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Friday, 11 March 2022

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Dear Mr Roberts

Discussion Paper – Review of incentive schemes for networks

Thank you for the opportunity to comment on the AER's review of incentive schemes for networks Discussion Paper (Discussion Paper), published on 2 December 2021[1] and to contribute to the review process.

We support incentive schemes, which reward genuine efficiencies and service performance improvements, and deliver value in the long-term interests of customers. We note that the AER's efficiency incentive schemes deliver significant benefits to customers, as they encourage transmission network service providers (TNSPs) to innovate and find better ways to service customers at lower cost. Therefore, a key objective of the AER's review should be to maintain strong incentives for the TNSPs to pursue efficiency gains.

Transgrid, and other TNSPs, are undertaking substantial investments to support the transition of the National Electricity Market (NEM) to achieve governments' decarbonisation objectives. Subject to regulatory approvals and securing the necessary land access and environmental and heritage approvals, in the next 2023-28 regulatory period, we will deliver four projects identified as actionable and future actionable projects in the Australian Energy Market Operator's (AEMO's) Draft 2022 Integrated System Plan (ISP):

- HumeLink
- Victoria to New South Wales Interconnector (VNI) West
- Sydney Ring (reinforcing Sydney, Newcastle and Wollongong supply), and
- Queensland to New South Wales Interconnector (QNI) connect.

[1] AER, Review of expenditure incentive schemes - Discussion paper, December 2021.

The total indicative cost of these projects in the 2023-28 period is $6.4 billion (Real 2022-23).[2]

This is additional to capex of $2,552.7 million (Real 2022-23) approved by the AER in the current 2018-23 regulatory period for Powering Sydney's Future, Project Energy Connect (PEC), VNI Minor and QNI Minor and attests to the scale of the investment required across the entire NEM over the next few decades.[3]

In the context of Transgrid and other TNSPs embarking on major capex programs over the coming regulatory control periods, maintaining strong expenditure efficiency incentives is important to ensure the transition is delivered at the lowest possible cost for electricity consumers. The AER's recent decision to apply the capital expenditure sharing scheme (CESS) to Project EnergyConnect supports this view:[4]

> *Our preference is to apply the CESS where possible…. This is important to maintain incentives on TransGrid to minimise its costs..*

We consider that a number of incremental improvements are required to the expenditure incentive schemes applying to TNSPs to:

- ensure that strong incentives for efficiency are maintained, and
- align the incentive rates in the CESS and the Efficiency Benefit Sharing Scheme (EBSS) for capex and opex, to ensure that TNSPs are incentivised to make the most efficient opex-capex substitution choices.

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Attachments A and B provide further detail on the above proposals.

We support a specific review of the market impact component (MIC) of the STPIS. We have previously outlined our concerns with the MIC to the AER and raised the need for its review.[5] Like other TNSPs, we are concerned that the MIC is no longer fit for purpose given the rapid energy transition that is occurring, which is resulting in growing network constraints. AEMO's draft 2022 ISP forecasts that the pace of the transition will increase and that under the step change scenario utility scale solar and wind generation will more than double between 2022 and 2028, and triple by 2031.[6] In order to provide meaningful incentives in the future, MIC targets must reflect expected future market conditions.

We note that the Consumer Challenge Panel (CCP) and customers support the AER reviewing the MIC to ensure it continues to encourage efficient outage planning and reduce wholesale market prices.[7] We encourage the AER to review the MIC through a dedicated review process such as the current one, rather that addressing it through individual price reviews.

We endorse the Energy Network Association's (ENA) submission on the Discussion Paper, which demonstrates the benefits delivered by incentive regulation and makes a strong case to retain ongoing and stable incentives. Our and the ENA's submissions both show that there is no evidence that TNSPs have materially over-forecast their true capex requirements or that the introduction of the CESS has incentivised

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2 This comprises $3,618.9 million for HumeLink, $1,696.7 million for VNI West, $924.5 million for Sydney Ring and $159.2 million for QNI Connect.

