Issues Paper

Transgrid
Electricity transmission revenue proposal

1 July 2023 to 30 June 2028

March 2022

AUSTRALIAN ENERGY REGULATOR

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1 Introduction

The Australian Energy Regulator (AER) exists to ensure energy consumers are better off, now and in the future. Consumers are at the heart of our work, and we focus on ensuring a secure, reliable and affordable energy future for Australia. We regulate electricity networks in all jurisdictions except Western Australia. Our primary role is in setting the maximum revenue that network businesses can recover from users of their networks. Our goal is to make decisions that ensure consumers pay no more than necessary for safe and reliable energy.

On 31 January 2022, we received a revenue proposal from Transgrid for the five-year regulatory control period starting 1 July 2023 to 30 June 2028 (2023–28 period).[1] Our final decision on this proposal will set the revenue allowance that forms the major component of Transgrid's transmission charges for the five-year period.

However, over the 2023–28 period, there are a number of additional processes in train that are likely to increase the total revenue that Transgrid will recover from its consumers. For example, we are aware of a range of projects that may be undertaken by Transgrid including:

- contingent projects that have been put forward by Transgrid as part of its 2023–28 proposal that may trigger
- projects defined by the Australian Energy Market Operator (AEMO) as necessary to its Integrated System Plan (ISP)
- Renewable Energy Zone (REZ) projects under the NSW Infrastructure Roadmap
- cost pass through events defined in the National Electricity Rules (NER or Rules) and our decision.

We have seen the effect of this during the current period. For example, the large, ISP-driven project, Project EnergyConnect (PEC), which was not initially included in forecast revenue for the 2018–23 period, but was added following further consultation and engagement during the period. Such projects have impacted pricing outcomes for consumers in the period and, as completed investments are added to Transgrid's regulatory asset base (RAB), are continuing to impact Transgrid's proposed revenue for 2023–28. We think it is important for stakeholders to be aware of these additional potential projects when considering the proposal put forward by Transgrid.

Transgrid operates and manages the high voltage electricity transmission network in NSW and the ACT, connecting generators, distributors and major end users. The network comprises the poles, wires and transformers used for transporting high voltage electricity from remote generators to population centres.

This Issues Paper highlights some of the key elements of Transgrid's 2023–28 revenue proposal, and identifies issues that, on preliminary review, are likely to be the focus of our

[1] Transgrid, *Revenue Proposal 2023–28*, January 2022. Available at: Transgrid's 2023-28 revenue proposal

assessment.[2] Stakeholders can assist our process by providing their views on these or any other aspect of the proposal.

1.1 How can you get involved?

Consumer engagement is a valuable input to our determinations. When we receive stakeholder submissions that articulate consumer preferences, address issues in a revenue proposal, and provide evidence and analysis, our decision-making process is strengthened.

You can contribute to our assessment by:

- making a written submission on Transgrid's proposal to Transgrid2023@aer.gov.au, by **11 May 2022**
- joining us, Transgrid and our Consumer Challenge Panel (CCP25)[3] at an online public forum on **4 April 2022**.[4] Details of how to register for this forum are available on our website.[5]

Table 1 sets out the key milestones planned for this review.

Table 1 Key dates for Transgrid's 2023–28 revenue determination

Milestone	Date
AER publishes Issues Paper on Transgrid's proposal	28 March 2022
AER holds public forum on Issues Paper and Transgrid's proposal	4 April 2022
Submissions due on Transgrid's proposal	11 May 2022
AER publishes draft decision	September 2022
AER holds public forum on draft decision (predetermination conference)	October 2022
Transgrid submits revised proposal to AER	November 2022
Submissions due on draft decision and Transgrid's revised proposal	January 2023
AER publishes final decision	April 2023

Note: Timelines are indicative and subject to change.

2 As required under the NER, cl. 6A.11.3(b1).

3 The role of the Consumer Challenge Panel is to assess and advise the AER on the quality of engagement undertaken by network businesses and whether the interests of customers are adequately reflected in regulatory proposals.

4 COVID-19 continues to impact our stakeholder consultation approach and the ability of all market participants to engage. In line with our Statement of Expectations, the AER acknowledges the changing operating environment and the potential for this to impact on Transgrid's five-year forecast. We propose to adopt a greater degree of flexibility in our approach to requesting and receiving information (from all stakeholders), as well as the way we consider the extenuating circumstances in our analysis.

5 See AER website: How to register for the AER's public forum

2 Our initial observations

Transgrid proposes total revenue of $4,208.1 million ($ nominal, smoothed) to be recovered from electricity consumers over the 2023–28 period. This is 5.7% higher than what we approved for the 2018–23 period.[6]

A transmission business recovers revenue from its consumers via network charges. While our decision will influence the revenue that Transgrid can recover from its transmission consumers, it will not set transmission charges or the retail prices that end-consumers pay.

The electricity consumed by NSW and ACT households and businesses is supplied through a network of "poles and wires" divided into:

- transmission – the high voltage electricity network connecting generators, distributors, and major end users
- distribution – the lower voltage electricity network carrying electricity from the points of connection with the transmission network to virtually every residence and building.

Retail prices for electricity consumers in NSW and ACT include the costs associated with operating and maintaining these transmission (9%) and distribution (36%) networks, and also costs of generation (31%), environmental schemes (8%), and costs incurred by retailers in selling electricity (9%).[7]

Transgrid's proposal goes to the transmission component of the retail bill, and the revenue allowance that Transgrid will use to calculate transmission charges each year in accordance with its approved pricing methodology.

Transgrid's proposal is the first step in a 15-month review process. Over the course of this process, as we move from proposal to draft decision, and then to revised proposal and final decision, components of forecast revenue are likely to change. These changes may result from our taking a different view on proposed revenue to Transgrid's. In addition, a standard part of our process is to update the forecast revenue for movements in market variables such as interest rates, bond rates and inflation. Movements in these market variables can have a material impact on the final revenue and, therefore, consumer bills. Therefore, projected bill impacts at this stage should be treated as no more than potential impacts subject to changes in interest rates and inflation. For illustrative purposes, though, under Transgrid's proposal, average transmission charges in nominal terms are estimated to:

- decrease by 11.5% from around 1.5 cents per kWh in 2022–23 to around 1.3 cents per kWh in 2023–24
- increase on average by 2.9% per annum over the remaining four years of the 2023–28 period to around 1.5 cents per kWh in 2027–28.

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6 In real terms ($2022–23), proposed total revenue is $170.8 million (4.2 per cent) lower than approved for 2018–23.

7 AEMC, *Data Portal, Trends in NSW supply chain components 2021/22.*

The estimated impact of this on annual electricity bills for NSW and ACT consumers, in nominal terms, over the 2023–28 period is:[8]

- for residential consumers, a decrease of $17 in annual electricity bills in 2023–24, followed by average annual increases of $4 over the following four years[9]
- for small business consumers, a decrease of $62 in annual electricity bills in 2023–24, followed by average annual increases of $15 over the following four years.[10]

Transgrid notes in its 2023–28 proposal that:

- its expenditure forecasts do not include the costs of projects in the AEMO's ISP, the NSW Infrastructure Roadmap, or the contingent projects listed in its proposal
- consumers will only pay for the above projects if they are approved by the relevant regulators
- the estimated transmission cost savings arising under its proposal will be largely offset by the above projects if they proceed in the 2023–28 period.[11]

2.1 Drivers of revenue in the proposal

To compare revenue from one regulatory period to the next on a like-for-like basis, we make an adjustment for the impact of inflation. To do this, we use "real" values based on a common year (in this case, 2022–23) which have been adjusted to remove the impact of inflation.

In real terms, Transgrid's proposal, if accepted, would allow it to recover $3,925.1 million ($2022–23, unsmoothed) from its consumers over the 2023–28 period.

Although Transgrid proposes higher nominal revenue over the 2023–28 period compared to what we approved for the 2018–23 period, Figure 1 shows a 4% decrease in proposed real revenue for the 2023–28 period compared to the 2018–23 period.

Lower real revenues over the 2023–28 period are largely driven by a decline in the rate of return in recent years and inclusion of contingent project revenues in the 2018–23 period.

By 2027–28, the end of the period covered by this determination, average transmission charges are estimated to decrease by 11.5% in real terms, subject to ongoing revenue adjustments and changes in consumer energy consumption. Figure 2 compares the 2023–28 indicative price path to the 2018–23 period.

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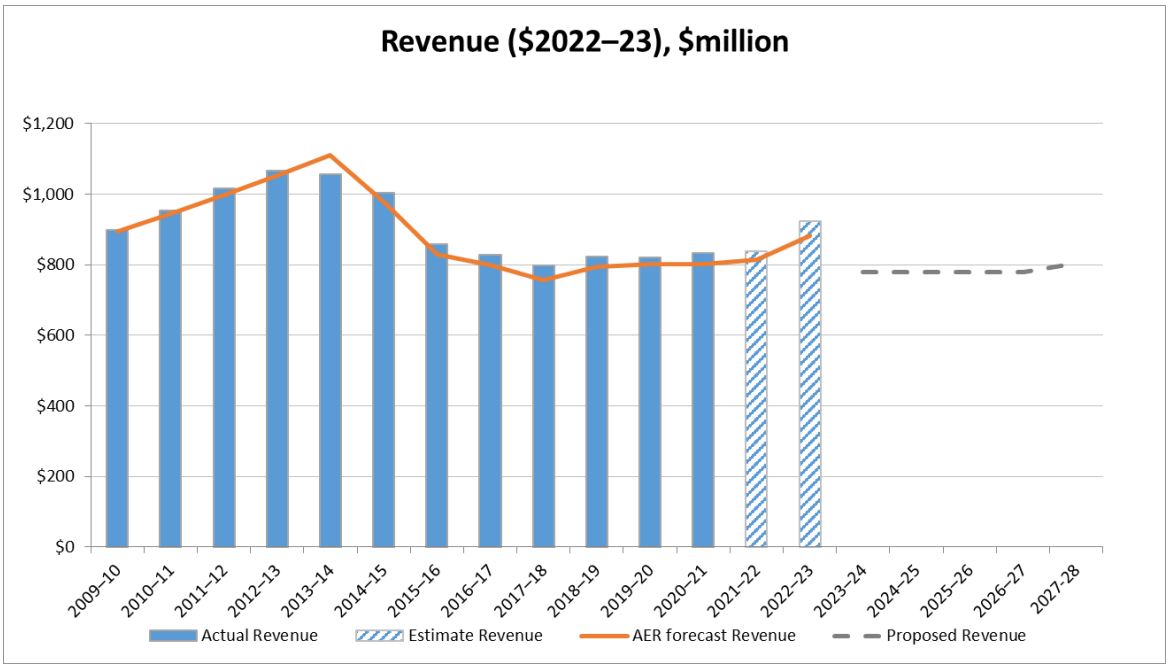
8 This translates to annual decreases of 0.2 per cent in real terms.

