



# **FINAL DECISION**

## **TransGrid transmission determination 2015–16 to 2017–18**

### **Overview**

(Substituted)  
July 2015

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## Note

This overview forms part of the AER's final decision on TransGrid's transmission determination for 2015–18. It should be read with other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 – maximum allowed revenue

Attachment 2 – regulatory asset base

Attachment 3 – rate of return

Attachment 4 – value of imputation credits

Attachment 5 – regulatory depreciation

Attachment 6 – capital expenditure

Attachment 7 – operating expenditure

Attachment 8 – corporate income tax

Attachment 9 – efficiency benefit sharing scheme

Attachment 10 – capital expenditure sharing scheme

Attachment 11 – service target performance incentive scheme

Attachment 12 – pricing methodology

Attachment 13 – pass through events

Attachment 14 – negotiated services

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## Shortened forms

| Shortened form | Extended form                            |
|----------------|--|
| AARR           | aggregate annual revenue requirement     |
| AEMC           | Australian Energy Market Commission      |
| AEMO           | Australian Energy Market Operator        |
| AER            | Australian Energy Regulator              |
| ASRR           | annual service revenue requirement       |
| augex          | augmentation expenditure                 |
| capex          | capital expenditure                      |
| CCP            | Consumer Challenge Panel                 |
| CESS           | capital expenditure sharing scheme       |
| CPI            | consumer price index                     |
| DMIA           | demand management innovation allowance   |
| DRP            | debt risk premium                        |
| EBSS           | efficiency benefit sharing scheme        |
| ERP            | equity risk premium                      |
| MAR            | maximum allowed revenue                  |
| MRP            | market risk premium                      |
| NEL            | national electricity law                 |
| NEM            | national electricity market              |
| NEO            | national electricity objective           |
| NER            | national electricity rules               |
| NSP            | network service provider                 |
| NTSC           | negotiated transmission service criteria |
| opex           | operating expenditure                    |
| PPI            | partial performance indicators           |
| PTRM           | post-tax revenue model                   |
| RAB            | regulatory asset base                    |
| RBA            | Reserve Bank of Australia                |
| repex          | replacement expenditure                  |
| RFM            | roll forward model                       |
| RIN            | regulatory information notice            |

| Shortened form | Extended form                               |
|----------------|---|
| RPP            | revenue and pricing principles              |
| SLCAPM         | Sharpe-Lintner capital asset pricing model  |
| STPIS          | service target performance incentive scheme |
| TNSP           | transmission network service provider       |
| TUoS           | transmission use of system                  |
| WACC           | weighted average cost of capital            |

# 1 Our final decision

The Australian Energy Regulator (AER) is responsible for the economic regulation of electricity transmission and distribution systems in all states and territories except Western Australia and the Northern Territory. TransGrid is the coordinating transmission network service provider (TNSP) in NSW and the ACT. We regulate the revenues TransGrid can recover from customers.

The National Electricity Law (NEL) and National Electricity Rules (NER) provide the regulatory framework under which we operate. Most relevantly, they set out how we must assess a revenue proposal and make our decision.

The National Electricity Objective (NEO) sits at the centre of the NEL and NER. The NEO is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:<sup>1</sup>

- price, quality, safety, reliability and security of supply of electricity; and
- the reliability, safety and security of the national electricity system.

Under the NER, TransGrid must submit a revenue proposal, pricing methodology and negotiating framework to us for approval.<sup>2</sup> The central component of a revenue proposal is the amount of revenue TransGrid proposes to recover from consumers over the 2014–18 period.<sup>3</sup> We must assess TransGrid's proposal, using the NER's detailed rules. The NER address a range of constituent components of a revenue proposal. We must decide whether to accept TransGrid's proposal. If we do not accept that TransGrid's proposal complies with the requirements of the NER, we must substitute an alternative amount of revenue that we are satisfied does comply. We must undertake this assessment and make this decision in a manner that will or is likely to contribute to the achievement of the NEO and, where appropriate, contribute to the greatest degree.

We regulate TransGrid's revenue, not its costs. TransGrid must then decide how best to use this revenue in providing transmission services and fulfilling its obligations. This provides incentives for TNSPs, such as TransGrid, to operate their businesses efficiently and, in the long run, at least cost to consumers. It also provides incentives for TNSPs to innovate and invest in response to changes in consumer needs and

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<sup>1</sup> NEL, s. 7.

<sup>2</sup> NER, cl. 6A.10.1.

<sup>3</sup> NER, cll. 6A.4.2, 6A.5.4, 6A.10.1. As we explained in our draft decision, the regulatory control period is 2015-18. However, the NER require us to determine the maximum allowed revenue for each year of the 2014-18 period. We must then true up the maximum allowed revenue for 2014-15 determined in this final decision with the placeholder 2014-15 revenue we determined in the transitional decision we made in 2014. As a result, this decision often refers to the 2014-18 period, rather than the 2015-18 regulatory control period.



productive opportunities.<sup>4</sup> This is consistent with economic efficiency principles. It also means that the person who is best able to manage a risk generally carries that risk.

TransGrid submitted its proposal in June 2014. In November 2014 we made a draft decision and, in January 2015, TransGrid submitted a revised proposal. We also received submissions from various stakeholders on TransGrid's initial and revised proposals as well as our draft decision.

This overview, together with its Attachments, constitutes our final decision on TransGrid's revised proposal. The overview provides a summary of our final decision and its constituent components. It sets out the issues we covered, the conclusions we made, and how those conclusions were reached. We also explain why we are satisfied our decision contributes to the achievement of the NEO to the greatest degree and why we do not consider that TransGrid's revised proposal contributes to the NEO to a satisfactory degree. In our Attachments we set out detailed analysis of the constituent components that make up TransGrid's revised proposal and our decision on each of them.

There is a full list of the constituent components of this decision in Appendix A.

