FINAL DECISION
TransGrid transmission determination
2018 to 2023

Attachment 9 – Efficiency benefit 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

Attachment 9 – Efficiency benefit sharing scheme

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

9 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) provides an additional incentive for service providers to pursue efficiency improvements in opex.

Typically opex is largely recurrent and predictable, and as such opex in one period is often a good indicator of opex in the next period.[1] Where a service provider is relatively efficient, we use the actual opex it incurred in a chosen base year of the regulatory control period to forecast opex for the next regulatory control period. We call this the 'revealed cost approach'.

However, using a service provider's past information to set future targets can reduce the incentives of the service provider to reduce its costs—since the service provider knows that any reduction in its expenditure will decrease its revenue allowance in the future. It also provides an incentive to increase opex in any year expected to be used as the base year.

To encourage a service provider to become more efficient it is allowed to keep any difference between its approved forecast and its actual opex during a regulatory control period. In addition, the EBSS allows the service provider to retain efficiency savings, and is required to carry efficiency losses, for a longer period of time. In this way, the EBSS can provide service providers with an additional reward for reductions in opex and additional penalties for increases in opex.

Under the EBSS, a service provider gets to keep the benefits of any efficiency gains for an additional five years after the year in which it achieved the gain. After that, all the gains are passed on to network users in the form of lower network charges. In this way, a service provider benefits from efficiency gains made at the start of the regulatory period the same as those it makes at the end. This ensures the service provider faces a continuous incentive. The EBSS also discourages a service provider from inflating its base year opex in order to receive a higher opex allowance in the following regulatory control period.[2]

For the 2014–18 regulatory control period, TransGrid operated under version two of the electricity transmission network service providers' EBSS.[3] For the 2009–14 control period it operated under version one of the EBSS.[4]

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1 Step changes provide for increases/decreases where this is not the case.

2 These concepts are explained more fully in the explanatory statement to the EBSS; AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

3 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

4 AER, *Electricity transmission network service providers*, *Efficiency benefit sharing scheme*, September 2007.

9.1 Final decision

TransGrid has accrued an EBSS reward in the 2014–18 control period

Our final decision is to approve EBSS carryover amounts totalling $9.7 million ($2017–18) from the application of the EBSS in the 2014–18 regulatory control period. This is $24.0 million ($2017–18) less than TransGrid's revised proposal of $33.7 million ($2017–18). We have reduced the EBSS carryover amount compared to our draft decision because we have:

- replaced an estimate of opex for 2016–17 with actual audited opex
- updated our estimate of inflation for 2017–18 to reflect the forecast in the Reserve Bank of Australia's latest *Statement on monetary policy*.

We have outlined our final decision on TransGrid's EBSS carryover amounts from the 2014–18 regulatory control period in table 9.1.

Table 9.1 EBSS carryover amounts ($million, 2017–18)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
TransGrid's initial proposal	25.4	25.4	3.4	8.3	–	**62.4**
AER draft decision	–0.9	12.2	–0.5	6.1	–1.7	**15.3**
TransGrid's revised proposal	13.1	13.1	0.4	7.0	–	**33.7**
AER final decision	**–2.1**	**10.9**	**–1.7**	**4.8**	**–2.2**	**9.7**

Source: TransGrid, *Revised revenue proposal*, *Post tax revenue model (PTRM)*, 1 December 2017; TransGrid, *Revenue proposal*, *PTRM*, 31 January 2017; AER, *Draft decision TransGrid 2018–23 transmission determination PTRM*, September 2017; AER analysis.

How we will apply the EBSS in the 2018–23 regulatory control period

We will apply version two of the EBSS to TransGrid in the 2018–23 regulatory control period.[5] We will exclude the following cost categories from the scheme:[6]

- debt raising costs
- network support costs
- network capability projects.

We have set out in table 9.2 the opex forecasts we will use to calculate efficiency gains in the 2018–23 regulatory control period, subject to further adjustments permitted by the EBSS.

[5] AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

[6] AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, Section 1.4, p. 7.

Table 9.2 Forecast opex for the EBSS ($ million, 2017–18)

	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23
Total forecast opex	185.0	178.0	175.6	178.7	182.7	189.0	181.3
Less debt raising costs	–3.4	–3.4	–3.2	–3.3	–3.3	–3.3	–3.4
Less network support costs	–	–	–0.7	–2.6	–5.8	–10.0	–
Forecast opex for the EBSS	**181.6**	**174.7**	**171.6**	**172.9**	**173.6**	**175.7**	**177.9**

Source: AER analysis; TransGrid, *Revised revenue proposal*, *PTRM (updated)*, 20 February 2018.