3 This comprises $254.6 million for PSF, $2,008.0 million for PEC, $240.4 million for QNI and $49.7 million for VNI.

4 AER, TransGrid Contingent Project, Project EnergyConnect – Final Decision, May 2021.

5 30 October 2020, Transgrid's request for a revised framework and approach paper for the 2023-28 period

6 AEMO, Draft 2022 Integrated System Plan, December 2021, p.9 Figure 1.

7 AER CCP23, Submission to AER on the Draft Decision and AusNet Services Transmission 2022-27 Revised Proposal, October 2021, p. 39.

NSPs to over-forecast their capex requirements. Given this, we support the ENA's position, which urges the AER to address any remaining concerns about the CESS (i.e. information asymmetry concerns) directly and to recognise that these concerns would not be resolved by weakening the efficiency incentives.

We would welcome the opportunity to discuss our submission with the AER.

Yours sincerely

Stephanie McDougall

Head of Regulation

Attachment A: Expenditure incentives schemes for TNSPs

As noted above, our submission focuses on refinements to the CESS and EBSS for TNSPs, given the magnitude of investment that TNSPs are undertaking to support the energy transition. We consider that there are two key issues of concern relevant to the application of the expenditure incentive regimes to the TNSPs:

1. maintaining strong regulatory incentives, and

2. misalignment of incentive rates between the CESS and the EBSS.

Maintaining strong regulatory incentives

The AER and customer advocates have raised concerns that:

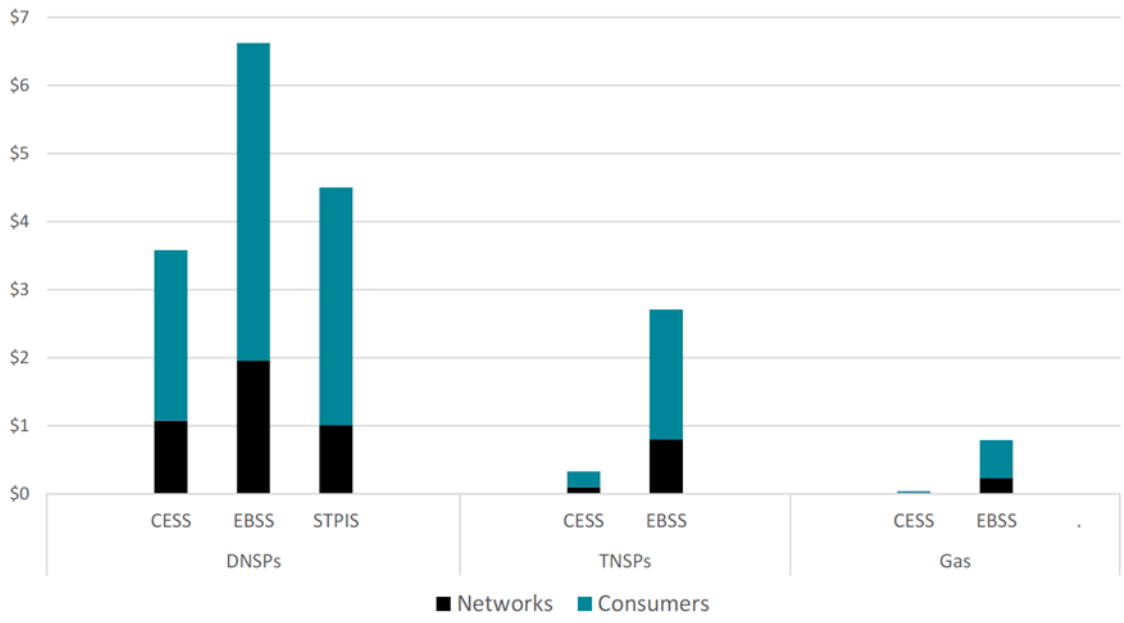
- information asymmetry makes it difficult for the AER to ensure that only genuine capex efficiencies are rewarded under the CESS, and
- NSPs have over-forecast their capex in order to secure CESS rewards.

In light of this, customer advocates suggest that the AER should consider reducing the CESS sharing ratio.

We note that historical expenditure outcomes show no evidence that TNSPs are indeed over-forecasting and underspending capex in order to secure CESS rewards.

HoustonKemp's analysis shown in Figure 1, demonstrates that over the period from 2006 to 2020, TNSPs' CESS rewards have been small, indicating a strong alignment between forecast and actual capex. Based on HoustonKemp's analysis presented below, there is no evidence that TNSPs have materially over-forecast their true capex requirements.