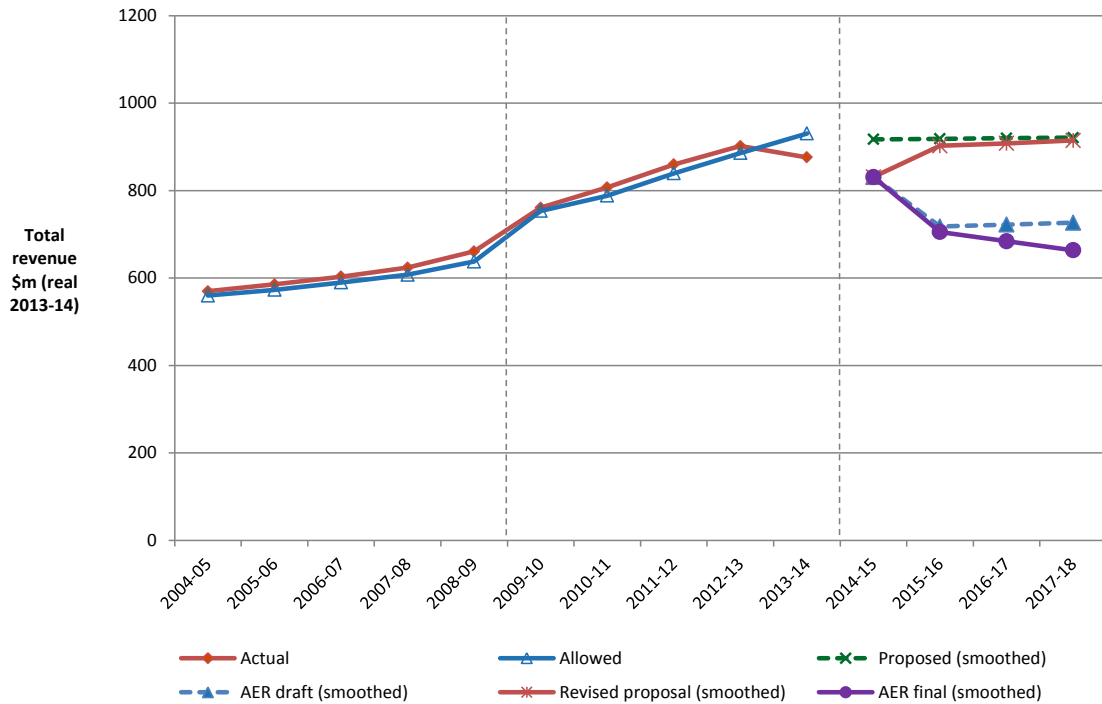
## 1.1 Decision

Our final decision is that TransGrid can recover \$2191.0 million (\$ nominal) from consumers over the 2015–18 regulatory control period. This gives a total of \$3036.4 million (\$ nominal) for the 2014–18 period, including the 2014–15 transitional year. Figure 1 below illustrates our overall decision.

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<sup>4</sup> Hansard, SA House of Assembly, 9 February 2005 p. 1452

**Figure 1 TransGrid's past total revenue, proposed total revenue and AER total revenue allowance (\$ million, 2013–14)**



Source: AER analysis.

In NSW and the ACT, transmission charges represent approximately 7 per cent of a customer's average annual electricity bill.<sup>5</sup> If the lower transmission charges flowing from our final decision for TransGrid (considered in conjunction with our other transmission decisions<sup>6</sup>) are passed through to customers, we would expect the average annual electricity bills for residential and small business customers in NSW and the ACT to reduce over the 2015–18 regulatory control period. However, other factors also affect a customer's electricity bill, such as the wholesale price of electricity.

Table 1 shows the estimated impact of our final decision on the average residential customer's annual electricity bills in NSW and the ACT over the 2014–18 period, compared with what was proposed.

<sup>5</sup> TransGrid, *Revenue proposal*, May 2014, p. 18.

<sup>6</sup> Transmission charges for NSW and ACT customers will also be affected by transmission revenues determined for Directlink, Ausgrid and ActewAGL.

**Table 1 AER's estimated impact of transmission final decisions on the average annual electricity bills for residential customers in NSW and ACT for the 2014–18 period (\$ nominal)**

|  | 2013–14 | 2014–15    | 2015–16     | 2016–17     | 2017–18    |
|--|---------|------------|-------------|-------------|------------|
| <b>TNSP revised proposals</b>            |         |            |             |             |            |
| NSW residential annual bill <sup>a</sup> | 2227    | 2225       | 2239        | 2244        | 2249       |
| Annual change                            |         | -2 (-0.1%) | 14 (0.6%)   | 5 (0.2%)    | 5 (0.2%)   |
| ACT residential annual bill <sup>b</sup> | 1959    | 1957       | 1970        | 1974        | 1978       |
| Annual change                            |         | -2 (-0.1%) | 13 (0.6%)   | 4 (0.2%)    | 4 (0.2%)   |
| <b>AER final decision</b>                |         |            |             |             |            |
| NSW residential annual bill <sup>a</sup> | 2227    | 2225       | 2199        | 2198        | 2197       |
| Annual change                            |         | -2 (-0.1%) | -25 (-1.1%) | -1 (-0.05%) | -1 (0.05%) |
| ACT residential annual bill <sup>b</sup> | 1959    | 1957       | 1935        | 1934        | 1933       |
| Annual change                            |         | -2 (-0.1%) | -22 (-1.1%) | -1 (-0.05%) | -1 (0.05%) |

Source: AER analysis; AER, *Energy Made Easy*; IPART, *Final report: Review of regulated retail prices for electricity - from 1 July 2013 to 30 June 2016*, June 2013, p. 5; ICRC, *Draft report-Standing offer electricity prices from 1 July 2014*, p. 160.

- (a) Based on annual electricity bill for a typical consumption of 6500 kWh per year during the period 1 July 2013 to 30 June 2014. The bill reflects regulated charges in each distribution zone only. Sample postcode: Ausgrid (2112), Endeavour (2500), Essential (2650).
- (b) Based on an average residential customer in the ACT consuming 8000 kWh of electricity per year.

Similarly, Table 2 shows the estimated impact of our final decision on the average small business customer's annual electricity bills in NSW and the ACT over the 2014–18 period, compared with what was proposed.