9 This translates to a real decrease in residential bills of approximately $20 in 2023-24, followed by average annual increases of $1 over the remaining four years of the period.

10 This translates to a real decrease in small business bills of approximately $73 in 2023–24, followed by average annual increases of less than $3 over the remaining four years of the period.

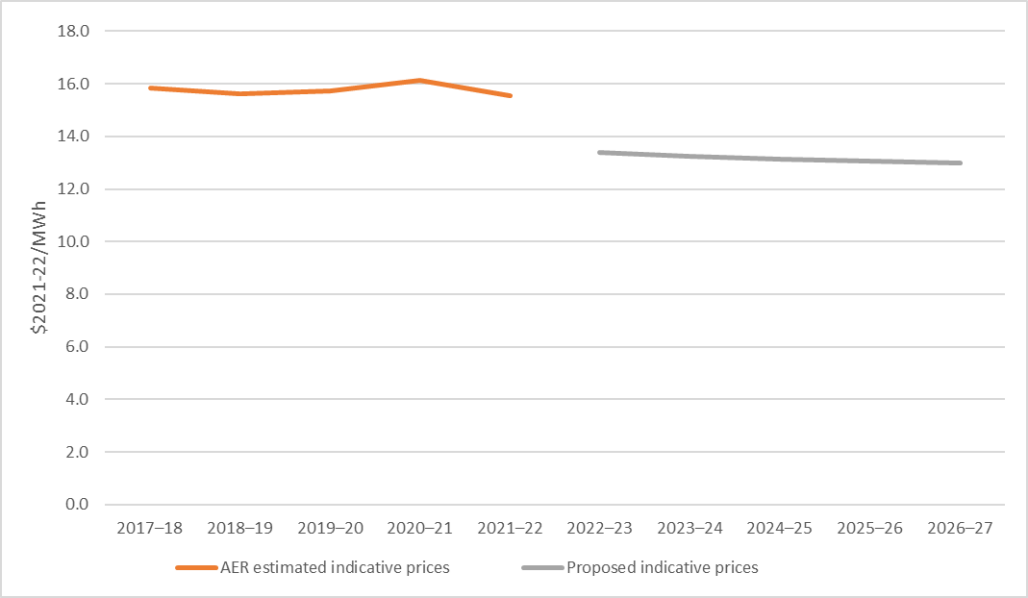
11 Transgrid, *Revenue Proposal 2023–28*, January 2022, p. 10.

Figure 1 Changes in regulated revenue over time ($million, 2022–23)



Source: AER, *Final decision PTRM* for Transgrid for 2018–23, 2014–18 and 2009–14; Transgrid, *2023–28 Post tax revenue model*, January 2022.

Figure 2 Change in 2018–23 indicative prices to proposed 2023–28 indicative prices ($2022–23) per MWh



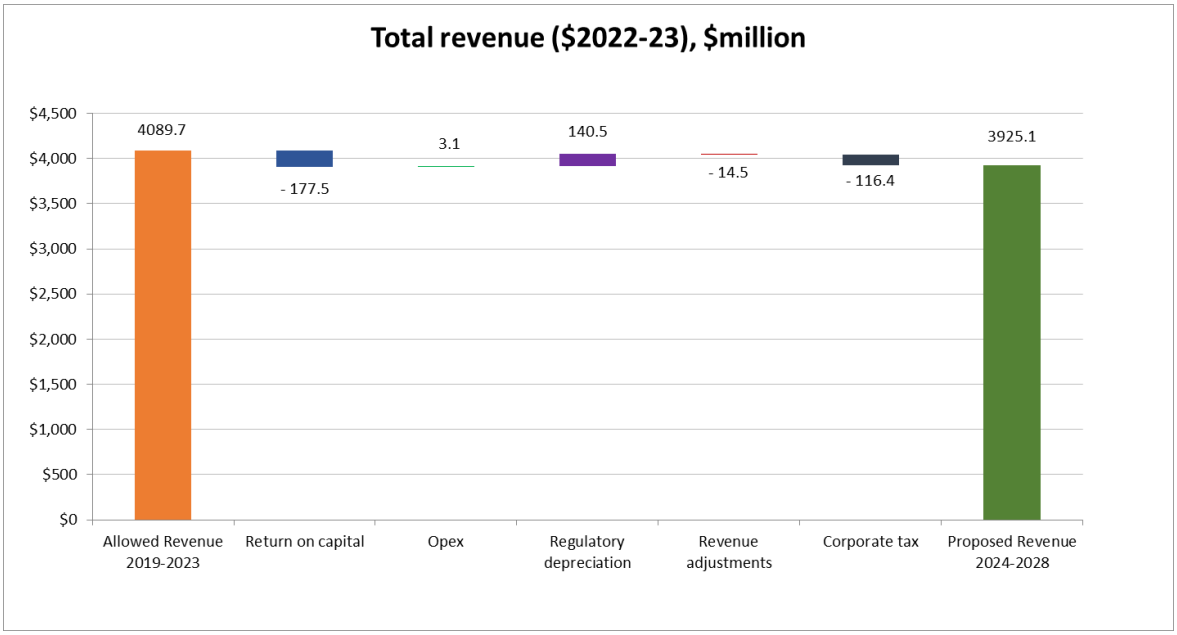
Source: AER, *Final decision PTRM for 2018–23*; Transgrid, *2023–28 Post tax revenue model*, January 2022; AEMO, *2020 Electricity Statement of Opportunities (ESOO)*.

Figure 3 highlights changes in Transgrid's proposal at the "building block" level to illustrate what is driving its proposed decrease in real revenue from 2018–23 to 2023–28.

The overall trend in revenue is primarily driven by:

- major capital projects in the 2018–23 period – driven by AEMO's ISP, these projects (namely, Project EnergyConnect, QNI minor and VNI minor) increase Transgrid's RAB and, therefore, increase the amount of regulatory depreciation it will recover in the 2023–28 period
- the offsetting impact on the return of capital – due to a reduced capital expenditure (capex) program and lower regulated rate of return for Transgrid
- application of the AER's 2018 review of the regulatory tax approach – the introduction of immediate expensing of capex and the diminishing value method of tax depreciation, result in a decrease in corporate income tax for Transgrid.

Figure 3 Changes in building blocks: Transgrid's total revenue 2018–23 to forecast revenue 2023–28 ($ million, 2022–23, unsmoothed)



Source: AER, *Transgrid PTRM – Project EnergyConnect contingent project*, May 2021; Transgrid, *2023–28 Post-tax revenue model*, January 2022.

3 Transgrid's consumer engagement

Transgrid is a natural monopoly supplying an essential service. Genuine, high quality consumer engagement by Transgrid is essential to ensuring that its proposal is driven by consumer preferences, supports delivery of services that meet the needs of its consumers, and does so at a price that is affordable and efficient. We've seen through experience that a regulatory proposal developed through genuine engagement with consumers is more likely to be largely or wholly accepted in our decisions.

Our framework for considering consumer engagement in network revenue determinations is set out in the Better Resets Handbook.[12] Used in conjunction with our technical analysis, the framework for our regulatory decision making allows us to place weight on the outcomes of the engagement activities undertaken by a business to assist in providing an overall assessment of a proposal.

We are also guided in our consideration of a business's consumer engagement by our Consumer Challenge Panel, sub-panel 25 (CCP25).[13] The role of the CCP is to assess and advise the AER on the quality of engagement undertaken by network businesses and whether the interests of consumers are adequately reflected in regulatory proposals. In 2021, we went through a process to appoint a new CCP and so there was a delay in CCP25 commencing its review of Transgrid's consumer engagement. Insights shared by CCP25 on Transgrid's consumer engagement process, including its review of key engagement materials in consultation with consumers (such as TAC meeting minutes and consumer research reports), will also be relevant to our decision making process.

We have been observing Transgrid's engagement with its Transgrid Advisory Council (TAC)[14] during the development of its 2023–28 revenue proposal since mid-2021. We note that all businesses will tailor their consumer engagement programs specific to the issues relevant to their networks and stakeholders involved. For example, Powerlink Queensland engaged early and as often as necessary during the development of its 2022–27 revenue proposal, which we considered as capable of acceptance at the draft decision stage. An early take-out from our observation of Transgrid's engagement process to date is that its 2023–28 revenue proposal may have benefitted further from earlier engagement with its consumers. This early view tends to align with the views expressed by the TAC.[15] We welcome stakeholders' views on this matter.

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12 AER, *Better Resets Handbook*, December 2021.

13 CCP25 comprises Rob Nicholls, Elissa Freeman and Mike Swanston: Further information on the CCP

14 TAC members include AEMO, Australian Industry Group, City of Sydney Council, Commonwealth Bank, Energy Consumers Australia, Energy Users Association of Australia, ERM Advisory and the Clean Energy Council, Ethnic Communities Council NSW, Goldwind, Professor Andrew Blakers (ANU), Public Interest Advocacy Centre, Snowy Hydro Ltd., St Vincent de Paul Society, Tesla and Tomago Aluminium Co. See Transgrid, *2023–28 Revenue Proposal*, p. 31.

15 Transgrid, *2023–28 Revenue Proposal*, p. 27.

3.1 Nature of engagement

The nature of engagement is about how networks engage with their consumers. Our expectations are that network businesses will sincerely partner with consumers and equip them to effectively engage in the development of their proposals.

Transgrid's consumer engagement approach focused on three objectives:

- understanding and addressing consumers' priorities and preferences
- taking a consumer centric approach to its operations
- being open and transparent.