Figure 1: Present value of network and customer benefits ($billion, 2020)



Source: HoustonKemp, Consumer benefits resulting from the AER's incentive schemes, A report for Energy Networks Australia, 7 March 2022.
Note: Assuming a 6 per cent discount rate and excluding Power and Water (NT).

The HoustonKemp analysis also shows that the efficiency benefits that have been retained by customers are materially higher than the benefits that have been retained by NSPs. This is clear evidence that the customers, rather than NSPs, have been the clear beneficiaries of the EBSS and CESS to date.

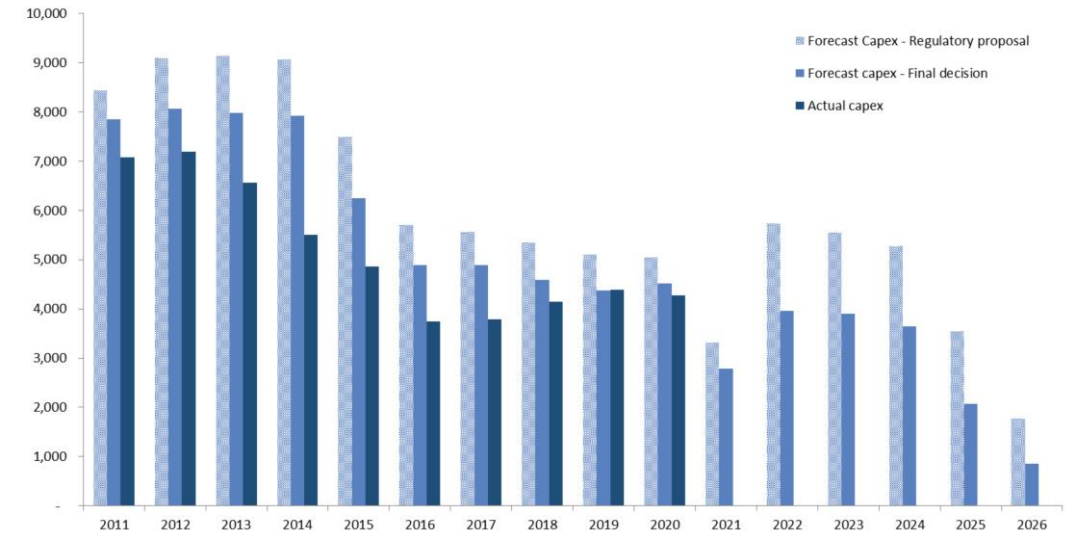
Figure 2 shows Transgrid's capex trend since 2014. This also demonstrates strong alignment between our forecast and actual capex since 2014.

Figure 2: Transgrid's actual/estimated capex versus AER allowance over 2014-2024 ($M, Real 2022-23)

Source: Transgrid

There also appears to be no evidence that the introduction of the CESS has incentivised NSPs to over-forecast their capex requirements. The AER's analysis in the Discussion Paper shows that the difference between NSPs' capex proposals and the determined allowances has narrowed since the introduction of the CESS in 2015 up to 2020—as shown in Figure 3.

Figure 3: Difference between proposed capital expenditure and AER final decision



Source: AER, Review of incentive schemes for networks discussion paper, December 2021, Figure 21, p. 57.

While Figure 3 shows that the gap between NSPs' capex proposals and the AER's final decision has widened since 2022, very few regulatory determinations covering the period 2022-26 have been finalised to date by the AER. Therefore, the apparently widening gap between capex proposals and final decision allowances from 2022 onwards identified by the AER represents the outcomes from very few regulatory decisions, and may reflect NSP-specific circumstances that are not reflective of the industry as a whole. We do not consider that it would be reasonable to conclude that the CESS has encouraged industry-wide over-forecasting based on this information.

Although there is no strong evidence that TNSPs are over-forecasting and underspending capex in order to secure CESS rewards, we acknowledge the AER and customers' concerns that only genuine capex efficiencies should be rewarded by the CESS.