**Table 2 AER's estimated impact of transmission final decisions on the average annual electricity bills for small business customers in NSW and ACT for the 2014–18 period (\$ nominal)**

|   | 2013–14 | 2014–15    | 2015–16   | 2016–17  | 2017–18  |
|---|---------|------------|-----------|----------|----------|
| <b>TNSP revised proposals</b>               |         |            |           |          |          |
| NSW small business annual bill <sup>a</sup> | 3584    | 3580       | 3603      | 3611     | 3619     |
| Annual change                               |         | -4 (-0.1%) | 23 (0.6%) | 8 (0.2%) | 8 (0.2%) |
| ACT small business annual bill <sup>b</sup> | 2939    | 2936       | 2955      | 2961     | 2968     |
| Annual change                               |         | -3 (-0.1%) | 19 (0.6%) | 6 (0.2%) | 7 (0.2%) |
| <b>AER final decision</b>                   |         |            |           |          |          |
| NSW small business annual bill <sup>a</sup> | 3584    | 3580       | 3539      | 3537     | 3536     |

|   | 2013–14 | 2014–15    | 2015–16     | 2016–17     | 2017–18     |
|---|---------|------------|-------------|-------------|-------------|
| Annual change                               |         | -4 (-0.1%) | -41 (-1.1%) | -2 (-0.05%) | -2 (-0.05%) |
| ACT small business annual bill <sup>b</sup> | 2939    | 2936       | 2903        | 2901        | 2900        |
| Annual change                               |         | -3 (-0.1%) | -33 (-1.1%) | -1 (-0.05%) | -1 (-0.05%) |

Source: AER analysis; AER, *Energy Made Easy*; IPART, *Final report: Review of regulated retail prices for electricity - from 1 July 2013 to 30 June 2016*, June 2013, p. 5; ICRC, *Draft report-Standing offer electricity prices from 1 July 2014*, p. 160.

- (a) Based on the annual bill sourced from Energy Made Easy for a typical consumption of 10000 kWh per year during the period 1 July 2013 to 30 June 2014. The bill reflects regulated charges in each distribution zone only. Sample postcode: Ausgrid (2112), Endeavour Energy (2500), Essential Energy (2650).
- (b) Based on an average small non-residential customer in the ACT consuming 10000 kWh of electricity per year.

## 1.2 Contribution to achievement of the NEO

We are satisfied that the total revenue approved in our final decision contributes to the achievement of the NEO to the greatest degree. This is because our total revenue reflects the efficient, sustainable costs of providing network services in TransGrid's operating environment and the key drivers of efficient costs facing TransGrid. For the reasons set out below and in our Attachments, we consider our decision will promote the efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers, as required by the NEO.

The key drivers of costs facing a network service provider are:<sup>7</sup>

- its accumulated network investment (reflected in the size of its Regulatory Asset Base (RAB))
- its expected growth in network investment (reflected in its capital expenditure (capex) program net of capital returned to the shareholders through depreciation)
- its financing costs (interest on borrowings and a return on equity to shareholders) and
- its operating expenditure (opex) program (the cost of operating and maintaining its network)
- its taxation cost (taxable income at the corporate tax rate adjusted for the value of imputation credits).

From one regulatory control period to the next, the pressures on each of these drivers may change. For example, in periods of high demand growth, a service provider would expect to need a larger capex program. Similarly, during periods of high interest rates, a service provider would expect to pay more in financing costs.

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<sup>7</sup> How these key cost drivers impact total revenue is further explained in section 2 of this overview.

The most important factors we see impacting on TransGrid's costs in the 2014-18 period include:

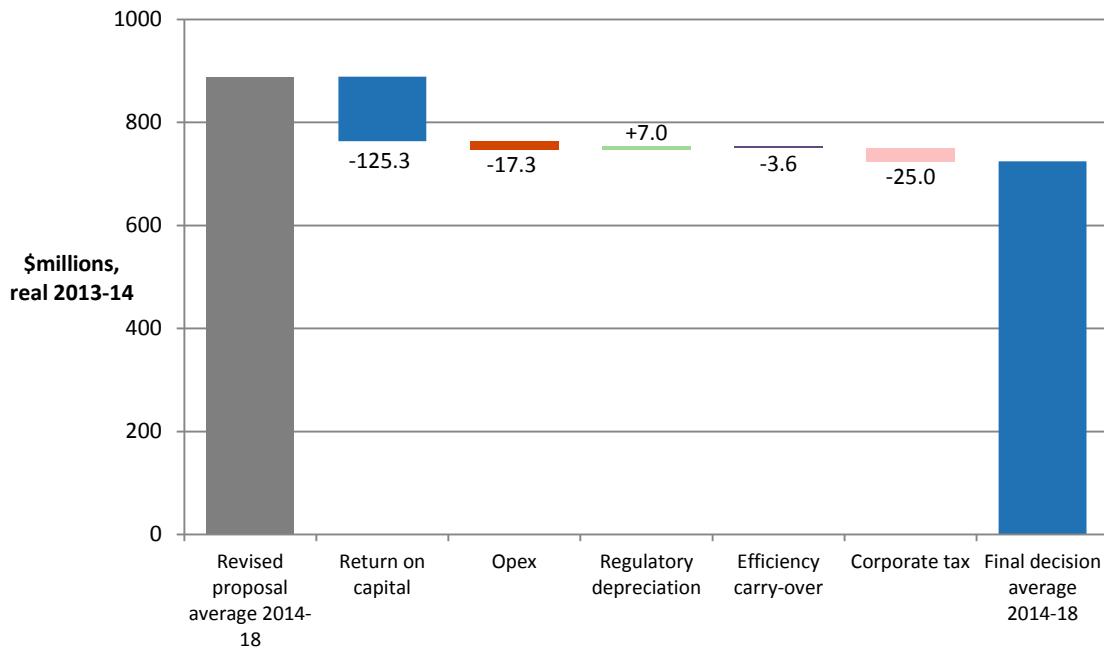
- an improved investment environment, which translates to lower financing costs necessary to attract efficient investment
- reduced demand, which means that TransGrid is under less pressure to expand its network than in the previous regulatory control period to meet the needs of additional customers or any increased demand from existing customers
- TransGrid's current risk profile, and the level of expenditure required to meet its obligations relating to quality, reliability and security and safety.

These factors are reflected throughout our final decision and impact the different constituent components of our decision to varying degrees. At the total revenue level, they provide a consistent picture: a prudent and efficient operator of TransGrid's network—with efficient costs and realistic expectations of demand and cost inputs—would need materially less revenue than TransGrid has proposed for the 2014-18 period. Further, the average annual revenue TransGrid requires for the 2014-18 period is materially less than the revenue it recovered from customers in 2013-14.

In our final decision we consider that TransGrid's revised proposal does not reflect the factors impacting on its cost drivers to a satisfactory extent. As a consequence, we also consider that TransGrid has proposed to recover more revenue from customers than is necessary for the safe and reliable operation of its network. It follows that we consider that TransGrid's revised proposal does not contribute to the achievement of the NEO to a satisfactory degree.