In developing its 2023–28 proposal engagement activity, Transgrid sought input from its consumers on a draft Stakeholder Engagement Plan in May 2021.[16] A core part of Transgrid's engagement approach with consumers and industry representatives centred around the TAC, comprising consumer groups, business, finance, academia and the energy industry. Deeper consumer engagement started in June 2021 and included:[17]

- monthly TAC meetings – some of these meetings were targeted deep-dive workshops on Transgrid's energy vision, regulatory and policy issues, and HumeLink, and included presentations from industry experts.[18] The workshops were open to a broader range of stakeholders than the TAC, such as generators and battery owners/providers
- independent three-phase consumer research on consumer priorities and preferences:
    - online qualitative research ("explore") – hosting a three-day online discussion board with 32 consumers in metropolitan, regional and coastal areas, to explore the underlying needs, attitudes and expectations of Transgrid's consumers regarding their relationship with energy, for testing in the subsequent phase
    - online quantitative research ("prioritise") – undertaking an online survey of 1,480 consumers to develop a hierarchy of what is most important to consumers regarding their relationship with energy, to develop a clear prioritisation of initiatives to be included in the proposal to test with consumers
    - online qualitative research ("test") – hosting six (90 minute) online focus groups with consumers in metropolitan, regional and coastal areas, to test the appeal of Transgrid projects in the pipeline and drafted components of its 2023–28 preliminary revenue proposal for final pre-submission refinement
- inviting feedback from consumers and other stakeholders in October 2021 on its 2023–28 preliminary revenue proposal, which included draft positions and proposals.

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16 Ibid, p. 28.

17 Ibid, pp. 28–32.

18 Transgrid, *2023–28 Stakeholder Engagement Report*, p. 6.

Transgrid notes that in TAC feedback provided to it December 2021 on whether Transgrid's engagement met its engagement objectives, most TAC members agreed or strongly agreed that Transgrid's engagement on its 2023–28 proposal was open and transparent, was supported by its Executive and Leadership team, and covered matters that are most important to them.[19]

3.2 Breadth and depth of engagement

The breadth and depth of engagement is about the scope of engagement with consumers and the level of detail at which network businesses engage on issues. The breadth and depth of engagement also covers the variety of avenues used to engage with consumers.

Transgrid's Stakeholder Engagement Plan outlines its proposed consultation approach, the level of engagement on aspects of its proposal, and its alignment to the International Association for Public Participation (IAP2) Spectrum. The TAC provided feedback on the draft Plan in May 2021, and the final plan which was published in June 2021 sought to address TAC feedback to tailor matters for discussion.[20] Transgrid also notes that it sought regular TAC feedback following each monthly meeting to tailor subsequent meetings and reflect consumer priorities and preferences.[21]

Although Transgrid has explored other channels to engage with consumers (such as deep-dive workshops, one-on-one stakeholder meetings, consumer surveys, and a dedicated revenue determination website),[22] its engagement to date has been heavily focused on TAC meetings. At its 28 February 2022 TAC meeting, Transgrid noted that it aims to establish a Revenue Reset Working Group in March 2022 that could meet more regularly than the TAC over the balance of the revenue determination process to further its engagement on the proposal, including holding deep dives on issues of interest.

Five key priorities have influenced Transgrid's 2023–28 proposal through its engagement with consumers and the TAC:[23]

- affordability – the price of electricity is a key concern for residential and small business consumers, and they want Transgrid to prioritise investment that improves electricity affordability, particularly in the next four years
- safety, security and reliability – while consumers are satisfied with current reliability levels, they expressed a strong preference for investment to facilitate renewables and increase safety
- rapid localised demand growth – consumers want the energy industry to invest in infrastructure and technologies that cater for increasing future demand, driven by new residential and commercial developments, major transport projects and data centres, and mining and industrial developments in regional NSW

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19 Transgrid, *2023–28 Revenue Proposal*, p. 27.

20 Ibid, p. 27.

21 Ibid, p. 31.

22 Transgrid, *2023–28 Stakeholder Engagement Plan*, pp. 8–9.

23 Transgrid, *2023–28 Revenue Proposal*, pp. 1, 33–38.

- energy transition – the environment and climate change are consumers' most important priorities when they think about the future, and they want the energy industry to reduce emissions and to invest in infrastructure and technologies that promote renewables as well as safety and capacity to cater for future demand
- technology and innovation – consumers expect more investment in research and innovation across all industries to maintain competitiveness and a high standard of living, and they promoted technological innovation to mitigate climate change and make energy more affordable.

We note the TAC's feedback to Transgrid that its engagement could be further improved by starting earlier in the revenue determination process, establishing a reset working group based on a sub-set of the TAC, and undertaking more deep-dives.[24] We note Transgrid's commitment to acting on this feedback over the balance of this revenue determination process.[25]

3.3 Clearly evidenced impact

Transgrid submits that its engagement approach on its 2023–28 proposal builds on, and extends, its ongoing business-as-usual engagement. Regard has been given to lessons learned and feedback on its 2018–23 approach, IAP2 Spectrum best practice engagement, and AER guidance.[26] We also note that, in its 2023–28 proposal, Transgrid has self-assessed against the consumer engagement principles outlined in the AER's Better Resets Handbook, which we applaud and encourage stakeholder views.[27]

Transgrid submits that its 2023–28 proposal delivers on the consumer feedback it received by outlining how it has addressed each of the five key consumer priorities set out in section 3.2. For example, Transgrid notes that, as affordability is a priority for its consumers, it expects to deliver an estimated annual bill reduction of $19.55 for residential consumers and $73.05 for small business consumers, over the 2023–28 period. We are particularly interested in stakeholders' views on how well they consider Transgrid has addressed consumers' key priorities as part of its 2023–28 proposal.

Questions

1. Do the key themes from Transgrid's engagement resonate with your own preferences? Are there additional issues you would like to see influence Transgrid's proposal and our assessment of the proposal?
2. Do you think Transgrid has engaged meaningfully with consumers on all key elements of its 2023–28 proposal? Are there any key elements that require further engagement?
3. To what extent do you consider you were able to influence the topics engaged on by Transgrid? Please give examples.

[24] Ibid, p. 27.
[25] Ibid, p. 40.
[26] Ibid, p. 28.
[27] Ibid, p. 39.

4 Key elements of Transgrid's revenue proposal

The regulatory framework governing electricity networks and our assessment of Transgrid's proposal is set out in the National Electricity Law and Rules (NEL and NER). Our work is guided by the National Electricity Objective (NEO) which promotes efficient investment in, and operation and use of, electricity services in the long term interests of consumers.[28]

The foundation of our regulatory approach is a benchmark incentive framework to setting maximum revenues: once regulated revenues are set for the five-year period, a network that keeps its actual costs below the regulatory forecast of costs retains part of the benefit. Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. This delivers benefits to consumers as efficient costs are revealed over time and drive lower cost benchmarks in subsequent regulatory periods. By only allowing efficient costs in our approved revenues, we promote delivery of the NEO and ensure consumers pay no more than necessary for the safe and reliable delivery of electricity.

Transgrid's proposed revenue reflects its forecast of the efficient cost of providing transmission network services over the 2023–28 period. Its 2023–28 proposal, and our assessment of it under the Law and Rules, are based on a "building block" approach which looks at five cost components (see Figure 4):

- return on the RAB – or return on capital, to compensate investors for the opportunity cost of funds invested in this business
- depreciation of the RAB – or return of capital, to return the initial investment to investors over time
- forecast operating expenditure (opex) – the operating, maintenance and other non-capital expenses, incurred in the provision of network services
- revenue increments/decrements – resulting from the application of incentive schemes and allowances, such as for opex, capex and demand management innovation
- estimated cost of corporate income tax.

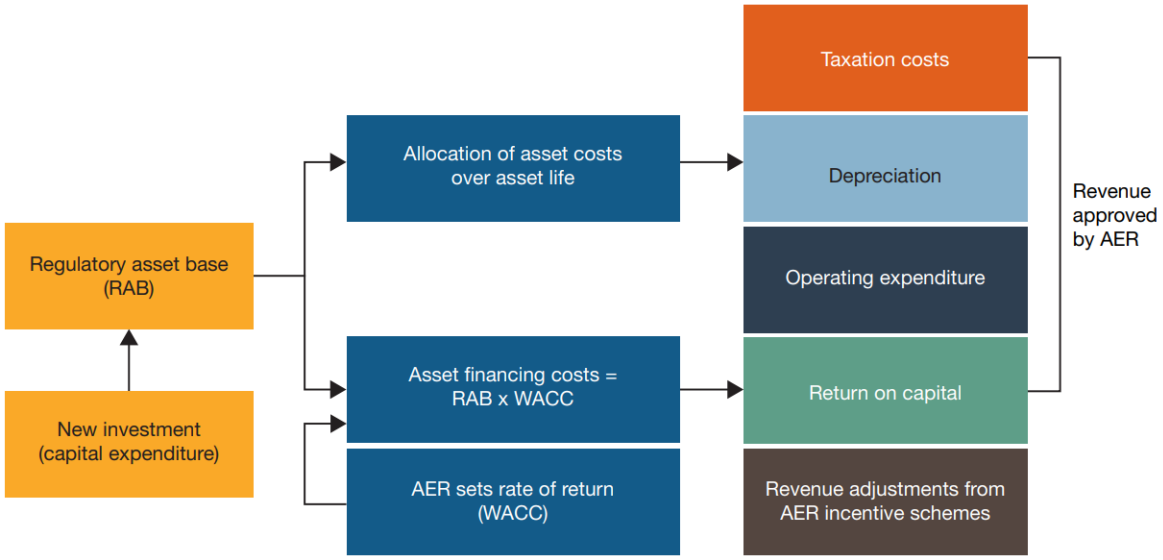
Our assessment breaks these costs down further. For example:

- capex – this refers to capital costs and expenditure incurred in the provision of network services and mostly relates to assets with long lives, the costs of which are recovered over several regulatory periods. The forecast capex approved in our decisions directly affects the size of the capital base and, therefore, the revenue generated from the return on capital and depreciation building blocks. All else being equal, higher capex will lead to a higher RAB, return on capital and depreciation
- RAB value – the RAB accounts for the value of regulated assets over time. To set revenue for a new regulatory period, we take the opening RAB value from the end of the last period, and roll it forward year-by-year by indexing it for inflation, adding new capex and subtracting depreciation and other possible factors (such as disposals or

[28] National Electricity Law (NEL or Law), s. 7.

consumer contributions).[29] This gives us a closing RAB value at the end of each year of the regulatory period. The RAB value is used to determine the return on capital and depreciation building blocks.

