransGrid for regulatory control period commencing 1 July 2018*, July 2016, p. 20.

5 The real rate of return is derived from the initial nominal rate of return at the commencement of the regulatory control period, less inflation expectations. AER, *Regulatory treatment of inflation, Final position*, December 2017, pp. 63–66.

6 This is the net effect of inflation being included in the return on capital building block, deducted from the return of capital building block, and indexation of the RAB.

financing benefit is the consequential effect on cash flows within the period (prior to the adjustment of asset values at the next reset).

We have made two other minor adjustments to the CESS calculation, prompted by the HoustonKemp report:

- We adjust the overspend or underspend in earlier years to reflect indexation of the RAB within the regulatory control period. While we agree with the algebraic analysis in the HoustonKemp report on this point, the report only considers a single year. Where there are multiple years in the regulatory control period, the indexation of the RAB in prior years will also affect the value of the overspend or underspend.
- We adjust the net present value (NPV) calculation used to spread the CESS amount across the following regulatory control period, so that it uses a single discount rate (the forecast nominal WACC for that following period). This prevents a potential calculation error where inconsistent WACCs would be assumed for different years within the following regulatory period if different forecast WACCs were entered.[7]

We updated our CESS calculation to reflect actual capex incurred by TransGrid in 2016–17, instead of the estimated capex used in our draft decision. Our final decision relies on an estimate of capex for 2017–18, and we will make a further adjustment (if required) for any difference between this estimate and actual capex at our next determination.[8]

Application of scheme in the 2018–23 regulatory control period

Our final decision is to apply the CESS as set out in version 1 of the capital expenditure incentives guideline to TransGrid in the 2018–23 regulatory control period. This is consistent with the proposed approach we set out in our *Framework and approach*, our draft decision and TransGrid's proposal.[9]

In our draft decision, we accepted TransGrid's proposal that version 1 of the CESS would apply to it in the 2018–23 regulatory control period. We considered that the CESS is needed to provide TransGrid with a continuous incentive to pursue efficiency gains. We stated that the CESS applying in the 2018–23 regulatory control period would exclude NCIPAP capex (network capability component of the transmission STPIS) and asset disposals for that period.

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7 This change has no revenue impact in this instance, since TransGrid's revised proposal had a constant WACC input for the 2018–23 regulatory control period.

8 Consistent with our incentive guideline these adjustments will be made when undertaking a revenue determination for the subsequent regulatory control period. AER, *Better Regulation, Explanatory Statement Capital Expenditure Incentive Guideline for Electricity Network Service Providers*, November 2013. p. 21.

9 AER, *Final decision: Framework and approach paper for TransGrid – Regulatory control period commencing 1 July 2018*, July 2016, p. 19; AER, *Draft decision, TransGrid transmission determination 2018 to 2023, Attachment 10 - Capital expenditure sharing scheme*, September 2017, p. 7; TransGrid, *Revenue proposal 2018-19 to 2022-23*, 31 January 2017, p. 209.

Our next revenue reset for TransGrid will determine the revenue impact from the 2018–23 CESS for the following regulatory control period (2023–28). The CESS implementation template released with this final decision will be the starting point for this calculation.

10.2 Assessment approach

We did not change our assessment approach for the CESS from our draft decision. Attachment 10 section 10.3 of our draft decision details that approach. As discussed above, our change in this final decision relates to some specific elements of the spreadsheet model used to calculate the CESS amount.