The constituent decision that has had the greatest impact on the total revenue that TransGrid may recover from customers as identified in this final decision is the rate of return. Figure 2 illustrates the key differences (in terms of constituent components, or building blocks, making up total revenue) between our decision and TransGrid's revised proposal.

**Figure 2 AER's final decision on building block costs (\$ million 2013–14)**



Source: AER analysis.

Our estimates of capex and opex include most but not all of TransGrid's proposed forecast capex and opex, for reasons outlined in our Attachments and later in this overview. It is the rate of return that drives most of the revenue gap between us and TransGrid and explains much of why we have approved less revenue to be recovered from customers for the 2014–18 period than TransGrid has proposed.

### 1.2.1 Rate of return

The rate of return provides a service provider with revenue to service the interest on its borrowings and to give a return on equity to shareholders. The allowed rate of return is a key determinant of allowed revenue.

The rate of return must be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the TNSP in respect of the provision of transmission services.<sup>8</sup> The NER refer to this requirement as the Allowed Rate of Return Objective.

Our final decision is for a 6.84 per cent (nominal vanilla<sup>9</sup>) for 2014–15. We will use a rate of return of 6.84 per cent (compared to 8.65 per cent put forward by TransGrid in its revised proposal) to update the revenues we previously determined for the 2014–15

<sup>8</sup> NER, cl. 6A.5.2(b)

<sup>9</sup> The nominal vanilla rate of return formula combines a post-tax return on equity and pre-tax return on debt, for consistency with other building blocks.

(transitional) regulatory year.<sup>10</sup> The rate of return for 2015–16 will be 6.75 per cent. For the rest of the regulatory control period, we will update the rate of return annually.

We set out our approach to determining the allowed rate of return in the Rate of Return Guideline (Guideline) we published in December 2013.<sup>11</sup> This Guideline is not binding. However, a TNSP must provide reasons to justify any departure from the Guideline. TransGrid has proposed we depart from the Guideline. We are not satisfied that there are sufficient grounds to justify doing so.

Prevailing market conditions for debt and equity heavily influence the rate of return. In our draft decision we pointed out that financial conditions have improved markedly since our 2009 final decision, resulting in a lower rate of return. Since our draft decision, interest rates have fallen further and financial market conditions have continued to ease. This means that the cost of debt and the returns required to attract equity are lower than when we made our draft decision. We consider these factors should be reflected in the final approved rate of return.

On a more technical level, there are two key differences between our final decision and TransGrid's revised proposal in relation to the rate of return:

- whether to use a forwards or backwards looking approach in transitioning between approaches to setting our estimate of the return on debt
- whether to give weight to indicators of the return on equity that we do not consider to be robust and which other regulators do not use.

The Guideline (and indeed, this decision) marks a departure from our previous approach to estimating the return on debt and the return on equity. For the return on debt, we have used a gradual, forward-looking transition to do so. We set out this transition in the Guideline. Our approach to setting the return on debt received broad support amongst many stakeholders, including some service providers.<sup>12</sup> The evidence provided by TransGrid does not convince us that we should depart from the approach in our Guideline in this final decision.<sup>13</sup> For the return on equity, the expert evidence before us indicates that employing our approach is generally expected to lead to a rate of return that achieves the Allowed Rate of Return Objective.

## Safety and reliability outcomes

Our final decision provides TransGrid with revenue that will allow it to meet its obligations in respect of quality, reliability, security and safety.

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<sup>10</sup> The rate of return that TransGrid included in its revised proposal is an indicative value. Its proposal includes provision for the AER to adjust this value based on updated information that was not available when TransGrid submitted its revised proposal.

<sup>11</sup> AER, Rate of Return Guideline, December 2013: <http://www.aer.gov.au/node/18859>

<sup>12</sup> For example, TasNetworks, Revenue Proposal, June 2014

<sup>13</sup> See Attachment 3 - Rate of Return

Our analysis recognises the obligations that TransGrid must meet. Our assessment techniques take these into account. In particular, our analysis reveals that TransGrid's proposed capex is higher than necessary to meet these obligations. We reached this conclusion after reviewing TransGrid's top down analysis, our consultant's technical analysis and asset health indicators which do not support TransGrid's forecast capex at the portfolio level. We are satisfied that our substitute estimate of capex will allow TransGrid to comply with its regulatory obligations and requirements and maintain the safety and reliability of the transmission system through the supply of its prescribed services.

We also explain in this final decision that TransGrid has flexibility to prioritise particular projects. Our final decision includes forecast capex and opex that reflect the costs that a prudent and efficient operator of TransGrid's network—with efficient costs and realistic expectations of demand and cost inputs—would need to meet the capex and opex objectives. In addition, the regulatory framework includes mechanisms to deal with unanticipated expenditure needs.

### 1.3 Assessment of options under the NEO

The NER recognises that there may be several decisions that contribute to the achievement of the NEO. Our role is to make a decision that we are satisfied contributes to the achievement of the NEO to the *greatest* degree.<sup>14</sup>

For at least two reasons, we consider that there will almost always be several decisions that might contribute to the achievement of the NEO. First, the NER requires us to make forecasts, which are predictions about unknown future circumstances. As a result, there will likely always be more than one plausible forecast. Second, there is substantial debate amongst stakeholders about the costs we must forecast, with both sides often supported by expert opinion. As a result, for several components of our decision there may be several plausible answers or several point estimates from within a range. This has the potential to create a multitude of potential overall decisions. In this decision we have approached this from a practical perspective, accepting that it is not possible to consider every possible permutation specifically. Where there are several plausible answers, we have selected what we are satisfied is the best outcome under the NEL and NER.

In many cases, our approach results in an outcome towards the end of the range of options materially favourable to TransGrid (for example, our choice of equity beta). While it can be difficult to quantify the exact revenue impact of these individual decisions, we have identified where we have done so in our Attachments. Some of these decisions include:

- selecting the top of the range for the equity beta

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<sup>14</sup> NEL, s. 16(1)(d).



- setting the return on debt by reference to data for a BBB broad band credit rating, when the benchmark is BBB+
- the cash flow timing assumptions in the post-tax revenue model (PTRM).