Figure 4 The building block model to forecast network revenue



Source: AER, *State of the Energy Market 2021*, June 2020, p. 134.

4.1 Rate of return

The return each business is to receive on its capital base ("return on capital") is a key driver of proposed revenues. We calculate the regulated return on capital by applying a rate of return to the RAB value.

We estimate the rate of return by combining the returns of two sources of funds for investment: equity and debt. The allowed rate of return provides the business with a return on capital to service the interest rate on its loans, and give a return on equity to investors.

Transgrid proposes a return on capital of $2,067.6 million ($2022–23) for the 2023–28 period, which is $177.5 million (7.9 percent) lower than for the 2018–23 period. This is largely driven by a decline in the rate of return over recent years from around 5.94% to 4.70% (indicative) in the first year of the 2023–28 period.

The approach that Transgrid, and we, must take to estimate the rate of return, including the return on debt and the return on equity, as well as the value of imputation credits, is set out in our binding Rate of Return Instrument. We publish a new Rate of Return Instrument every 4 years. For the purpose of its proposal, Transgrid has applied our current, 2018 Rate of Return Instrument (2018 Instrument), as set out in Table 2. Our final decision on Transgrid's proposal, which will be made in April 2023, will apply the new

[29] The term 'rolled forward' means the process of carrying over the value of the RAB from one regulatory year to the next. This is reflected in the AER's roll forward model (RFM).

2022 Rate of Return Instrument which we will publish later this year. Therefore, stakeholders should treat the rate of return estimates submitted by Transgrid as indicative pending the 2022 Rate of Return Instrument.

In 2020, we concluded a review of our approach to estimating expected inflation. Transgrid has applied the approach we established in that review, but once again, the estimates provided by Transgrid should be considered indicative because estimates of inflation may change as we move through the process.

Table 2 Key rate of return values

	Transgrid's proposal	2018 Instrument
Return on equity	5.38% (indicative)	Risk free rate + 3.66%
Risk free rate	1.72% (indicative)	Based on criteria in the instrument
Market risk premium	6.1%	6.1%
Equity beta	0.6	0.6
Equity risk premium (market risk premium*equity beta)	0.6*6.1%=3.66%	0.6*6.1%=3.66%
Return on debt (nominal pre-tax)	4.25% (indicative)	Based on criteria in the instrument
Gearing	60%	60%
Gamma (value of imputation credits)	0.585	0.585

Source: AER analysis; Transgrid, *2023–28 Revenue proposal*, January 2021.

4.2 Regulatory asset base and depreciation

The RAB is the value of assets used by Transgrid to provide network services. The value of the RAB substantially impacts Transgrid's revenue requirement, and the price consumers ultimately pay. Other things being equal, a higher RAB would increase both the return on capital and depreciation components of the revenue determination.

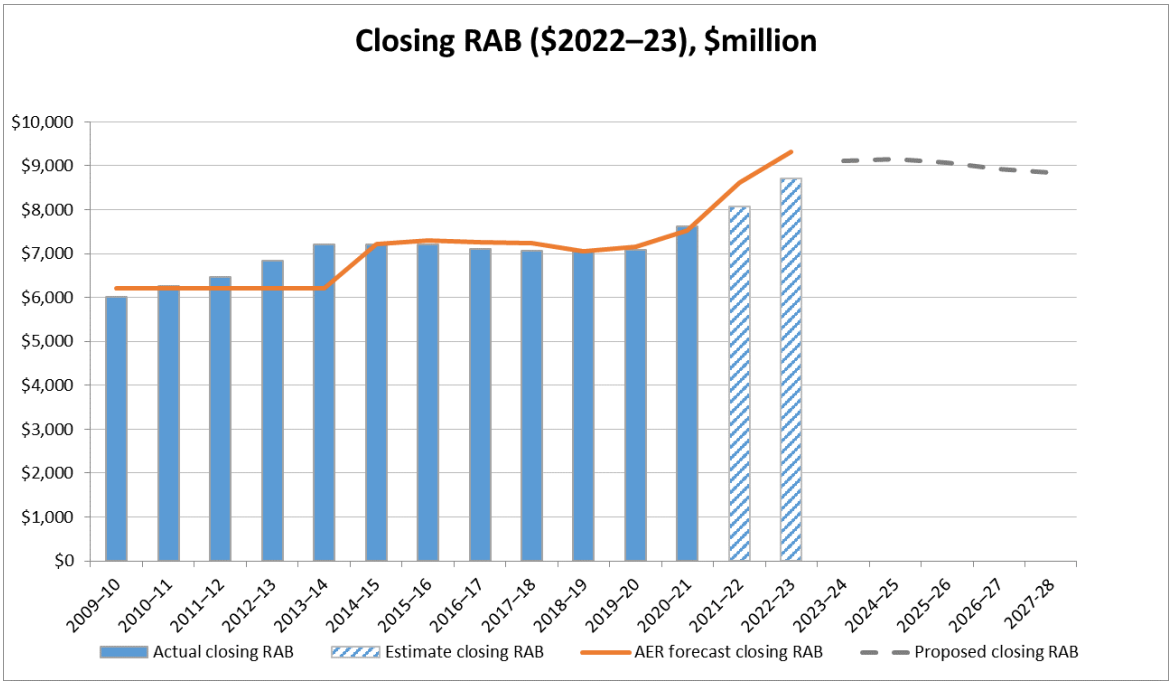
Transgrid proposes a RAB of $9,925.8 million ($ nominal) by the end of 2023–28 period, which is $1,212.9 million higher than for the end of 2018–23 period.[30] This follows a forecast RAB increase of $2,341.7 million ($ nominal) over the 2018–23 period. The proposed RAB increase ($ nominal) over the 2023–28 period is primarily driven by significant residual capex from PEC being spent in the first year of the forecast period. Figure 5 shows the value of Transgrid's RAB over time.

Regulatory depreciation is provided so investors recover their investment over the economic life of the asset ("return of capital"). Transgrid proposes regulatory depreciation of $743.3 million ($2022–23) for the 2023–28 period, which is $140.5 million (23.3%)

[30] Transgrid, *2023–28 Revenue proposal*, January 2022, p. 125.

higher than for the 2018–23 period.[31] The higher depreciation is due to the significant growth in Transgrid's RAB in the final two years of the 2018–23 period and the first year of the 2023–28 period arising from AEMO's ISP projects, and in particular, PEC. This is further impacted by a lower forecast inflation proposed by Transgrid for the 2023–28 period.

Figure 5 Transgrid's RAB value over time ($ million, 2022–23)



Source: AER, *Final decision Transgrid transmission determination – RFM*, April 2015; AER, *Final decision tribunal varied PTRM* for Transgrid for 2009–14, November 2009; AER, *Final decision Transgrid* –Roll forward model, May 2018; AER, *Revocation and substitution of final decision PTRM* for Transgrid for 2014–18, May 2018; Transgrid, *2023–28 Roll-forward model,* January 2022, AER, *Return on debt update 2022-23 PTRM* for Transgrid for 2018–23, January 2022; Transgrid, *2023–28 Post-tax revenue model*, January 2022.

Transgrid proposes to change its depreciation forecasting approach from a period-by-period approach to a year-by-year tracking approach for the 2023–28 period. Both approaches are based on the same principle of preserving the depreciation schedule of new capex spend and implement the straight-line depreciation method. We will assess the impact of Transgrid's proposed change in approach. However, based on our previous analysis, we do not expect there to be any significant step-up in regulatory depreciation as a result of this change because the two approaches deliver similar depreciation amounts.

Transgrid also proposes to maintain the same asset classes and standard asset lives as approved for the 2018–23 period, except for a new "Leasehold Land and Property" asset class to reflect a change in accounting standards which requires certain lease costs to be capitalised (Transgrid has assigned a standard asset life of 10 years). We will use a

[31] Ibid, p. 120.

similar approach as that applied in our previous determinations in assessing the appropriate standard life for capitalised leases.

Question
4. Do you have views on Transgrid's proposed depreciation approach, as set out in its 2023–28 proposal?

4.3 Capital expenditure

Capital expenditure (capex) refers to the capital cost and expenditure incurred in the provision of Transgrid's network services. Capex is added to the RAB, and so forms part of the capital costs of the building blocks used to determine total revenue.

We must accept the proposed forecast of total capex if we are satisfied it reasonably reflects the capex criteria set out in the Rules.[32] The capex criteria relate to the efficient costs incurred by a prudent operator in light of realistic demand forecasts and cost inputs. We must have regard to the capex factors in the Rules when making that decision.[33]

4.3.1 How we assess capex

4.3.1.1 Proposed capex

Proposed capex refers to the ex-ante component of Transgrid's forecast capex. We assess capex proposals through a combination of top-down and bottom-up assessments. If we are satisfied the service provider's proposal reasonably reflects the capex criteria, we accept it. If we are not satisfied, the Rules require us to put in its place a substitute estimate which we are satisfied reasonably reflects the capex criteria taking into account the capex factors.[34] The assessment techniques that we may adopt to assess Transgrid's forecasts of total capex are outlined in our expenditure forecast assessment guideline.[35]

4.3.1.2 Contingent projects

We will assess Transgrid's proposed contingent projects as part of this determination.[36] However, this capex will not contribute to Transgrid's approved revenue for the 2023–28 period at the time of our final decision. Instead, if the defined trigger event for a particular contingent project occurs within the 2023–28 period, we will amend the determination and include an approved contingent project amount.[37] This means that consumers will only pay for these projects if they are very likely to proceed.

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32 NER, cl. 6A.6.7(c).
33 NER, cl.6A.6.7(e).
34 NER, cl.6A.13.2(b)(4).
35 AER, *Expenditure forecast electricity distribution guideline*, November 2013.
36 Contingent projects exclude integrated system plan projects and NSW electricity infrastructure roadmap projects.
37 NER, cl. 6A.8.1(c).

4.3.1.3 Integrated System Plan and NSW renewable energy zone projects

Transgrid's actionable and future ISP projects, and NSW REZ projects, will not form a part of Transgrid's revenue allowance for the 2023–28 period. Approved projects will be included in consumers' bills under a separate process.