The source of the concern shared by the AER and customer advocates is the asymmetry of information between the AER and NSPs about NSPs' true capex requirements. We do not consider that problem should be addressed by reducing the CESS sharing ratio because it would:

- not directly address the issue
- reduce incentives to ensure expenditure is efficient at a time when significant investment is being undertaken to achieve the transition, and
- result in less efficient (and hence higher cost) outcomes for customers.

Rather, we consider that incremental changes to the CESS as well as other changes to the regulatory framework could be considered to the extent that information asymmetry concerns remain. Some options that could be considered by the AER include:

- More targeted scrutiny of TNSPs' forecasts and expenditure outcomes. This could be targeted based on the quality of individual businesses' expenditure forecasts and/or historical performance
- Introducing capex benchmarking to provide insights into capex performance. This would benchmark capex efficiency (i.e. capex per unit of output). This would be distinct from the capital efficiency benchmarking currently undertaken by the AER, which measures how efficiently networks use their stock of capital to produce outputs or services. The introduction of capex benchmarking (similar to the opex benchmarking that the AER currently undertakes) would increase the scrutiny applied to NSPs' historical and future capex.
- Mechanisms that provide higher powered incentives for TNSPs to more accurately forecast capex requirements such as directly rewarding (or penalising) businesses based on the accuracy of their forecasts. For example, regulators in the UK including Ofgem and Ofwat, have developed 'information quality' schemes that incentivise regulated businesses—through a system of financial rewards and penalties—to reveal their expenditure requirements accurately. These information quality schemes present a 'menu' of sharing ratios to regulated businesses, and businesses are incentivised to choose the sharing ratio that best reflects their true expected costs for the next regulatory period. As a result, businesses that have more potential to deliver cost reductions are regulated with higher sharing ratios, and businesses that expect to deliver low cost reductions are regulated with low sharing ratios. The 'menu' of sharing ratios offered to the businesses is calibrated to incentivise the businesses to truthfully reveal their actual expenditure requirements, thereby addressing the asymmetry of information problem identified by the AER directly.

We also consider that the AER's recently released *Draft Better Resets Handbook* should promote greater transparency in circumstances where there is a material underspend against the AER's allowance, including NSPs explaining and justifying CESS benefits to customer groups. As the AER notes in its Discussion Paper (p. 59):

> *Capital expenditure proposals that are aligned with expectations set out in the Handbook will provide us greater confidence that over forecasting and deferrals do not outweigh efficiency gains in capital expenditure. This is primarily related to providing better quality information to inform our understanding of network performance and future expenditure requirements.*

Mis-aligned incentive rates between capex and opex

We are also concerned that the current misalignment between the EBSS and CESS incentive rates could lead to inefficient substitution decisions between opex and capex. As noted in the AER's discussion paper:

> *The current[8] analysis suggests that the expenditure schemes do not currently provide equal rewards and penalties.*
>
> *Where there are concerns that an imbalance in the schemes may not encourage efficient behaviour, it would be necessary to make an amendment to the schemes. This could be to the design of the incentive rates, or how the scheme is applied in regulatory determinations.*

We agree with the AER's observation that it would be preferable to ensure that there are equal incentives for NSPs to pursue capex and opex efficiency gains. The discussion paper notes:[9]

> *A guiding objective in developing and applying incentive schemes has been that network service providers should ideally be financially indifferent between investing in network assets or incurring operating expenditure to provider network services and meet reliability targets. Network service providers should make investment decisions over time that are aligned with efficient outcomes for consumers, including service performance."*
>
> *…*
>
> *Providing balance between the schemes was seen as particularly important where networks have options available to substitute between capital and operating expenditure to meet service levels, such as choosing to invest in a new asset or incur operating expenditure (e.g. maintain existing assets), or where there are abilities to capitalise or expense specific costs within a cost allocation framework (e.g. overheads, leases). While there are non-financial reasons that may influence investment decisions, the financial incentive schemes should ensure that decisions are appropriately aligned with customer values and are fit-for-purpose within the overall framework.*

The efficiency consequences of this mis-alignment are likely to increase over time. For example, the provision of information technology (IT) solutions, which accounts for a significant proportion of TSNPs' expenditure, is moving from enterprise-based solutions to cloud-based software-as-a-service solutions. Delaying efficient decision making regarding IT solutions due to incentive impacts could substantially increase costs for end-customers.