We set out our detailed reasons in the Attachments. They demonstrate that the constituent components of our decision comply with the NER's requirements. At an overall level our decision reflects the key reasons set out above, which indicate that TransGrid should recover less revenue from customers than it has proposed or recovered in recent years. Our decision reflects these at both the constituent component and overall revenue levels.

Given our approach, we are satisfied that our decision will or is likely to contribute to the achievement of the NEO to the greatest degree.

## **1.4 Structure of the overview**

The remainder of this overview is structured as follows:

- Section 2 sets out the key constituent components making up our final decision on TransGrid's revenue
- Section 3 sets out our decision on the incentive schemes that will apply to TransGrid
- Section 4 explains our views on the regulatory framework
- Section 5 outlines the process we undertook in reaching our final decision.

## 2 Key elements of the building blocks

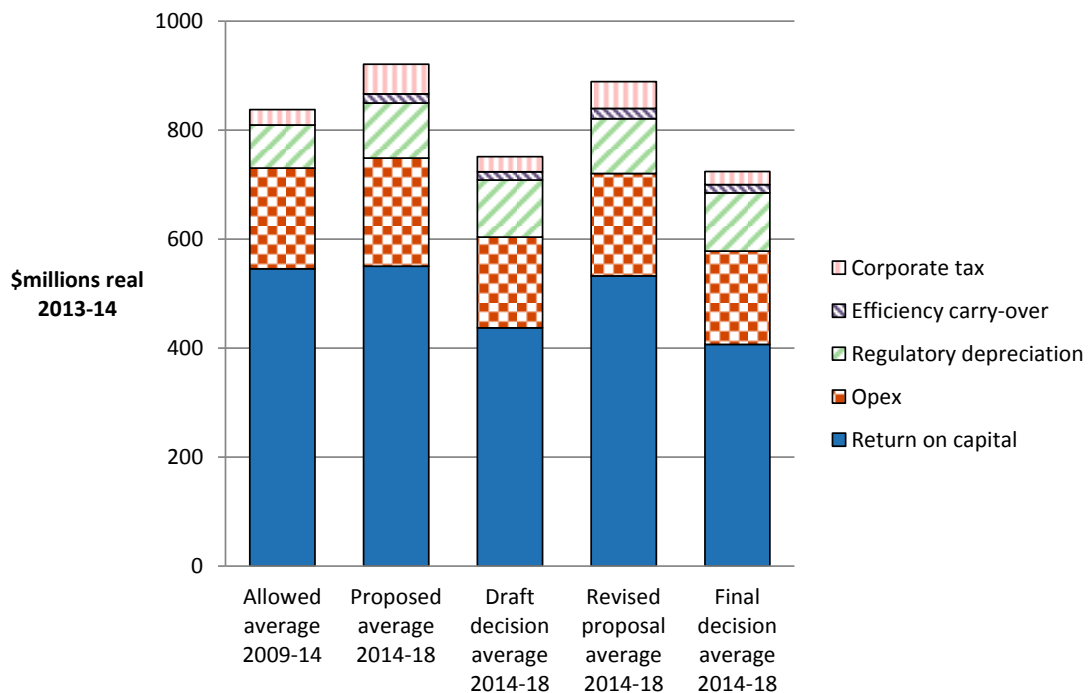
The constituent components of our decision include the building blocks we use to determine the revenue TransGrid may recover from its customers.<sup>15</sup>

In setting our overall revenue for TransGrid of \$3036.4 million (\$ nominal) for the 2014–18 period we:

- apply relevant tests under the NER, the assessment methods and tools developed as part of our Better Regulation guidelines<sup>16</sup> (see section 5.1). We also consider information provided by TransGrid, the Consumer Challenge Panel (CCP), consultants and stakeholder submissions.
- consider our overall revenue decision against section 16 of the NEL, including the constituent decisions and the interrelationships we discussed in sections 1 and 4.

Figure 3 and Table 3 show our final decision on TransGrid's revenues and the contribution of each building block.

**Figure 3 AER's final decision and TransGrid's proposed annual building block costs (\$ million, 2013–14)**



Source: AER analysis.

<sup>15</sup> NER, cl 6A.3.

<sup>16</sup> <http://www.aer.gov.au/Better-regulation>

**Table 3 AER's final decision on TransGrid's revenues (\$ million, nominal)**

|  | 2014–15          | 2015–16             | 2016–17            | 2017–18            | Total         |
|--|------------------|---------------------|--------------------|--------------------|---------------|
| Return on capital                                      | 415.7            | 421.2               | 435.4              | 443.9              | 1716.2        |
| Regulatory depreciation <sup>a</sup>                   | 98.3             | 113.6               | 128.4              | 113.0              | 453.3         |
| Operating expenditure                                  | 174.2            | 177.1               | 186.2              | 183.5              | 720.9         |
| Efficiency benefit sharing scheme (carryover amounts)  | 21.6             | 13.9                | 16.1               | 12.7               | 64.2          |
| Net tax allowance                                      | 17.1             | 18.8                | 32.6               | 33.0               | 101.5         |
| Annual building block revenue requirement (unsmoothed) | 726.9            | 744.6               | 798.7              | 786.0              | 3056.2        |
| <b>Annual expected MAR (smoothed)</b>                  | <b>845.4</b>     | <b>735.4</b>        | <b>730.3</b>       | <b>725.3</b>       | <b>3036.4</b> |
| X factor (%)   | n/a <sup>b</sup> | 15.03% <sup>c</sup> | 3.00% <sup>d</sup> | 3.00% <sup>d</sup> | n/a           |

Source: AER analysis.

- (a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.
- (b) TransGrid is not required to apply an X factor for 2014–15 because we set the 2014–15 MAR in this decision consistent with the placeholder MAR approved in the transitional determination. We have set the 2014–15 MAR equal to TransGrid's placeholder MAR (\$845.4 million) for 2014–15. The MAR for 2014–15 is around 11.6 per cent lower than the approved MAR (\$934.2 million) in the final year of the 2009–14 regulatory control period (2013–14) in real terms, or 9.5 per cent lower in nominal terms.
- (c) Applying the X factor for 2015–16 and the actual CPI of 1.72 per cent in accordance with the annual revenue adjustment formula set out in the transmission determination, the MAR for 2015–16 is \$730.6 million.
- (d) The X factor will be revised to reflect the annual return on debt update.