4.3.2 Transgrid's capex proposal

Table 3 summarises the components of Transgrid's capex proposal for the 2023–28 period, split into the three components outlined in section 4.3.1. Total forecast capex for 2023–28 is $14,429.1 million.

Table 3 Transgrid's capex proposal, 2023–28 period

Component	Forecast ($ milllion)	Our assessment approach
Total forecast capex	**14,429.10**	
Proposed capex	2,643.2	
Base capex	*1,368.5*	Assessed as part of this revenue determination and approved costs will be reflected in customer bills.
Project EnergyConnect (PEC)	*532.8*	
Augex major projects	*741.9*	
Contingent projects	1,175.9	Assessed as part of this revenue determination and approved costs will be reflected in customer bills only if the project(s) goes ahead.
Integrated System Plan (ISP) and NSW renewable energy zone (REZ) projects.	10,610.0	Not part of this revenue determination.

Source: Transgrid's revenue proposal and capex model.
Note: Numbers may not add up due to rounding.

4.3.2.1 Proposed capex

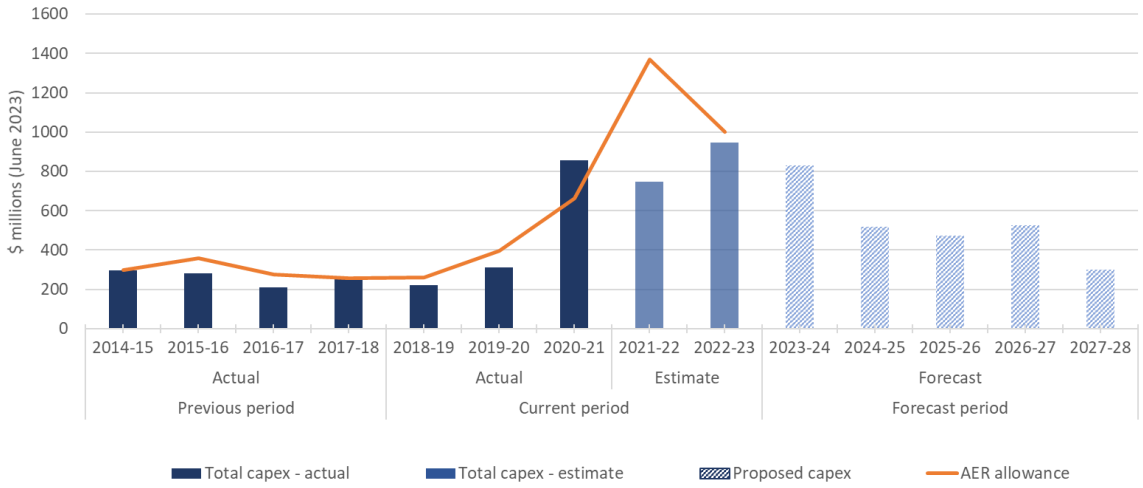
We will assess proposed capex of $2,643.2 million for the 2023–28 period, which will form part of our draft decision. Proposed base capex is 14% lower than actual/estimated capex in the 2018–23 period and includes:

- Base capex – this is the amount that Transgrid refers to in its proposal and excludes capex for Project EnergyConnect[38] (PEC) and augmentation capital expenditure (augex) major projects.
- PEC – this amount has been deferred into the 2023–28 period. While Transgrid refers to this project as pre-approved capex in its proposal, we will assess whether the proposed capex is prudent and efficient in the same way as for all proposed capex.
- Augex major projects – this includes four major augex projects that are currently undergoing a Regulatory Investment Test for Transmission (RIT-T). Transgrid proposes these capex as contingent projects, but we will assess them as part of proposed capex.

[38] Project EnergyConnect is the SA to NSW interconnector to be built by ElectraNet and Transgrid – an electricity line connecting SA to NSW, with an added connection to North-West Victoria.

Figure 6 shows Transgrid's proposed capex and its actual/estimated capex over the 2014–18, 2018–23 and 2023–28 periods.

Figure 6 Transgrid's actual and proposed capex, 2014–15 to 2027–28



Source: Transgrid's revenue proposal, capex model, RINs and AER analysis.
Note: Proposed capex includes PEC and augex major projects. It does not include contingent projects, ISP and NSW REZ projects.

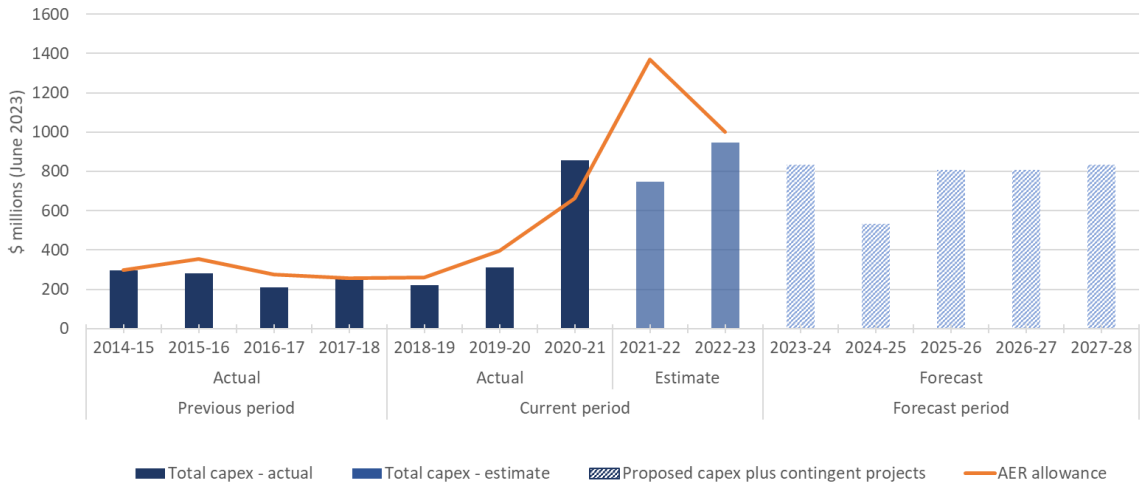
4.3.2.2 Contingent projects

Transgrid identifies eight standard contingent projects in its revenue proposal. We will assess these projects to ensure they meet the requirements of a contingent project under the NER.[39] Consumers will only pay for a contingent project if a defined trigger event takes place in the regulatory period. Proposed capex plus standard contingent projects is $3,819 million for the 2023–28 period.

Figure 7 shows Transgrid's proposed capex plus standard contingent projects and its actual/estimated capex over the 2014–18, 2018–23 and 2023–28 periods.

[39] NER, cl. 6A.8.1.

Figure 7 Transgrid's actual and proposed capex including contingent projects, 2014–15 to 2027–28



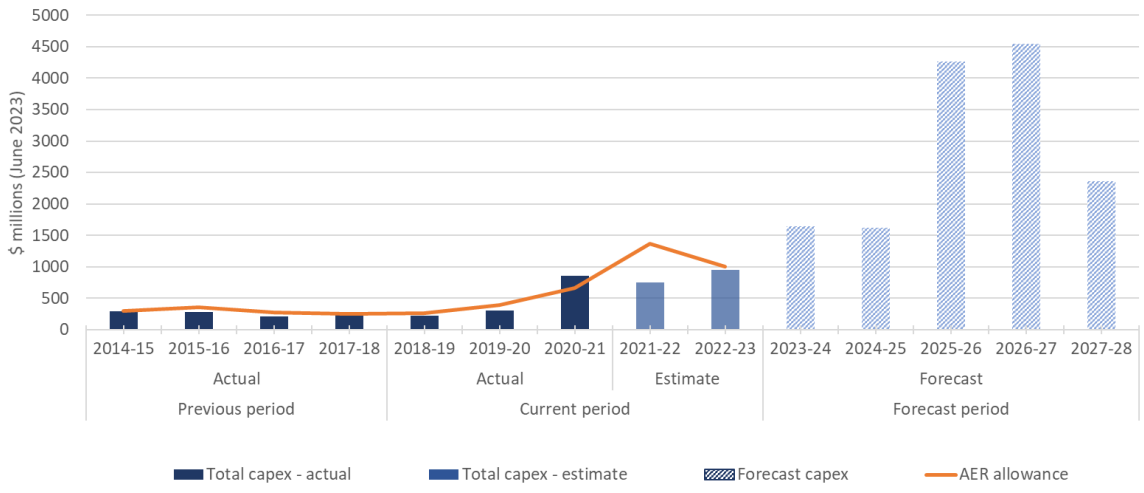
Source: Transgrid's revenue proposal, capex model, RINs and AER analysis.
Note: Proposed capex plus contingent projects includes Project EnergyConnect and augex major projects. It does not include ISP and NSW REZ projects.

4.3.2.3 Integrated System Plan (ISP) and NSW Renewable Energy Zone (REZ) projects

Transgrid's total forecast capex includes $6,399 million for AEMO's ISP projects and $4,211 million for REZ projects under the NSW Electricity Infrastructure Roadmap. These projects do not form part of this revenue determination but will impact consumers' bills if they go ahead.

Figure 8 shows Transgrid's total forecast capex, which includes its proposed capex, standard contingent projects and ISP and NSW REZ projects.

Figure 8 Transgrid's actual and proposed capex including contingent projects and ISP and NSW REZ projects, 2014–15 to 2027–28



Source: Transgrid's revenue proposal, capex model, RINs and AER analysis.

4.3.2.4 Bill impacts

Table 4 shows the indicative bill impact if all contingent projects and ISP and NSW REZ projects included in Transgrid's capex forecast, are to go ahead.

In the table below, proposed capex of $1,901 million (including base capex and PEC) is the amount that Transgrid includes in its proposed revenue. Based on this amount, Transgrid estimates annual savings of around $20 for the average residential consumer and around $73 for the average small business consumer from 2022–23 to 2027–28.

Table 4 Bill impact of components of Transgrid's forecast capex, 2023–28 period

Component	Residential	Small business
Proposed capex - includes PEC - excludes augex major projects	Savings of $19.55 from 2022-23 to 2027-28	Savings of $73.05 from 2022-23 to 2027-28
Proposed capex plus contingent projects - includes augex major projects	Reduces savings by $3.02	Reduces savings by $11.30
Total forecast capex - includes ISP and NSW REZ projects	Reduces savings by $20.43	Reduces savings by $76.35

Source: Transgrid's revenue proposal and AER analysis.
Note: The values do not sum exactly due to impact of equity raising costs. The estimated impact of adding the contingent, NSW REZ and ISP projects is indicative. Values are estimated annual bills for residential and small business consumers.