[8] AER, Review of expenditure incentive schemes - Discussion paper, December 2021, pp. 14,15
[9] AER, Review of expenditure incentive schemes - Discussion paper, December 2021, p. 36

We consider that the source of the problem with the misalignment lies with the current design of the EBSS. Unlike the CESS, which results in a fixed sharing ratio, the incentive rate of the EBSS varies substantially over time in line with the changes in the AER's estimate of the rate of return required by investors. Not only does this cause misalignment between opex and capex incentive rates, it changes the incentives faced by NSPs to pursue opex efficiencies over time due to a factor entirely unrelated to efficiency (i.e. investors' cost of capital).

As the discussion paper explains, the EBSS sharing ratio declines as the AER's estimate of the required rate of return declines. A lower EBSS sharing ratio would (all else remaining equal) weaken incentives for NSPs to realise opex savings. To the extent that there are substitution opportunities between opex and capex, this may lead NSPs to favour capex rather than opex solutions. That is, lower EBSS incentives (relative to CESS incentives) may increase NSPs' bias in favour of capex over opex.

The solution to that problem would not be to reduce CESS incentives to the level of current EBSS incentives — because that would weaken NSPs incentives to pursue opex and capex savings. This would ultimately be to the detriment of customers. Rather, the appropriate solution would be to increase EBSS incentives in line with current CESS incentives, thus removing one possible source of capex bias.

To that end, we consider that modest, incremental changes could be made to the design of the EBSS to address this problem and to restore the EBSS to the original incentive rate of 30% that applied when it was introduced.

In particular, basing the EBSS on an 'NPV' estimation approach would result in a fixed share of efficiency gains or losses for NSPs and customers. Such an approach would decouple the EBSS sharing ratio from the rate of return.

Attachment B explains how this alternative EBSS approach could work in practice, and demonstrates that, for a given efficiency share, moving to the NPV approach would result in a fixed EBSS incentive rate over time that does not vary in line with changes in the AER's estimate of the required rate of return. Moreover, the alternative EBSS would deliver to NSPs exactly the same present value of EBSS benefits/penalties as the existing EBSS, for a given incentive rate and rate of return. This means that replacing the existing EBSS with the alternative EBSS described in **Attachment B** would not lead to windfall gains/losses to NSPs.

We consider this approach is preferable to increasing the length of the EBSS carry-over period in order to achieve a 30% incentive rate. This is because increasing the carryover period would not address the variability inherent in the current design of the EBSS and would therefore not provide a permanent solution. The carry-over period would continue to require frequent modification to maintain a constant 30% EBSS incentive rate.

We encourage the AER to consider this modest change to the EBSS by moving to the NPV approach, and thereby unlock the benefits of aligned opex and capex efficiency incentives.

Attachment B: Implementing an alternative EBSS

Under the AER's current EBSS, the opex sharing ratio varies in line with the AER's estimate of the required rate of return. Specifically, the sharing ratio:

- declines as the rate of return falls, and
- increases as the rate of return rises.

This appears to be an unintended consequence of the original design of the EBSS. It is unclear why the strength of incentives faced by NSPs to pursue opex efficiencies should vary in response to a completely unrelated factor – the AER's estimate of the return required by equity and debt investors in order to commit capital to a regulated business.

Under the existing EBSS, the sharing ratio is an outworking of the incentive scheme rather than a direct choice variable for the AER. Specifically, the sharing ratio is determined as the ratio between:

- the present value of any incremental opex efficiencies/losses retained by the NSP over 6 years, and
- the present value of any incremental opex efficiencies/losses in perpetuity.

As a consequence, the EBSS rewards/penalties retained by the NSP will vary as the rate of return used to compute these two present values changes over time.

The sharing ratio could be made time-invariant by de-linking it from the rate of return and making it an explicit, exogenous choice variable for the AER.

This could be done by computing the present value of any incremental opex efficiencies/losses in perpetuity (as the current EBSS does), and then allowing NSPs to share a fixed proportion of that overall present value of gains/losses.