Note: Numbers may not add up to totals due to rounding. Forecast opex does not include the opex costs of network capability projects. These costs are funded through the network capability component of the transmission STPIS.

9.2 Assessment approach

Under the National Electricity Rules (NER) we must decide:

- the revenue increments or decrements for each year of the 2018–23 regulatory control period arising from the application of the EBSS during the 2014–18 regulatory control period[7]
- how the EBSS will apply to TransGrid in the 2018–23 regulatory control period[8]
- the values that are to be attributed to the efficiency benefit sharing scheme parameters.[9]

The EBSS must provide for a fair sharing between service providers and network users of opex efficiency gains and efficiency losses.[10] We must also have regard to the following matters when implementing the EBSS:[11]

- the need to provide the network service provider with continuous incentives to reduce opex
- the desirability of both rewarding the service providers for efficiency gains and penalising them for efficiency losses
- any incentives that service providers may have to inappropriately capitalise expenditure
- the possible effects of the scheme on incentives for the implementation of non-network alternatives.

7 NER, cl. 6A.5.4(a)(5).
8 NER, cl. 6A.14.1(1)(iv), cl. 6A.14.3(d)(2).
9 NER, cl 6A.4.2(a)(6). This includes the length of the carryover period.
10 NER, cl. 6A.6.5(a).
11 NER, cl. 6A.6.5(b).

9.2.1 Interrelationships

The EBSS is closely linked to our opex revealed cost forecasting approach. When we assess a service provider's opex forecast, we must have regard to whether the opex forecast is consistent with any incentive schemes.[12]

Our opex forecasting method relies on using the 'revealed costs' of the service provider in a chosen base year to develop a total opex forecast. Under this approach, a service provider has an incentive to spend more opex in the expected base year. Also, a service provider has less incentive to reduce opex towards the end of the regulatory control period, where the benefit of any efficiency gains is retained for less time.

The application of the EBSS serves two important functions:

1. it removes the incentive for a service provider to inflate opex in the expected base year in order to gain a higher opex forecast for the next regulatory control period
2. it provides a continuous incentive for a service provider to pursue efficiency improvements across the regulatory control period.

The EBSS does this by allowing a service provider to retain efficiency gains (or losses) for a constant number of years, regardless of the year in which the service provider makes them.

Where we do not propose to rely on the revealed costs of a service provider in forecasting opex, this has consequences for the service provider's incentives and our decision on how we apply the EBSS.

When a service provider makes an incremental efficiency gain, it receives a reward through the EBSS. Network users then benefit through a lower revealed cost forecast for the subsequent period. This is how efficiency improvements are shared between network users and the service provider. If we subject costs to the EBSS that are not forecast using a revealed cost approach, a service provider would in theory receive a reward for efficiency gains through the EBSS (at a cost to network users), but network users would not benefit through a lower revealed cost forecast in the subsequent period.

Therefore, we typically exclude from the EBSS costs that we do not forecast using a revealed cost forecasting approach.

9.3 Reasons for final decision

9.3.1 Carryover amounts from the 2014–18 control period

Our final decision is to approve EBSS carryover amounts totalling $9.7 million ($2017–18) from the operation of the EBSS in the 2014–18 regulatory control period. This is

[12] NER, cl. 6A.6.6(e)(8).

$24.0 million ($2017–18) less than TransGrid's revised proposal of $33.7 million ($2017–18).

The difference is due to TransGrid not adopting two of the five EBSS adjustments we made to TransGrid's proposal in our draft decision. We have maintained these adjustments in our final decision. Specifically:

1. We adopted TransGrid's proposed five year carryover period rather than the four years we previously determined for the 2014–18 regulatory control period.[13] However, changing to a five year carryover distorts how TransGrid's incremental efficiency gain in 2014–15 fairly shares gains and losses. This rewards TransGrid for an efficiency loss in 2013–14. For this reason, we have also carried forward TransGrid's incremental efficiency loss in 2013–14 for five years, until 2018–19. This is in accordance with our 2009–14 regulatory decision, which determined that gains (losses) made in each year of 2009–14 should be retained for five additional years.[14] This reduced its proposed carryover amounts by $13.1 million ($2017–18).
2. We used consistent final year opex estimates in both our EBSS carryover calculation and TransGrid's opex forecast. This is required by both the EBSS and the *Expenditure forecast assessment guideline* (EFA guideline).[15] This reduced TransGrid's proposed carryover amount by $10.9 million ($2017–18).

We have also updated inflation to reflect the most recent CPI values reported by the Australian Bureau of Statistics and the most recent forecasts from the Reserve Bank of Australia.