4.3.2.5 Transgrid has provided a capex clarification letter

As requested by the AER for increased transparency, Transgrid provided a clarification letter to the AER on 10 February 2022 to clarify that it had excluded four major augex projects currently undertaking a RIT-T from its 2023–28 proposal.[40] Transgrid explained the projects were excluded from the proposal because of "…the current uncertainty and the potential size of these projects."[41]

Transgrid noted the addition of the indicative cost of the projects "…would increase [its] capex forecast by $741.9 million to $2,110.4 million, which is $764.8 million or 56.8% higher than our [Transgrid's] estimated capex for the 2018–23 regulatory period."[42] This amount excludes Project EnergyConnect.

[40] We published this letter on our website with Transgrid's 2023–28 proposal. See: Clarification letter to the AER
[41] Transgrid, *Clarification letter to AER*, 10 February 2022, p. 5.
[42] Ibid, p. 5.

Transgrid clarified that the estimated cost range for the augex major projects is $564.8 million to $2,075.2 million.[43] It said that it will include these projects in its revised proposal if a network solution is selected as the preferred option.[44]

4.3.3 Key drivers of the capex proposal

The key drivers of Transgrid's proposed capex are:

- Augmentation ($253.6 million) – load growth, particularly in Western Sydney, and regulatory compliance obligations related to voltage levels driven by solar generation.[45]
    - Transgrid's augex forecast excludes PEC and the augex major projects discussed in section 4.3.2.1. When these are included, proposed augex is $1,528.0 million, which is around 400% higher than the 2018–23 period.
- Replacement ($797.6 million) – ageing assets, asbestos removal, resilience, cyber/physical security and protection systems renewal. Transgrid also proposes an increase in "site establishment and supporting assets" repex following improved inspection techniques that have revealed significant steelwork corrosion.[46]
- Non-network ($158.3 million) – ICT replacement of applications and platforms, transition to cloud-based platforms and meeting its cyber security obligations.[47]

4.3.4 Additional projects not included in the capex proposal

Transgrid notes in its 2023–28 proposal that it may include additional capex in its revised proposal, which have not been included above. This includes possible capex for COVID-19 impacts, network readiness for 100% renewable generation, and technology and innovation. These costs and projects are either undergoing further consultation with stakeholders, or Transgrid will examine further changes to economic conditions before deciding whether to include this capex.

While we appreciate that Transgrid's 2023–28 proposal may need to change due to circumstances outside of a business's control, the revised proposal should only include changes required by, or to address matters raised in, the draft decision.[48] Furthermore, our expectation would be that consumers are properly consulted on any such changes.

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43 Ibid, p. 3.
44 Ibid, p. 5.
45 Transgrid, *2023–28 revenue proposal*, p. 108.
46 Ibid, p. 107.
47 Ibid, p. 113.
48 NER, cl. 6A.12.3(b).

Questions

5. Do you consider Transgrid's capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
6. Has Transgrid engaged constructively with its stakeholders on its capex proposal? Please provide reasons for your response.
7. Are there particular areas of Transgrid's capex proposal that you would expect further engagement on?
8. What are your expectations on consultation for the additional augmentation capex (augex) which has not been included in Transgrid's capex proposal, but may be included in its revised capex proposal? Do you think it is appropriate to classify the proposed augex projects as contingent projects?

4.4 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenditure incurred in the provision of network services. It includes labour costs and other non-capital costs that a prudent service provider is likely to require for the efficient operation of its network. Forecast opex is one of the "building blocks" used to determine Transgrid's total revenue requirement.

We must accept a network service providers' forecast of total opex if we are satisfied it reasonably reflects the opex criteria.[49] The opex criteria relate to the efficient costs incurred by a prudent operator in light of realistic expectations of the demand forecast and cost inputs. We must have regard to the opex factors when assessing the network service provider's forecast opex.[50]

If we are not satisfied that the opex proposal reasonably reflects the opex criteria, we must not accept it.[51] We must estimate the total required opex that, in our view, reasonably reflects the opex criteria, taking into account the opex factors.

4.4.1 How we assess opex

We have outlined our approach to assessing a network service provider's total opex forecast in our expenditure forecast assessment guideline.[52]

Our approach is to compare the network service provider's total forecast opex with an alternative opex estimate that we develop and that reasonably reflects the opex criteria.[53] By doing this, we form a view on whether we are satisfied that the network service provider's proposed total forecast opex reasonably reflects the opex criteria. If we conclude the proposal does not reasonably reflect the opex criteria, we use our alternative estimate to develop a substitute forecast.

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49 NER, cl. 6A.6.6(c).
50 NER, cl. 6A.6.6(e).
51 NER, cl. 6A.6.6(d).
52 AER, *Expenditure forecast assessment guideline*, November 2013.
53 Ibid.

Our alternative opex estimate is unlikely to exactly match the network service provider's opex forecast because it may not adopt the same forecasting method. However, if the network service provider's inputs and assumptions are reasonable, then its forecasting method should produce a forecast consistent with our alternative estimate.

If a network service provider's total forecast opex is materially different to our alternative opex estimate, and we find no satisfactory explanation for this difference, we may form the view that the network service provider's forecast does not reasonably reflect the opex criteria. Conversely, if our alternative estimate demonstrates that the network service provider's forecast reasonably reflects the opex criteria, we will accept the forecast.[54]

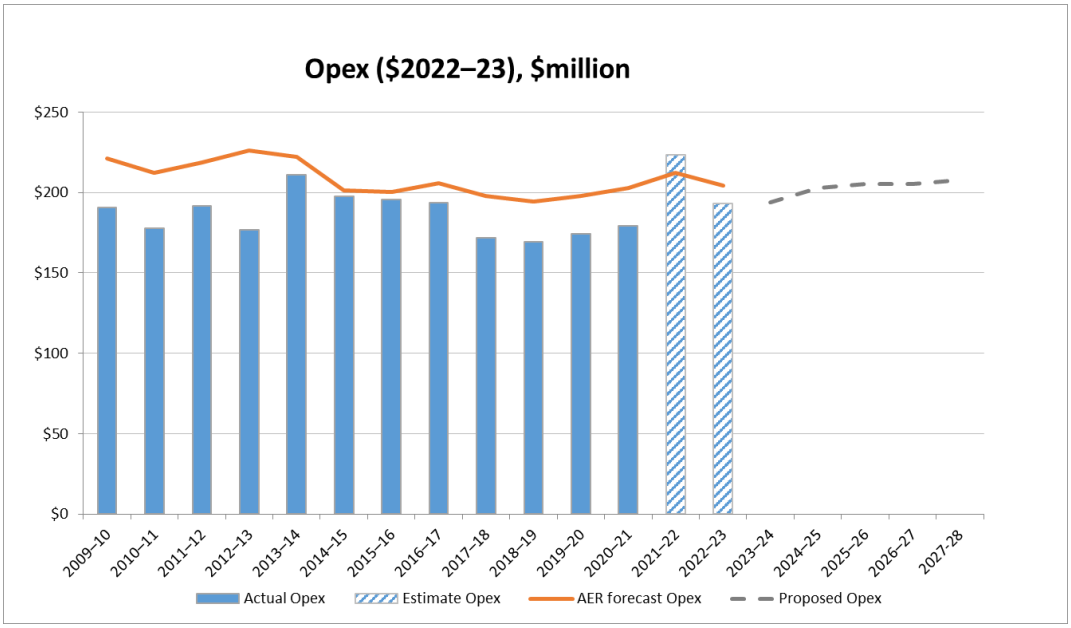
4.4.2 Transgrid's opex proposal

Transgrid proposes total opex of $1,015.0 million ($2022–23) for the 2023–28 period, or:[55]

- $65 million (6.8%) more than Transgrid's actual/estimated opex for the 2018–23 period
- $9.0 million (0.9%) less than the opex forecast we approved for the 2018–23 period.

Figure 7 shows the trend in Transgrid's total opex over time.

Figure 7 Transgrid's opex over time ($ million, 2022–23)



Source: Transgrid, *Economic benchmarking – Regulatory Information Notice response 2009–21*; AER, *Final decision PTRM 2009–14*; AER, *Final decision 2014–18 PTRM*; AER, *Final decision 2018–23 PTRM* and *Opex model*; Transgrid, *2023–28 Revenue proposal,* January 2022; AER analysis.
Note: Includes debt raising costs, AEMC levy and Grid support.

54 NER, cl. 6A.6.6(c).
55 Including debt raising costs.

4.4.3 Key drivers of the opex proposal

Transgrid used a base-step-trend approach to forecast opex for the 2023–28 period. This is broadly consistent with our approach to assessing opex, as outlined in our expenditure forecast assessment guideline.[56]

Transgrid used an estimate of opex in 2021–22 as the base to forecast ($1,092.2 million ($2022–23)) because "…it represents a realistic expectation of the efficient and sustainable on-going opex".[57] Transgrid then:

- removed $212.7 million from base opex, reflecting the sum of:
    - bushfire remediation costs incurred in 2021–22, which are not expected to be recurring costs
    - on-recurrent software as a service (SaaS) costs, which were one-off costs relating to Transgrid's 'Digital Core' initiative to replace its previous enterprise resource planning system
        - We note that when one-off factors impact expenditure in the proposed base year, our preferred approach is to choose an alternative year uninfluenced by these factors.[58]
- added $8.1 million to reflect the change in opex between the base year (2021–22) and final year (2022–23), using the approach outlined in the expenditure forecast assessment guideline
- removed $2.9 million of network support costs and debt raising costs, which it forecast on a category specific basis
- applied a rate of change comprised of:
    - output growth – Transgrid forecast output growth of $47.3 million for the 2023–28 period, largely driven by the forecast increase in circuit line length of 1,368 km associated with Project EnergyConnect. Transgrid used the output measures and weights from our 2021 Economic Benchmarking Report,[59] and is consistent with our standard approach. We intend to undertake an independent review of the output weights for the 2022 Annual Benchmarking Report. We updated the output weights in our 2020 annual benchmarking report following the correction of an error in our multilateral total factor productivity benchmarking. This increased the weight to circuit length and reduced the weight to consumer numbers. Following this correction, stakeholders suggested an independent review of the output weights given the materiality of the changes and that we have not reviewed the approach to determining these weights since 2014.