## 2.1 The building block approach

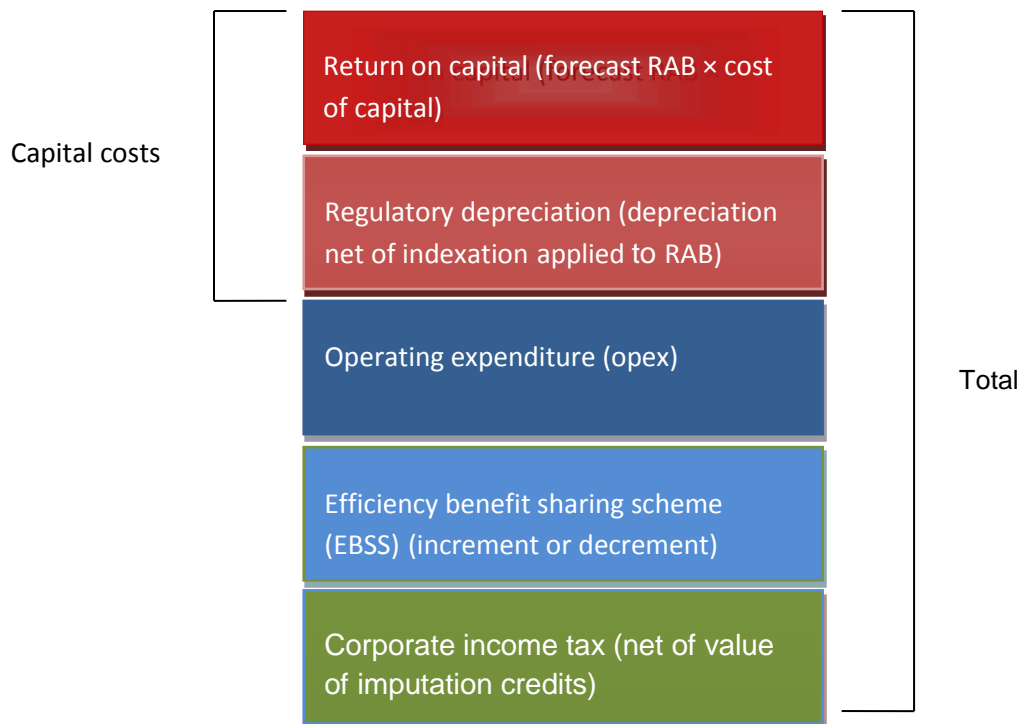
We have employed the building block approach to determine TransGrid's maximum allowed revenue (MAR). The building block costs, illustrated in Figure 4, include:<sup>17</sup>

- a return on the regulatory asset base (RAB) (return on capital)
- depreciation of the RAB (return of capital)
- forecast opex
- increments or decrements resulting from incentive schemes such as the efficiency benefit sharing scheme (EBSS)
- the estimated cost of corporate income tax.

<sup>17</sup> NER, cl. 6A.5.4.

Our assessment of capex directly affects the size of the RAB and therefore the revenue generated from the return on capital and return of capital building blocks.

**Figure 4 The building block approach for determining total revenue**



The following section summarises our decision by building block and provides our high level reasons and analysis. The Attachments provide a more detailed explanation of our analysis and findings.

## 2.2 Regulatory asset base (RAB)

The RAB is the value of TransGrid's assets that are used to provide transmission network services. TransGrid earns a return on capital and a depreciation allowance (return of capital) on assets in its RAB.

We are required to assess TransGrid's proposed opening value for the RAB for each year of the 2014–18 period.<sup>18</sup>

Our final decision is to set TransGrid's opening RAB at \$6075.8 million at 1 July 2014. We forecast a closing RAB at 30 June 2018 of \$6708.2 million.

The forecast depreciation approach will be used to establish TransGrid's RAB at the commencement of the following regulatory control period on 1 July 2018.

<sup>18</sup> NER, cl. 6A.6.1 and schedule 6A.2.

Table 4 and Table 5 set out our final decision on the roll forward of the RAB values for TransGrid's 2009–14 regulatory control period and the forecast RAB values for the 2014–18 period, respectively.

**Table 4 AER's final decision on TransGrid's RAB for the 2009–14 regulatory control period (\$ million, nominal)**

|  | 2009–10 | 2010–11 | 2011–12 | 2012–13 | 2013–14 |
|--|---------|---------|---------|---------|---------|
| Opening RAB  | 4217.5  | 4578.8  | 4926.0  | 5174.6  | 5607.2  |
| Capital expenditure <sup>a</sup>   | 418.5   | 376.2   | 354.8   | 502.2   | 485.6   |
| CPI indexation on opening RAB  | 121.8   | 152.6   | 78.1    | 129.5   | 164.3   |
| Straight-line depreciation <sup>b</sup>  | -179.0  | -181.7  | -184.2  | -199.1  | -222.3  |
| Closing RAB  | 4578.8  | 4926.0  | 5174.6  | 5607.2  | 6034.8  |
| Difference between estimated and actual capex (1 July 2008 to 30 June 2009) <sup>c</sup> |         |         |         |         | 25.2    |
| Return on difference for 2008–09 capex <sup>c</sup>                                      |         |         |         |         | 15.8    |
| Opening RAB as at 1 July 2014  |         |         |         |         | 6075.8  |

Source: AER analysis.

- (a) As incurred, net of disposals, and adjusted for actual CPI.
- (b) Adjusted for actual CPI. Based on as-commissioned capex.
- (c) This is the true-up adjustment relating to the 2008–09 capex estimate (final year of previous regulatory control period) used in the 2009 determination to account for the difference between that estimate and actual capex that is now available.

**Table 5 AER's final decision on TransGrid's RAB for the 2014–18 period (\$ million, nominal)**

|   | 2014–15 | 2015–16 | 2016–17 | 2017–18 |
|---|---------|---------|---------|---------|
| Opening RAB                             | 6075.8  | 6241.5  | 6451.1  | 6577.6  |
| Capital expenditure <sup>a</sup>        | 264.0   | 323.2   | 255.0   | 243.6   |
| Inflation indexation on opening RAB     | 144.6   | 148.5   | 153.5   | 156.5   |
| Straight-line depreciation <sup>b</sup> | -242.9  | -262.2  | -281.9  | -269.5  |
| Closing RAB                             | 6241.5  | 6451.1  | 6577.6  | 6708.2  |

Source: AER analysis.