Changing the length of the carryover period should not reward (penalise) TransGrid for efficiency losses (gains)

We have accepted TransGrid's proposed five year carryover period for 2014–18. However, this is a change from the four year carryover period that we previously determined.[16] This change would reward TransGrid for the non-recurrent efficiency loss it made in 2013–14, which is a function of its incremental efficiency loss and gain in 2013–14 and 2014–15 respectively. The intention of the EBSS is to provide the same reward (penalty) for an efficiency gain (loss) of the same size, regardless of the year in which it is achieved.[17] To ensure the EBSS operates as intended, we also carried forward TransGrid's incremental efficiency loss in 2013–14 for five years, until 2018–19. This is the same approach we adopted in our draft decision.

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13 AER, *Final decision*, *TransGrid transmission determination 2014–15 to 2017–18,* Attachment 9, April 2015, p.10.

14 AER, *Electricity transmission network service providers*, *Efficiency benefit sharing scheme*, September 2007, p. 8; AER, *Draft decision, TransGrid transmission determination 2009–10 to 2013–14*, 31 October 2008, pp. 148–158; AER, *Final decision, TransGrid transmission determination 2009–10 to 2013–14*, 28 April 2009, pp. 101–106.

15 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p. 6; AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013, pp. 22–23.

16 AER, *Final decision, TransGrid transmission determination 2014–15 to 2017–18,* Attachment 9, April 2015, p. 10.

17 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p. 5.

Initially, we determined a four year carryover period for 2014–18 because we expected the forthcoming regulatory period to also be four years.[18] A carryover period that is the same length as the current and forthcoming regulatory periods provides service providers a continuous incentive to reduce its ongoing opex.[19] It also rewards (penalises) service providers for efficiency gains (losses), and fairly shares these gains (losses) with its network users.[20] However, we now know the forthcoming regulatory period will be five years, not four years.

When the carryover period is not the same length as the current or forthcoming regulatory periods, the EBSS may not operate as intended. In particular, it may reward non-recurrent efficiency losses or penalise non-recurrent efficiency gains. The EBSS shares non-recurrent efficiency gains (losses) by rewarding (penalising) the incremental efficiency gain (loss) in that year and penalising (rewarding) the corresponding incremental loss (gain) in the following year. However, incremental efficiency gains (losses) are retained through a combination of:

- the ex-ante opex allowance in the current regulatory period
- EBSS carryovers
- the forecast allowance for the forthcoming regulatory period.

A mismatch in carryover and regulatory period lengths may therefore distort how gains and losses are shared.

When we assessed the impact of the forthcoming regulatory period being five years, we found that a four year carryover in 2014–18 would now reward (penalise) TransGrid for any non-recurrent efficiency losses (gains) it made in 2016–17. A four year carryover would allow TransGrid to retain its efficiency losses (gains) in 2016–17 for four additional years until 2020–21. At the same time, the opex forecast allows TransGrid to retain the corresponding gains (losses) in 2017–18 until 2022–23. This would give TransGrid one dollar in both 2021–22 and 2022–23 for every extra dollar it spends in 2016–17, and vice versa. This is inconsistent with how the EBSS typically shares non-recurrent efficiency losses (gains). A service provider should only receive (pay back) a dollar once in the future for every dollar of non-recurrent efficiency loss (gain) it incurs. Consequently, we agreed with TransGrid that applying a four year carryover for the current 2014–18 regulatory period is inconsistent with the NER requirements.[21]

However, TransGrid's proposed five year carryover requires a further adjustment to be consistent with the NER requirements.[22] As we noted in our draft decision, TransGrid made a significant non-recurrent efficiency loss in 2013–14.[23] This will be shared with

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18 AER, *Final decision, TransGrid transmission determination 2014–15 to 2017–18*, *Attachment 9*, April 2015, p. 10.

19 NER, cl. 6A.6.5(b)(1).

20 NER, cl. 6A.6.5(b)(2), cl. 6A.6.5(a).

21 NER, cl. 6A.6.5(b)(2).

22 NER, cl. 6A.6.5(b)(2).

23 AER, *Draft decision, TransGrid transmission determination 2018–23*, *Attachment 9*, April 2015, p. 15.

TransGrid's network users, in part, through the carry forward of its incremental efficiency gain in 2014–15. However, a five year carryover period for that gain, without a corresponding five year carryover period for the incremental efficiency loss in 2013–14, would distort how TransGrid's incremental gain in 2014–15 shares the non-recurrent loss in 2013–14. This is because the opex forecast for 2014–18 ensures TransGrid incurs its incremental loss in 2013–14 for four years until 2017–18. At the same time, a five year carryover period in 2014–18 allows TransGrid to retain its incremental gain in 2014–15 until 2019–20. This gives TransGrid one dollar in both 2018–19 and 2019–20 for every extra dollar it spent in 2013–14. As a result, a five year carryover period only changes the year for which TransGrid is rewarded (penalised) for a non-recurrent efficiency loss (gain).