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56 AER, *Expenditure forecast assessment guideline*, November 2013.

57 Transgrid, *2023–28 revenue proposal*, p. 117.

58 AER, *Explanatory Statement, Efficiency Benefit Sharing Scheme for Electricity Network Service Providers*, November 2013, pp. 14–16.

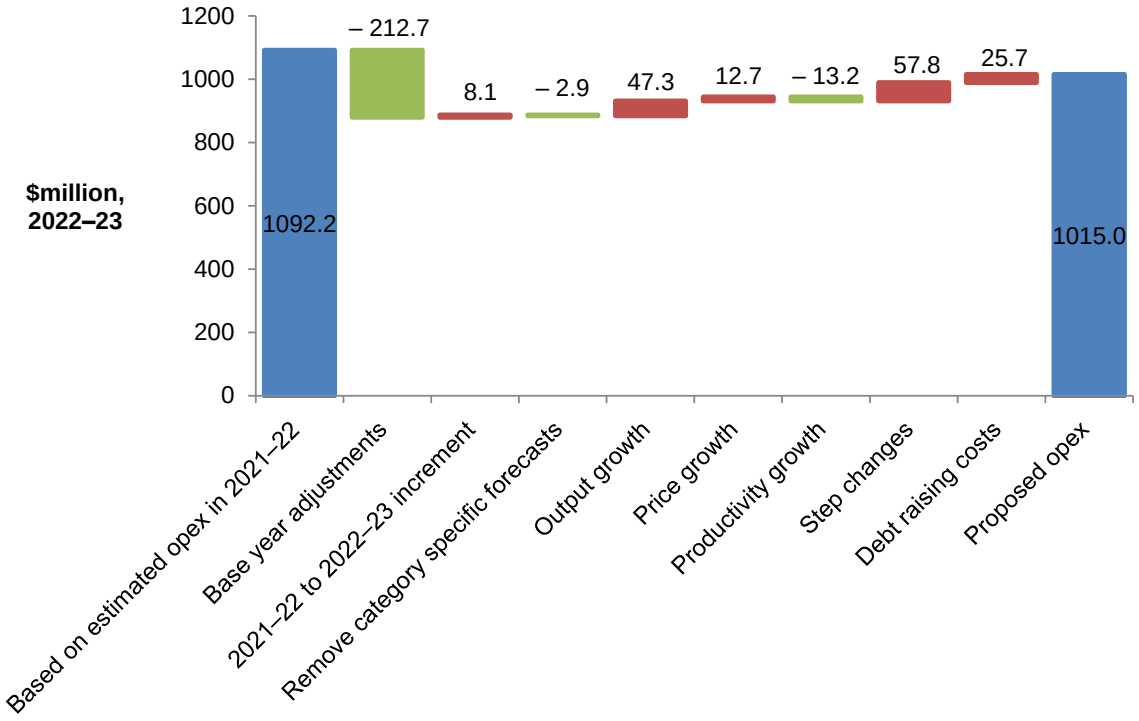
59 AER, *Annual Benchmarking Report – Electricity transmission network service providers*, November 2021, p. 4–5.

    - real price growth – Transgrid forecast price growth of $12.7 million for the 2023–28 period, based on the wage price index (WPI) forecasts from its consultant, BIS Oxford Economics. Transgrid did not adopt our standard approach for calculating the WPI, which is to average the BIS Oxford Economics forecasts with a forecast from our consultant
    - productivity growth – Transgrid forecast productivity growth of 0.5% per annum for the 2023–28 period, reducing its opex forecast by $13.2 million. This productivity growth rate is from our 2021 Economic Benchmarking analysis[60], and is consistent with our standard approach
- added three step changes totalling $57.8 million for:
    - insurance premiums – Transgrid has proposed a $30.0 million step change to account for forecast increases to insurance premiums over the 2023–28 period associated with significant volatility in global insurance markets and a contraction in available insurance cover capacity
    - cyber and critical infrastructure security – Transgrid has proposed a $25.0 million step change for additional opex it expects to incur to meet cyber security obligations to comply with new critical infrastructure legislation. Our assessment will consider the latest advice from relevant government bodies and our treatment of similar costs from recent decisions
    - ISP preparatory activity – Transgrid has proposed a $2.9 million step change to undertake preparatory activities for future ISP projects, as determined by AEMO.
- added $25.7 million ($2022–23) for debt raising costs.

Figure 8 shows how each of these components contributes to Transgrid's total opex forecast.

[60] Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2021 TNSP Annual Benchmarking Report*, November 2021, p. 60.

Figure 8 Breakdown of Transgrid's opex forecast ($ million, $2022–23)



Source: Transgrid, *Operating Expenditure Model,* January 2022; AER analysis.

Transgrid stated that it had considered the priorities and preferences of its consumers and other stakeholders in developing its opex forecast. Transgrid stated that, in response to its Preliminary Revenue Proposal (5 October 2021), overall, stakeholders supported its approach to forecasting opex, the drivers of its step changes, and the level of its forecast opex. This included support for its proposed step changes for insurance premiums and cyber and physical security.

Question

9. Do you consider Transgrid's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the 2023–28 proposal?
10. Do you consider Transgrid's forecast opex for the 2023–28 period reasonably reflects the efficient costs of a prudent operator?
11. Given 2021–22 is expected to include significant one-off costs, do you consider it reflects 'a realistic expectation of the efficient and sustainable on-going opex'? If not, do you consider it would be more appropriate to use a different base year?

4.5 Corporate income tax

The building block approach to calculating the annual revenue includes an amount for the estimated cost of corporate income tax payable by the business. We forecast tax in accordance with Rules requirements.[61]

In December 2018, we completed a review of our regulatory tax approach, which identified some required changes to the estimation of tax expenses and our models to: [62]

- recognise immediate tax expensing of some capex that is forecast for a regulatory control period
- adopt the diminishing value method for tax depreciation to all future capex, except for a limited number of assets which must be depreciated using the straight-line depreciation method under the tax law.[63]

In line with our updated regulatory tax approach, Transgrid proposes a forecast corporate income tax amount of $65.7 million ($2022–23) for the 2023–28 period.

We note that Transgrid has:

- forecast zero immediate expensing for the 2023–28 period using an approach consistent with its current tax policy
- adopted the diminishing value method for tax depreciation to all future capex, except for a limited number of assets which must be depreciated using the straight-line depreciation method under the tax law.

We will assess the appropriateness of the proposed amounts of immediate expensing and capex allocated for straight-line depreciation, based on the approach we have taken in recent revenue determinations.

Questions

12. Do you have views on the approach to corporate income tax in Transgrid's 2023–28 proposal?

[61] NER, cl. 6A.6.4.

[62] AER, *Final report: Review of regulatory tax approach*, December 2018, p. 76.

[63] Capping of gas asset tax lives was also a finding from the final report, but does not require a model change.

5 Incentive schemes and allowances

Incentive schemes are a component of incentive-based regulation and complement our approach to assessing efficient costs. They provide important balancing incentives under network determinations, encouraging businesses to pursue expenditures efficiencies while maintaining the reliability and overall performance of its network.

Our Framework and Approach Paper for Transgrid noted our intention to apply the four incentive schemes and allowances in the 2023–28 period that are set out below.[64] Transgrid agreed with this approach in its 2023–28 proposal.

5.1 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) provides Transgrid with a continuous incentive to pursue efficiency improvements in opex and provide for a fair sharing of these between Transgrid and network users. Consumers benefit from improved efficiencies through lower opex in regulated revenues for future periods.

The EBSS applies to Transgrid for the 2018–23 period. Transgrid proposes EBSS carryover amounts totalling $34.9 million for the 2023–28 period, based on its estimate of the opex it will incur in 2020–21.

While Transgrid supports the continued application of the EBSS during the 2023–28 period, it expressed concern that the substantial decline in the weighted average cost of capital (WACC) since the EBSS was developed has resulted in the share of opex efficiency gains that it retains falling significantly lower than the share of capex gains it retains under the current CESS. This in an issue we are looking at as part of our current review of incentive schemes for regulated networks.[65]

Question

13. Do you consider Transgrid's proposed EBSS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2018–23 period?
14. Do you consider applying the EBSS to Transgrid in the 2023–28 period would provide it a continuous incentive to reduce its opex?

5.2 Capital expenditure sharing scheme

The capital expenditure sharing scheme (CESS) incentivises Transgrid to undertake efficient capex throughout the period by rewarding efficiency gains and penalising efficiency losses, each measured by reference to the difference between forecast and actual capex. Consumers benefit from improved efficiencies through a lower regulatory asset base, which is reflected in regulated revenues for future periods.

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64 AER, *Transgrid Framework and Approach – Regulatory control period commencing 1 July 2023*, July 2021.

65 See: Review of incentive schemes for regulated networks

The CESS applies to Transgrid for the 2018–23 period. Transgrid forecasts a capex underspend of $564.0 million for the 2018–23 period. However, it has adjusted its CESS payment to reflect a $532.8 million deferral of capex related to Project EnergyConnect which it has re-proposed as part of its 2023–28 capex forecast. This results in proposed CESS carryover amounts totalling $5.1 million for the 2023–28 period.

Question

15. Do you consider Transgrid's proposed CESS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2018–23 period?
16. Do you consider applying the CESS to Transgrid in the 2023–28 period would provide it a continuous incentive to reduce its capex?

5.3 Service target performance sharing scheme

The service target performance incentive scheme (STPIS), version 5, provides a financial incentive to network service providers to maintain and improve service performance. There are three STPIS components that are applicable to Transgrid:

- service component (SC) – this incentivises network service providers to reduce the frequency of unplanned outages and the time taken to return the network to service
- market impact component (MIC) – this incentivises network service providers to minimise the financial impact of outages on the dispatch of generation
- network capability component (NCC) – this incentivises network service providers to identify transmission network limits and increase their capability by undertaking projects with a capital cost of less than $6 million and which are likely to result in a material benefit.