- (a) As incurred, and net of disposals. In accordance with the timing assumptions of the post-tax revenue model (PTRM), the forecast capex includes a half-WACC allowance to compensate for the six month period before capex is added to the RAB for revenue modelling.
- (b) Based on as-commissioned capex.

We roll forward the opening RAB at 1 July 2009 to determine the closing RAB at 30 June 2014. TransGrid's revised proposed opening RAB value of \$6076.3 million as at 1 July 2014 contained a small indexation error in 2013–14 actual capex. After adjusting for this error, we determine the opening RAB value to be \$6075.8 million as at 1 July 2014.

We used our forecasts of depreciation, capex, disposals and inflation for the 2014–18 regulatory control period to roll forward TransGrid's forecast RAB for each year of that period. Our forecast closing RAB for TransGrid at 30 June 2018 is \$6708.2 million, which represents a reduction of around 5.7 per cent from TransGrid's proposed amount. The main reasons for this reduction are our adjustments to:

- forecast capex (Attachment 6)
- forecast depreciation (Attachment 5)
- forecast inflation (Attachment 3).

Details of our final decision on the value of the RAB are set out in attachment 2.

## 2.3 Rate of return (return on capital)

The return on capital provides a service provider with revenue to service the interest on its borrowings and to give a return on equity to shareholders. This building block is calculated as a product of the rate of return and the value of the regulatory asset base (RAB).<sup>19</sup>

Under the NER, the rate of return must be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the TNSP in respect of the provision of transmission services.<sup>20</sup> The NER refer to this requirement as the Allowed Rate of Return Objective.

We have determined an allowed rate of return of 6.84 per cent (nominal vanilla<sup>21</sup>) for 2014-15. We have not accepted TransGrid's proposed 8.65 per cent return.<sup>22</sup> In accordance with the Guideline we will update the rate of return annually, consistent with TransGrid's revised proposal and our approach to the return on debt.<sup>23</sup> Accordingly, the rate of return for 2015–16 will be 6.75 per cent. Table 6 sets out the parameters we have used to determine the rate of return.

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<sup>19</sup> NER, cl. 6A.6.2(a).

<sup>20</sup> NER, cl. 6A.6.2(b)

<sup>21</sup> The nominal vanilla rate of return formula combines a post-tax return on equity and pre-tax return on debt, for consistency with other building blocks.

<sup>22</sup> The rate of return that TransGrid included in its revised proposal is an indicative value. Its proposal includes provision for the AER to adjust this value based on updated information that was not available when TransGrid submitted its revised proposal.

<sup>23</sup> NER, cl. 6A.6.2(j)(2).

**Table 6 AER's final decision on TransGrid's rate of return (nominal)**

|  | AER decision<br>2009–14 | AER transitional decision<br>2014–15 | TransGrid's revised proposal | AER final decision<br>2014–15 | AER final decision<br>2015–16 | AER final decision<br>2016–18   |
|--|-------------------------|--------------------------------------|------------------------------|-------------------------------|-------------------------------|---------------------------------|
| Nominal risk free rate (return on equity) <sup>(a)</sup> | 5.86%                   | 4.30%                                | 2.93%                        | 2.55%                         | 2.55%                         | 2.55%                           |
| Equity risk premium (ERP)                                | 6.00%                   | 4.55%                                | 6.82%                        | 4.55%                         | 4.55%                         | 4.55%                           |
| Market risk premium (MRP)                                | 6.00%                   | 6.50%                                | N/A <sup>(b)</sup>           | 6.50%                         | 6.50%                         | 6.50%                           |
| Equity beta  | 1.0                     | 0.7                                  | N/A <sup>(b)</sup>           | 0.7                           | 0.7                           | 0.7                             |
| Nominal post-tax return on equity                        | 11.86%                  | 8.90%                                | 9.75%                        | 7.1%                          | 7.1%                          | 7.1%                            |
| Nominal pre-tax return on debt                           | 8.85%                   | 7.50%                                | 7.96%                        | 6.67%                         | 6.51%                         | Updated annually <sup>(c)</sup> |
| Gearing  | 60%                     | 60%                                  | 60%                          | 60%                           | 60%                           | 60%                             |
| Nominal vanilla WACC                                     | 10.05%                  | 8.06%                                | 8.65%                        | 6.84% <sup>(d)</sup>          | 6.75%                         | Updated annually <sup>(c)</sup> |
| Forecast inflation                                       | 2.47%                   | 2.53%                                | 2.50%                        | 2.38%                         | 2.38%                         | 2.38%                           |

Source: AER analysis; TransGrid, Revised Revenue Proposal 2014/15–2017/18, January 2015; AER, Statement on updates to TransGrid Transmission Determination 2009–10 to 2013–14 following Australian Competition Tribunal decision, March 2010; AER, TransGrid Transitional Transmission Determination 2014–15, March 2014.

- (a) TransGrid's risk free rate estimate was calculated using an averaging period of 20 business days to 6 January 2015 (see: TransGrid, Revised Revenue Proposal 2014/15–2017/18, January 2015, p. 115). AER final decision risk free rate estimate is based on a 20 business day averaging period from 9 February to 6 March 2015.
- (b) TransGrid proposed a multi-model approach to estimating return on equity under which its proposed return on equity estimate is selected from a range using discretion (see section 3.2 of attachment 3). As such, TransGrid did not propose specific values for equity beta and MRP. However, TransGrid's approach included consideration of the prevailing risk free rate at the time of its revised revenue proposal, allowing an ERP to be calculated (see: TransGrid, Revised Revenue Proposal 2014/15–2017/18, January 2015, p. 115).
- (c) The allowed return on debt is to be updated annually and the nominal vanilla WACC will be updated annually to reflect the allowed return on debt. The allowed return on debt for 2015–16 has already been estimated. Return on debt allowances for subsequent years will be estimated based on the formula set out in the appendix I of attachment 3.
- (d) This rate of return estimate will be used to update the revenues we previously determined for the 2014–15 (transitional) regulatory year.

## Our approach

All NER requirements relating to the rate of return are subject to the overall rate of return achieving the Allowed Rate of Return Objective.<sup>24</sup> The NER recognises that there are several plausible answers that could achieve the Allowed Rate of Return Objective.<sup>25</sup> We agree with stakeholders that predictability of outcomes in rate of return issues could materially benefit the long term interest of consumers.<sup>26</sup>

We developed our approach prior to the submission of TransGrid's revenue proposal. As required by the rate of return framework, in December 2013 we published the Guideline.<sup>27</sup> The Guideline was designed through extensive consultation and included effective and inclusive consumer participation.<sup>28</sup>

## Return on debt

Previously, we used an on-the-day approach to determine the return on debt.<sup>29</sup> This is the approach that many Australian regulators continue to use. However, for this decision, we have determined a return on debt estimate that gradually transitions from an on-the-day approach to a trailing average approach.<sup>30</sup> This is consistent with the views most stakeholders expressed during the Guideline development process.