Given TransGrid's significant non-recurrent efficiency loss in 2013–14, we considered a four year carryover provides a fairer outcome for network users than the five year carryover proposed by TransGrid. However, both approaches would reward (penalise) TransGrid for an efficiency loss (gain), and not fairly share this loss (gain) with its network users.[24] For this reason, we have accepted TransGrid's proposed five year carryover period, but also carried forward its incremental efficiency loss in 2013–14 for a total of five years. This is in accordance with our decision for the 2009–14 control period, where we determined a five year carryover period for TransGrid.[25] It is also consistent with the requirements of the NER, and gives the intended outcome of the EBSS.[26]

Specifically, TransGrid will retain gains (losses) made in each year of the 2009–14 control period for five years. This, combined with TransGrid's proposed five year carryover in 2014–18, ensures that we reward (penalise) TransGrid for efficiency gains (losses) in all years, including in both 2013–14 and 2016–17, and fairly share these gains (losses) with its network users. It reduces TransGrid's proposed EBSS carryover amounts by $13.1 million ($2017–18).

We summarise in table 9.3 how the EBSS shares the gains and losses under each approach, given we now know the forthcoming regulatory period is five years.[27]

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24 NER, cl. 6A.6.5(b)(2), cl. 6A.6.5(a).

25 AER, *Electricity transmission network service providers, Efficiency benefit sharing scheme*, September 2007, p. 8; AER, *Draft decision, TransGrid transmission determination 2009–10 to 2013–14*, 31 October 2008, pp. 148–158; AER, *Final decision*, *TransGrid transmission determination 2009–10 to 2013–14*, 28 April 2009, pp. 101–106.

26 NER, cl. 6A.6.5(b).

27 A fair sharing of non-recurrent gains and losses is not defined by a 30:70 service provider to network user sharing ratio. Nor have we sought to achieve a particular sharing ratio. What constitutes a fair share will depend on the specifics of each case. A fair sharing, however, does require gains to be rewarded and losses to be penalised. Further, the reward (penalty) for a gain (loss) must not be greater than the gain (loss).

Table 9.3 Sharing of gains and losses under different approaches

	Our initially determined four year carryover for 2014–18	TransGrid's proposed five year carryover for 2014–18	Our final decision's adjusted five year carryover for 2014–18
Years gains/losses retained	2013–14 to 2016–17: 5 years 2017–18 to 2021–22: 6 years	2013–14: 5 years 2014–15 to 2021–22: 6 years	6 years for all years
TransGrid's share of non-recurrent efficiency gains and losses	2013–14 to 2015–16: 25% 2016–17: **–45%**[28] 2017–18 to 2021–22: 30%	2013–14: **–45%** 2014–15 to 2021–22: 30%	30% for all years

Source: AER analysis. We published a more detailed analysis of sharing ratios with our draft decision, which is available on our website.[29]

The Consumer Challenge Panel (CCP) submitted that it supports our approach to carrying forward TransGrid's 2013–14 incremental efficiency loss. It stated it would be inappropriate and unfair if, in correcting one unintended consequence, we created another that resulted in a greater windfall loss for stakeholders.[30]

TransGrid's revised proposal did not accept our decision to carry forward its 2013–14 incremental efficiency loss. Instead, TransGrid submitted, supported by advice from Frontier Economics, that:[31]

- a five year carryover period already provides for a fair sharing of efficiency gains and losses made in the current and forthcoming regulatory period as intended by the EBSS
- changing how a service provider is rewarded or penalised under an incentive scheme four years after the fact is at best, poor regulatory practice, and at worst an appropriation of business value

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28 When we determined a four year carryover period, we expected the length of the forthcoming regulatory period to also be four years. In this case, TransGrid would retain 25 per cent of its non-recurrent efficiency gains and losses in 2016–17.

29 https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements-transgrid-determination-2018-23

30 CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, pp. 8, 85.

31 TransGrid, *Revised revenue proposal,* 1 December 2017, pp. 130–134;
Frontier Economics, *AER modifications to the efficiency benefit sharing scheme*, *TransGrid revised revenue proposal, Appendix C,* November 2017.

- modifications made now to sharing ratios that apply retrospectively to 2013–14 will not and could not affect TransGrid's incentives to make opex efficiencies and/or capitalisation decisions at any point in time
- the adjustment is not required to ensure a continuous incentive for TransGrid to reduce its opex because at the time TransGrid had no reason to believe that it did not face a continuous incentive to make efficiency savings.