In its proposal, Transgrid raised two issues regarding the application of the STPIS:

- Transgrid proposed to apply a different approach to set the performance target for large loss of supply events parameter under the SC of the STPIS for the 2023–28 period at one (1) event per year.[66] Transgrid stated:

> "Transgrid's strong outperformance on the large loss of supply event frequency parameter target will see it reaches the performance frontier in the 2023–28 regulatory period, whereby Transgrid's target would reduce to zero events. This would mean Transgrid no longer has an incentive to improve its performance. Transgrid therefore proposes to set the SC large loss of supply events parameter at 0.15 system minutes so that our target for 2023–28 is 1 event. This ensures that Transgrid has an incentive to improve its performance over the period."

- Regarding MIC performance, Transgrid commented that:[67]

[66] Transgrid, *Revenue Proposal 2023–28*, January 2022, p.143.

[67] Ibid, p.148.

> "As the energy mix changes and new generation connects to parts of the network which did not traditionally have generation connections, network constraints are occurring more frequently. Transgrid works closely with its customers, actively plan outages, and reschedule planned outages to minimise the market impact. However, due to the challenges arising from the energy transition and the delivery of network upgrades as part of our delivery of ISP projects, and in particular the QNI Minor upgrade, Transgrid's performance dramatically declined in 2020 after strong improvement in the previous two years."

We note that Transgrid's proposed alternate SC target setting approach is similar to that proposed by Powerlink for the 2022–27 period. We expressed our position on this issue in the Powerlink draft decision:[68]

> "This proposed alternative methodology does not achieve cost neutrality, nor preserve the variation around the average. By requiring rounding up of the historical five-year average, there is an upwards translation of the average. This reflects a risk transfer from the transmission network service provider to the consumer as the target is now easier to achieve. In turn this means that a financial reward is easier and a financial penalty is harder to achieve, so cost neutrality is not preserved. With the upward translation of the average, the variation around the average is also skewed, with a greater probability of exceeding the target than if the average were calculated using the method set out in the STPIS. This also translates into a higher probability of achieving a financial reward and a lesser probability of achieving a financial penalty. Hence, again, cost neutrality is not preserved.
>
> Additionally, the design of the STPIS is that a reward for service level improvement can only be kept by a transmission network service provider if the service level improvement is retained in subsequent regulatory periods. If the improvement is not maintained, the transmission network service provider is required to return the earlier reward to network users via a financial penalty. Therefore, a transmission network service provider can only earn a reward for service improvement results once. Given consumers have paid for the performance improvement by Powerlink to achieve the current level, the proposal to increase the performance target to above the historical average would result in consumers paying for the improvement twice."

Transgrid's MIC concern is similar to that raised by AusNet Services for the 2022–27 period. In our final decision for AusNet Services, we clarified that:[69]

> "We acknowledge that there has been a significant increase in semi-dispatched renewable generators in Victoria, particularly in the

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[68] AER, *Powerlink Queensland transmission determination 2022–27, Draft decision, Attachment 10: Service target performance incentive scheme*, p.13.

[69] AER, *AusNet Services transmission determination 2022–27, Final decision, Attachment 10: Service target performance incentive scheme*, pp. 13-14.

north-western regions. The management of the integration of these semi-dispatched renewable generators has resulted in a large number of excluded dispatch intervals, that were outside the control of AusNet Services. However, we do not consider that the MIC requires a fundamental redesign at this time…

Currently, there are several important reviews into market design reform and system constraints that will affect the operation of the NEM. These include the Energy Security Board's post-2025 Market Design, AEMC's Investigation into system strength frameworks in the NEM, the outcomes of the Coordination of Generation and Transmission Investment (COGATI) review, and the general implementation of actionable projects under AEMO's integrated system plan. We will continue to monitor the progress of these reviews."

We clarified how the exclusion criteria under the MIC should be applied under the current National Electricity Market (NEM) environment in section 10.6.2.2 of the AusNet Services 2022–27 final decision.[70]

Question

17. Do you consider the application of the STPIS will provide a balanced incentive to ensure that Transgrid achieves reductions in its expenditures without degrading its service quality?
18. What are your views on Transgrid's proposed alternative methodology for calculating the target for the large loss of supply event frequency parameter? Do you consider Transgrid's methodology meets clause 3.2(i) of the Scheme?

5.4 Demand management innovation allowance mechanism

The demand management innovation allowance mechanism (DMIAM) funds Transgrid for research and development in demand management projects that have the potential to reduce long term network costs. Projects to be funded under the DMIAM must meet approval criteria, as set out in the DMIAM instrument.

Transgrid's proposal sets out a number of indicative examples of the types of demand management projects that it may explore through the DMIAM, including technology trialling projects, collaboration with industry stakeholders, and market understanding and research. Transgrid intends to engage with industry stakeholders about how best to utilise DMIAM funding and is considering potential DMIAM projects in the 2023–28 period.[71]

Question

19. Do you consider that the application of the DMIAM to Transgrid will deliver long term benefits to consumers?

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70 Ibid.

71 Transgrid, *Revenue Proposal 2023–28*, January 2022, p.156.

6 Pricing methodology

Our transmission determination for Transgrid must specify a pricing methodology for its prescribed transmission services.[72] Its role is to answer the question "who should pay how much"[73] in order for a transmission business to recover its costs.

Transgrid's proposed 2023–28 pricing methodology is largely identical to the 2018–23 period's pricing methodology, except for the following changes:

- inclusion of the National Transmission Planner Costs established under a NER rule change to compensate AEMO for their planning role in the NEM
- inclusion of the NER rule change regarding connection to dedicated assets requiring:
    - a methodology to reallocate intra-regional residues accrued on a Designated[74] Network Asset (DNA) to the DNA owners
    - the adjustment of the non-locational annual service revenue requirement (ASRR)[75] by intra-regional residues
- clarification to clause 7.3 of the pricing methodology, requiring AER approval for a transmission consumer's request for a significant change in demand and an adjustment to the non-locational charge.

Questions

20. Do you consider Transgrid's proposed changes to its pricing methodology for the 2023–28 period are appropriate and give effect to the pricing principles for prescribed transmission services?
21. What are your views on Transgrid's consumer engagement in developing its proposed pricing methodology for the 2023–28 period?
22. More generally, do you have any comments on Transgrid's proposed pricing methodology for the 2023–28 period?

[72] NER, cl. 6A.2.2(4).

[73] AEMC, *Rule determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No. 22*, 21 December 2006, p. 1.

[74] This is referred to as a "dedicated network asset" in the pricing methodology section of Transgrid's *Revenue Proposal 2023–28*, January 2022.

[75] NER, cl. 6A.24.1(b)(2).

Summary of questions

Consumer engagement approach

1. Do the key themes from Transgrid's engagement resonate with your own preferences? Are there additional issues you would like to see influence Transgrid's proposal and our assessment of the proposal?
2. Do you think Transgrid has engaged meaningfully with consumers on all key elements of its 2023–28 proposal? Are there any key elements that require further engagement?
3. To what extent do you consider you were able to influence the topics engaged on by Transgrid? Please give examples.

Regulatory asset base and depreciation

4. Do you have views on Transgrid's proposed depreciation approach, as set out in its 2023–28 proposal?

Capital expenditure

5. Do you consider Transgrid's capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
6. Has Transgrid engaged constructively with its stakeholders on its capex proposal? Please provide reasons for your response.
7. Are there particular areas of Transgrid's capex proposal that you would expect further engagement on?
8. What are your expectations on consultation for the additional augmentation capex (augex) which has not been included in Transgrid's capex proposal, but may be included in its revised capex proposal? Do you think it is appropriate to classify the proposed augex projects as contingent projects?

Operating expenditure

9. Do you consider Transgrid's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the 2023–28 proposal?
10. Do you consider Transgrid's forecast opex for the 2023–28 period reasonably reflects the efficient costs of a prudent operator?
11. Given 2021–22 is expected to include significant one-off costs, do you consider it reflects 'a realistic expectation of the efficient and sustainable on-going opex'? If not, do you consider it would be more appropriate to use a different base year?

Corporate income tax

12. Do you have views on the approach to corporate income tax in Transgrid's 2023–28 proposal?

Incentive schemes and allowances

13. Do you consider Transgrid's proposed EBSS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2018–23 period?

14. Do you consider applying the EBSS to Transgrid in the 2023–28 period would provide it a continuous incentive to reduce its opex?
15. Do you consider Transgrid's proposed CESS carryover amounts provide for a fair sharing of the efficiency gains and losses it has achieved in the 2018–23 period?
16. Do you consider applying the CESS to Transgrid in the 2023–28 period would provide it a continuous incentive to reduce its capex?
17. Do you consider the application of the STPIS will provide a balanced incentive to ensure that Transgrid achieves reductions in its expenditures without degrading its service quality?
18. What are your views on Transgrid's proposed alternative methodology for calculating the target for the large loss of supply event frequency parameter? Do you consider Transgrid's methodology meets clause 3.2(i) of the Scheme?
19. Do you consider that the application of the DMIAM to Transgrid will deliver long term benefits to consumers?

Pricing methodology

20. Do you consider Transgrid's proposed changes to its pricing methodology for the 2023–28 period are appropriate and give effect to the pricing principles for prescribed transmission services?
21. What are your views on Transgrid's consumer engagement in developing its proposed pricing methodology for the 2023–28 period?
22. More generally, do you have any comments on Transgrid's proposed pricing methodology for the 2023–28 period?

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Augex	Augmentation capital expenditure
Capex	Capital expenditure
CCP/CCP25	Consumer Challenge Panel, sub-panel 25
CESS	Capital expenditure sharing scheme
CPI	Consumer price index
DMIAM	Demand management innovation allowance mechanism
EBSS	Efficiency benefit sharing scheme
IAP2	International Association for Public Participation Spectrum
ICT	Information communication technology
Instrument	2018 Rate of Return Instrument
ISP	Integrated System Plan
MAR	Maximum allowed revenue
MW / MWh	Megawatt / megawatt hour
NEL or Law	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER or Rules	National Electricity Rules
Opex	Operating expenditure
PTRM	Post-tax revenue model
RAB	Regulatory asset base
Repex	Replacement capital expenditure
REZ	Renewable energy zone
RFM	Roll forward model
RIT-T	Regulatory investment test - transmission
STPIS	Service target performance incentive scheme
TAC	Transgrid Advisory Council
TNSP	Transmission network service provider