The key steps involved in implementing this alternative EBSS would be the following:

1. identify the incremental efficiency gain/loss in each year of a regulatory period (as occurs under the existing EBSS)
2. calculate the present value of the incremental efficiency gains/losses in perpetuity (as occurs under the existing EBSS)
3. apply a fixed sharing ratio to determine the share of the total efficiency gains/losses to be retained by the NSP, and
4. deduct from the NSP's total share of gains/losses any benefits/penalties already retained over the current regulatory period by the NSP.

This process can be illustrated using a simple illustrative example. Table 1 below presents the allowed and actual opex of a hypothetical NSP regulated over a five-year regulatory period. As the Table shows, the NSP achieves a saving, relative to the regulatory allowance, in each year of the regulatory period.

Table 1: Allowed and actual opex

Year	1	2	3	4	5
Opex allowance	100	100	100	100	100
Actual opex	95	95	92	92	90

Table 2 below presents the calculations required to implement the modified EBSS described above. Specifically:

- Row 1 presents the real vanilla WACC prevailing over regulatory period, 3.60%
- Row 2 calculates the discount factor associated with each year of the regulatory period
- Row 3 computes the underspend in each year, and row 4 computes the present value of the underspend in each year
- Row 5 calculates the incremental gain arising in each year of the regulatory period and rows 6 to 10 calculates the total benefit associated with the efficiency gains arising in years 1, 2, 3, 4 and 5, and
- Row 11 calculates the present value of the permanent efficiency gains in each year of the regulatory period.

Table 2: EBSS calculations

	Year	1	2	3	4	5
1	Real Vanilla WACC	3.60%	3.60%	3.60%	3.60%	3.60%
2	Discount factor	1.15	1.11	1.07	1.04	1.00
3	Underspend	5.0	5.0	8.0	8.0	10.0
4	PV of underspend	5.8	5.6	8.6	8.3	10.0
5	Incremental gain	5.0	0.0	3.0	0.0	2.0
6	Year 1 benefit	5.8	5.6	5.4	5.2	5.0
7	Year 2 benefit		0.0	0.0	0.0	0.0
8	Year 3 benefit			3.2	3.1	3.0
9	Year 4 benefit				0.0	0.0
10	Year 5 benefit					2.0
11	NPV permanent efficiency gain	165.8	0.0	92.7	0.0	57.6

Using the information in Table 2, it is possible to calculate the EBSS payments to be made to the NSP in the next regulatory period as shown in Figure 4. For example:

- the total efficiency gain over the period (i.e. the sum of the present values in row 11 of Table 2) is 316.1. Assuming a 30% sharing ratio, the total efficiency gain to be retained by the NSP is 94.8, with the remaining efficiency gain amount of 221.1 passed on to customers.
- of the total gain of 94.8 to be retained by the NSP, 38.2 (i.e. the sum of the present values in row 4 of Table 2) was received by the NSP via the total underspend achieved over the current regulatory period (the second bar in the chart below).
- the EBSS payment to be made to the NSP over the forthcoming regulatory period is 56.2 = 94.8 less 38.2 (i.e. the final bar in the chart below).

Figure 4: Calculation of EBSS payment

Three key element of the alternative EBSS described above are:

- firstly, for a given rate of return, applying the same sharing ratio (e.g. 30%) to the existing EBSS and alternative EBSS above delivers exactly the same present value of EBSS benefits/penalties to the NSP. This means that replacing the existing EBSS with the alternative EBSS above would not lead to windfall gains/losses to NSPs. The key benefit is that the sharing ratio would be decoupled from the rate of return, so would no longer be time-varying.
- secondly, the alternative EBSS above is very similar in design to the AER's existing CESS. Under both schemes, the incentive payments/penalties to be applied to the NSP in the next regulatory period are calculated by:
  - computing the present value of efficiency gains/losses over the current period
  - applying a fixed sharing ratio to that present value to determine the total gain/loss to be retained by the NSP, and
  - deducting from this total gain/loss any benefit/loss already received by the NSP in the current period. In the case of the CESS, this deduction takes the form of any over/under-recovery of the return on capital associated with under/overspend of capex. In the case of the alternative EBSS, the deduction takes the form of any opex savings/overspends incurred by the NSP within the current regulatory period.
- finally, implementation of the alternative EBSS would require only relatively minor changes to the existing EBSS.