We do not consider TransGrid's revised proposal justifies a departure from our draft decision on this issue.

First, TransGrid's revised proposal has not addressed our concern that adopting its proposed five year carryover period will reward its significant non-recurrent efficiency loss in 2013–14.

The CCP submitted that in considering a retrospective change to the carryover period, all impacts should be considered, including those arising from the sharing of gains (losses) in 2013–14 that would impact on network users in the 2018–23 regulatory period.[32]

We agree with the CCP that we need to consider how changing the carryover period changes the sharing of gains (losses) in the previous regulatory period. As the CCP notes, it would be inappropriate and unfair if changing from a four year carryover period provided TransGrid a windfall gain and its network users a windfall loss.[33]

Second, TransGrid's proposal to retrospectively change the carryover period in 2014–18 from four to five years changes how it is penalised for its non-recurrent efficiency loss in 2013–14. As we previously noted, TransGrid's proposal rewards it for this loss. This is because its incremental efficiency loss in 2013–14 would only be carried forward for four years, while its corresponding incremental efficiency gain in 2014–15 would be carried forward for five years. However, we previously determined a five year carryover period for the 2009–14 control period,[34] and we are not changing that decision. Rather, we have applied this decision by carrying TransGrid's incremental efficiency loss in 2013–14 forward for a total of five years. This ensures gains (losses) made in each year of the 2009–14 control period are retained for five additional years.[35] In turn, this allows us to implement TransGrid's proposed five year carryover period in 2014–18 consistently with the NER.[36]

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32 CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, p. 85.

33 CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, p. 85.

34 AER, *Electricity transmission network service providers*, *Efficiency benefit sharing scheme*, September 2007, p. 8; AER, *Draft decision, TransGrid transmission determination 2009–10 to 2013–14*, 31 October 2008, pp. 148–158; AER, *Final decision, TransGrid transmission determination 2009–10 to 2013–14*, 28 April 2009, pp. 101–106.

35 AER, *Electricity transmission network service providers*, *Efficiency benefit sharing scheme*, September 2007, p. 8; AER, *Draft decision*, *TransGrid transmission determination 2009–10 to 2013–14*, 31 October 2008, pp. 148–158; AER, *Final decision*, *TransGrid transmission determination 2009–10 to 2013–14*, 28 April 2009, pp. 101–106.

36 NER, cl. 6A.6.5(b).

Third, we accept that TransGrid may have believed it faced a continuous incentive to make efficiency savings. We also accept that modifying the carryover of incremental efficiency losses made in 2013–14 cannot change the incentives TransGrid faced in 2013–14. However, in implementing the EBSS, we must also have regard to the desirability of both rewarding efficiency gains and penalising efficiency losses.[37] TransGrid's revised proposal does not do this, nor does it fairly share gains and losses.[38] We also agree with the CCP that a decision that imposes a windfall loss on network users through higher prices, and has no benefits in terms of efficiency, security or quality of service provision is not in the long term interests of network users.[39]

Finally, we note we have upheld our representation to TransGrid that it should continue to pursue efficiency gains in line with the objectives of the EBSS.[40] Our adjustment to TransGrid's proposed five year carryover does not treat the gains (losses) it made after we published the framework and approach paper any differently to how TransGrid's proposal treats those gains (losses).

To calculate EBSS carryovers, estimated opex for 2017–18 should be consistent with the value used to forecast ongoing opex

We have used an estimate of 2017–18 opex in our EBSS carryover calculation that is consistent with the estimate in TransGrid's opex forecast, which we have accepted. Both the EBSS and EFA guideline require this.[41] This approach rewards (penalises) TransGrid for its efficiency gains (losses), and fairly shares these gains and losses with its network users. We adopted this same approach in our draft decision.

In our draft decision, we adopted TransGrid's opex estimate for 2017–18 as the starting point to forecast opex into the forthcoming control period. We were satisfied with TransGrid's estimate as long as the EBSS model reflected the same value. However, TransGrid used a lower estimate of 2017–18 opex in the EBSS than it used to forecast its opex for the 2018–23 control period.

If the final year opex estimate in the EBSS is lower (higher) than the estimate used to forecast opex, a service provider will be rewarded (penalised) for efficiency gains (losses) that the opex forecast does not pass on to network users.[42] This would not be a fair sharing of efficiency gains and losses.[43]

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37 NER, cl. 6A.6.5(b)(2).

38 NER, cl. 6A.6.5(b)(2), cl. 6A.6.5(a).

39 CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, p. 85.

40 AER, *Framework and approach for TransGrid*, July 2016.

41 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p. 6; AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013, pp. 22–23.

42 NER, cl. 6A.6.5(b)(2).

43 NER, cl. 6A.6.5(a).

For this reason, we estimated TransGrid's final year EBSS opex using the approach outlined in our EBSS and EFA guideline:[44]

$$A_f^* = F_f - (F_b - A_b) + non - recurrent\ efficiency\ gain_b$$

where:

- A_f^* is the best estimate of actual opex for the final year of the current regulatory control period, in this case 2017–18
- F_f is the determined opex allowance for the final year of the current regulatory control period (2017–18)
- F_b is the determined opex allowance for the base year, in this case 2016–17
- A_b is the amount of actual opex in the base year (2016–17)
- $non - recurrent\ efficiency\ gain_b$ is the non-recurrent efficiency gain in the base year (2016–17).

In doing so, we set the non-recurrent efficiency gain in 2016–17 to give an estimate of 2017–18 opex consistent with the value TransGrid used to forecast opex. This equates to a non-recurrent efficiency gain of $2.2 million ($2017–18) in the base year.[45] In part, this reflects the forecast opex for the current regulatory period including a non-recurrent step change for major operating projects that provided capex/opex trade-offs (see box 9.1). TransGrid chose not to undertake most of these major operating projects and chose capex options instead.[46] To share this opex efficiency gain with TransGrid's network users, there is a corresponding efficiency loss of $2.2 million ($2017–18) in the final year. However, this does not penalise TransGrid for efficient opex. Rather, it allows network users to receive a share of the unspent non-recurrent step change.

Further, expressing estimated final year expenditure in this way allows TransGrid to retain the incremental efficiency gains it expects to make in 2017–18 through the EBSS carryover. To the extent the assumed opex in 2017–18 is incorrect, TransGrid would still retain the incremental efficiency gains it actually makes through the opex forecast, since it does not reflect the unforecast efficiency gain.

The CCP submitted that it supports our approach to apply an estimate of final year opex in our EBSS carryover calculation consistent with the estimate used for forecast opex.[47]

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44 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p. 6; AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013, pp. 22–23.

45 Non-recurrent efficiency gain = $A_f^* = F_f - (F_b - A_b)$ =167.7 –174.7 + (181.6 –172.4) = $2.2 million ($2017–18)

46 TransGrid, *Response to information request IR#037*, 12 July 2017.

47 CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, pp. 8, 86.

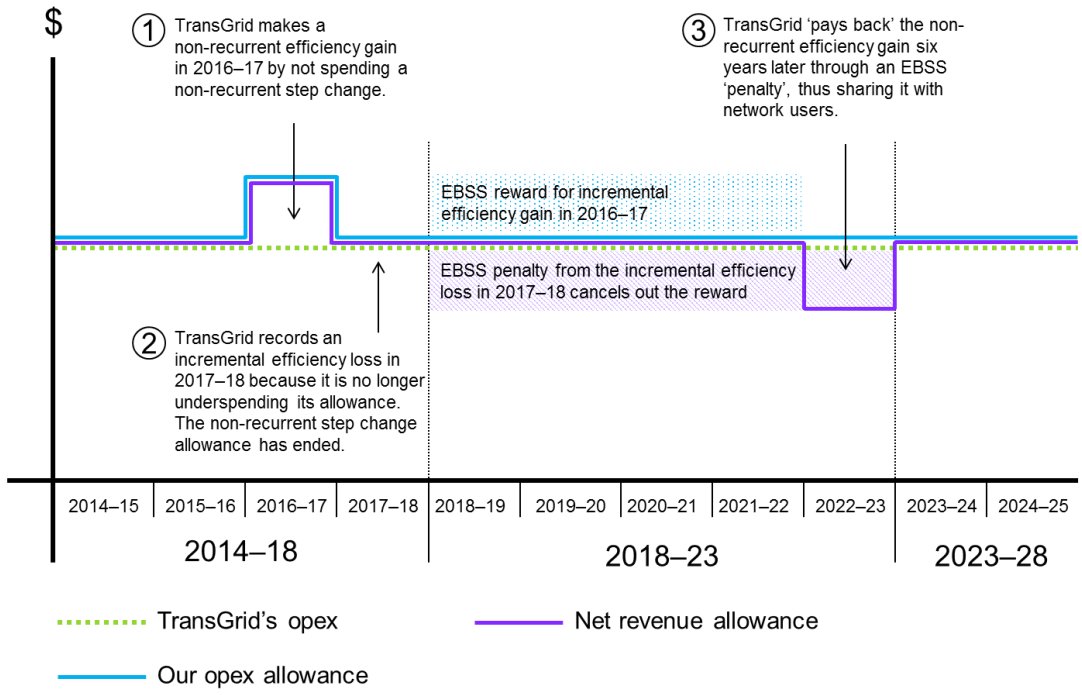
Box 9.1: How the EBSS shares TransGrid's unspent step change expenditure in 2016–17

For simplicity, let's assume TransGrid made an efficiency gain in 2016–17 due to it not spending a non-recurrent step change we provided. This results in an incremental efficiency loss in 2017–18. With a five year carryover period, the EBSS carries the incremental gain in 2016–17 forward for five years, until 2021–22. At the same time, the corresponding incremental loss in 2017–18 is carried forward until 2022–23. This results in TransGrid effectively 'paying back' the non-recurrent efficiency gain six years later, in 2022–23.

This is consistent with how the EBSS shares non-recurrent efficiency gains and losses in other years.

We demonstrate how the EBSS shares the unspent non-recurrent step change in 2016–17 with network users in figure 9.1.

Figure 9.1 How the EBSS shares TransGrid's unspent step change with network users



TransGrid's revised proposal, however, did not accept our draft decision to include a non-recurrent efficiency gain adjustment.[48] Instead, it submitted our approach:[49]

- penalises its efficient expenditure and does not give it a reasonable opportunity to recover at least its efficient costs

[48] TransGrid, *Revised revenue proposal*, 1 December 2017, p. 130.

[49] TransGrid, *Revised revenue proposal*, 1 December 2017, pp. 136–137.

- should not take into account its 2017–18 allowance being below its 2016–17 allowance in either setting its opex allowance for the next regulatory period or EBSS carryovers
- discourages service providers from submitting a realistic and efficient level of expenditure required to meet operating requirements
- does not consider any rate of change impact that occurs over time from one regulatory period to the next.

Further, TransGrid stated that using efficient actual levels of expenditure as the base for the next regulatory period will ensure that the magnitude of EBSS gains and losses are more representative of the real expenditure performance against the allowance set.

We have considered each of the points raised by TransGrid and do not consider they justify a departure from our draft decision on this issue.

First, TransGrid's revised proposal has not explained how using a different final year opex estimate in both its EBSS and opex model would fairly share its efficiency gains with network users.

The CCP submitted that using the same, best available, forecast of opex in 2017–18 for forecasting future opex and calculating the EBSS carryover is good common sense and technically sound. It also stated TransGrid's approach would use an inferior forecast to calculate an efficiency carry forward when a more accurate estimate is available and used for forecasting future costs. It was not clear to the CCP why TransGrid proposed this, and there appeared to be a risk that it could create a windfall gain (in this case) or loss (in other cases).[50]

We agree with the CCP that TransGrid's approach will provide it with a windfall gain. As previously noted, TransGrid made non-recurrent efficiency gains in 2016–17, which the EBSS must fairly share with network users. However, TransGrid's approach estimates zero incremental gains or losses in 2017–18. A zero incremental gain or loss in the final year means the EBSS does not share the non-recurrent gain in 2016–17. At the same time, the opex forecast for the 2018–23 regulatory period does not share the non-recurrent gain in 2016–17 either, due to TransGrid's higher estimate of 2017–18 opex. As a result, TransGrid's proposal would not share any non-recurrent gains (losses) it makes in 2016–17. It would effectively turn off the EBSS for the final year of the regulatory period.

Second, we agree with TransGrid that using efficient actual levels of expenditure as the base for the next regulatory period will ensure that the magnitude of EBSS gains and losses are more representative of the real expenditure performance *against the allowance set*.

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[50] CCP9, *Submission on TransGrid's revised proposal*, 1 February 2018, p. 86.

We have used efficient actual levels of expenditure as the base by adopting TransGrid's estimated final year opex to forecast its ongoing opex. We consider this approach, supplemented by the EBSS, provides TransGrid with a reasonable opportunity to recover at least its efficient costs.

We also acknowledge TransGrid has forecast a year-on-year real opex reduction from 2016–17 to 2017–18. However, this in itself is not an incremental efficiency gain. The EBSS defines an incremental efficiency gain as the relative underspend in a given year minus the relative underspend in the previous year.[51] In turn, this is consistent with the NER itself, which defines efficiency gains (losses) as being derived from opex being less (more) than *forecast opex*.[52] This ensures that we only reward (penalise) service providers for reductions (increases) in opex not already accounted for by the determined opex forecast.

As a result, we must consider TransGrid's year-on-year opex reduction in 2017–18 relative to the opex forecast. As we noted above, we previously forecast an opex step change in 2016–17 for major operating projects that TransGrid forecast it would complete before 2017–18. TransGrid did not undertake these projects as opex.[53] Consequently, not taking into account the 2017–18 allowance being below the 2016–17 allowance would allow TransGrid to retain more than its fair share of these unspent step changes.

Third, we do not consider that including a non-recurrent efficiency gain adjustment discourages service providers from submitting a realistic and efficient level of expenditure.

The shifting of revenue from the opex forecast to the EBSS carryover is an intended outcome of the non-recurrent efficiency gain adjustment. We introduced this adjustment as a direct result of feedback we received from service providers when we consulted on the current design of the EBSS. Service providers were concerned that if base year expenditure was significantly lower (higher) than ongoing efficient opex, then the opex forecast for the forthcoming regulatory period would be artificially low (high).[54] This adjustment allows us to adjust the estimate of final year opex so that the opex forecast best reflects the efficient level of ongoing opex. At the same time, the EBSS carryovers will capture all rewards/penalties associated with efficiency gains and losses, rather than some rewards/penalties being implicit in the opex forecast.

Finally, we acknowledge that certain components of the rate of change may be outside of TransGrid's control from one regulatory period to the next. However, we note that we designed the EBSS to include uncontrollable costs.[55]

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51 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, pp. 5–7.

52 NER, cl. 6A.6.5(a).

53 TransGrid, *Response to information request IR#037*, 12 July 2017.

54 AER, *Explanatory statement, Expenditure forecast assessment guideline*, November 2013, pp. 95–96.

55 AER, *Explanatory statement*, *Efficiency Benefit Sharing Scheme for Electricity Network Service Providers*, November 2013, pp. 19–21.

When we designed the current version of the EBSS, we acknowledged that the EBSS would share the costs of unforecast uncontrollable events between a service provider and its network users. However, on the whole, we considered uncontrollable events present both upside and downside risks to service providers. Any material risks can be managed through pass-through events and contingent projects. Further, while the occurrence of some events may be uncontrollable, service providers usually have some control over the costs associated with these events. Allowing exclusions would reduce the incentive to respond to such events efficiently. Consequently, we saw no reason to share the cost of uncontrollable events any differently to the other costs service providers face.

TransGrid's revised proposal, however, appears to assume that all drivers of the rate of change are uncontrollable. This is not the case. For example, TransGrid has some control over its input prices and productivity growth. Further, TransGrid's proposal treats uncontrollable costs in 2017–18 differently than all other years. If we applied TransGrid's proposed approach consistently to all years we would calculate no efficiency gains (losses) in any years and TransGrid would not receive any EBSS rewards (penalties).

9.3.2 Application in the 2018–23 control period

We will apply version two of the EBSS to TransGrid during the 2018–23 regulatory control period. This is consistent with our draft decision, and TransGrid's revised proposal.[56] Version two of the EBSS specifies our approach to determining the length of the carryover period, calculating the incremental efficiency gains and adjusting forecast or actual opex when calculating carryover amounts. We have provided details on these below.

Length of the carryover period

The length of the carryover period for the 2018–23 regulatory control period will be the same as the length of the regulatory control period commencing 1 July 2023. This aligns the EBSS carryover period with the length of TransGrid's next regulatory control period and ensures continuous incentives.[57] As we expect TransGrid's next regulatory control period will be five years, this is consistent with TransGrid's proposal for a five year carryover period.[58]

Adjustments to forecast or actual opex when calculating carryover amounts

The EBSS allows us to exclude categories of costs that we do not forecast using a single year revealed cost forecasting approach. We do this to fairly share efficiency gains and losses. For instance, where a service provider achieves efficiency

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56 TransGrid, *Revised revenue proposal*, 1 December 2017, p. 126.

57 NER, cl. 6A.6.5(b)(1).

58 TransGrid, *Revised revenue proposal*, 1 December 2017, p. 127.

improvements, it receives a benefit through the EBSS and network users receive a benefit through lower forecast opex in the next period. This is the way network users and the service provider share in the benefits of an efficiency improvement.

If we do not use a single year revealed cost forecasting approach, we may not pass the revealed efficiency gains through to network users. Network users should not pay for EBSS benefits where they do not receive the benefits of a lower opex forecast.

Consistent with TransGrid's proposal, we will exclude debt raising costs from the EBSS.[59] We exclude debt raising costs because we typically do not use revealed expenditure in a single year to forecast them.

We will also exclude network support costs and the opex costs of network capability projects. We will exclude network support costs because we pass them through to network users via an annual pass through mechanism. We also forecast them on a category specific basis to facilitate the pass through.

We fund the opex costs of network capability projects through the network capability component of the transmission STPIS, not through forecast opex. We will also exclude these costs from the EBSS so that TransGrid does not receive EBSS rewards or penalties for undertaking these projects. Including these costs in the EBSS would distort the incentive to undertake network capability projects provided by the STPIS.

[59] TransGrid, *Revised revenue proposal*, 1 December 2017, p. 137.