TransGrid proposed that we use a backwards looking approach to move from the on-the-day approach to the trailing average approach. This involved using data from the last ten years to set the return on debt for the period covered by this decision. We disagree with this approach. Instead we have determined a gradual, forward looking transition to a trailing average.<sup>31</sup>

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<sup>24</sup> NER, cl. 6A.6.2(b).

<sup>25</sup> AEMC, *Rule determination: National electricity amendment (Economic regulation of network service providers) Rule 2012: National gas amendment (Price and revenue regulation of gas services) Rule 2012*, 29 November 2012, p. 67 (AEMC, *Final rule change determination*, November 2012); AEMC, *Final rule change determination*, November 2012, p. iv, AEMC, *Final rule change determination*, November 2012, p. 38; The High Court of NZ stated: 'In determining WACC, precision is therefore an elusive and perhaps non-existent quality. Setting WACC is, we suggest, more of an art than a science. The use of WACC, in conjunction with RAB values, to set prices and revenue in price-quality regulation gives significance to WACC estimates that may not exist outside this context.' *Wellington International Airport Ltd & Others v Commerce Commission* [2013] NZHC 3289, para. 1189.

<sup>26</sup> ENA, *Response to the Draft Rate of Return Guideline of the AER*, 11 October 2013, p. 1; AER, *Better regulation: Explanatory statement Rate of Return Guideline, Appendices*, December 2013, Appendix I, Table I.4, pp.185–186.

<sup>27</sup> NER, 6A.6.2(m)

<sup>28</sup> <http://www.aer.gov.au/node/18859>

<sup>29</sup> This involved determining the return on debt by reference to the return on BBB+ rated bonds over a 10-40 business day averaging period that occurred as close as practicable to the start of the regulatory control period.

<sup>30</sup> In broad terms, this means that over the longer term the return on debt for any year will represent the average return on debt over the previous ten years.

<sup>31</sup> For 2015-16, this involves 100 per cent of the return on debt reflecting the return on bonds over an averaging period that occurred as close as practicable to the start of the 2015-16 regulatory year. For 2016-17, this will involve 90 per cent of the return on debt reflecting the 2015-16 averaging period and 10 per cent reflecting the 2016-17 averaging period. For 2017-18 this will involve 80 per cent of the return on debt reflecting the 2015-16 averaging period, 10 per cent reflecting the 2016-17 averaging period and 10 per cent reflecting the 2017-18 averaging period. This process will continue until, after 10 years, the entire debt portfolio has been updated and



As mentioned in section 1.2, rate of return is the most material revenue difference between our final decision and TransGrid's revised proposal. As a result, we summarise our reasons in some detail below.

We are satisfied that a gradual, forward looking transition to a trailing average approach results in a return on debt that contributes to the Allowed Rate of Return Objective. In particular, this approach takes account of any impacts on a *benchmark efficient entity* or customers that might arise as a result of changing the methodology that is used to estimate the return on debt.<sup>32</sup> This includes impacts that occur across regulatory control periods.

In particular, a gradual, forward looking transition:

- Has regard to the impact on a benchmark efficient entity of changing the method for estimating the return on debt
- Promotes efficient financing practices consistent with the principles of incentive based regulation
- Provides a benchmark efficient entity with a reasonable opportunity to recover at least the efficient financing costs it incurs in financing its assets. And as a result it:
  - Promotes efficient investment, and
  - Promotes consumers not paying more than necessary for a safe and reliable network
- Avoids a potential bias in regulatory decision making that can arise from choosing an approach that uses historical data after the results of that historical data are already known
- Avoids practical problems with the use of historical data as estimating the return on debt during the global financial crisis is a difficult and contentious exercise.

TransGrid proposed that we move away from our previous on-the-day approach to setting the return on debt. It proposed that we determine the return on debt using a backwards looking trailing average without any transition to account for the impacts of changing methodologies. TransGrid's proposal is based on its submission that its existing debt financing practices are efficient and reflect those of a benchmark efficient entity.

We do not agree that TransGrid's debt financing practices were efficient from the perspective of a benchmark efficient entity. TransGrid did not take action to manage its interest rate risk arising from its revenue determination process. We consider that the evidence before us indicates that a benchmark efficient entity would have taken action to manage its interest rate risk and this would have resulted in its actual return on debt

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incorporated into the trailing average approach. At that point the transition is complete. This approach is the same as the transitional arrangements we proposed in the Rate of Return Guideline.

<sup>32</sup> NER, cl. 6A.6.2(k)(4)

being lower at present. If we were to apply TransGrid's proposed approach, consumers would fund an inefficient return on debt allowance. TransGrid's practices may have been appropriate from the perspective of its particular circumstances. However, a key feature of those circumstances is its government ownership, which is not relevant to our task of determining the allowed rate of return of a benchmark efficient entity.

## Return on equity

Our approach to determining the return on equity involves considering all of the information before us, through a six step process as set out in the Guideline (foundation model approach). This includes detailed consideration of a number of financial models for determining the return on equity.<sup>33</sup> Considering all of this material helps inform a return on equity estimate that contributes to the achievement of the Allowed Rate of Return Objective.

We consider that the Sharpe–Lintner capital asset pricing model (SLCAPM) is the superior financial model in terms of estimating expected equity returns. We have therefore adopted this model as our foundation model. The expert evidence before us also indicates that on balance employing our foundation model approach and using the SLCAPM as the foundation model is expected to lead to a rate of return that achieves the Allowed Rate of Return Objective.<sup>34</sup>

We also evaluated our point estimate from the SLCAPM against other information. The critical allowance for an equity investor in a benchmark efficient entity is the allowed ERP over and above the estimated risk free rate at a given time.<sup>35</sup> Our estimate of the ERP for the benchmark efficient entity is 4.55 per cent which is within the range of other information available to inform the return on equity (see Figure 5). A detailed explanation of our findings on return on equity and this figure can be found in Attachment 3.

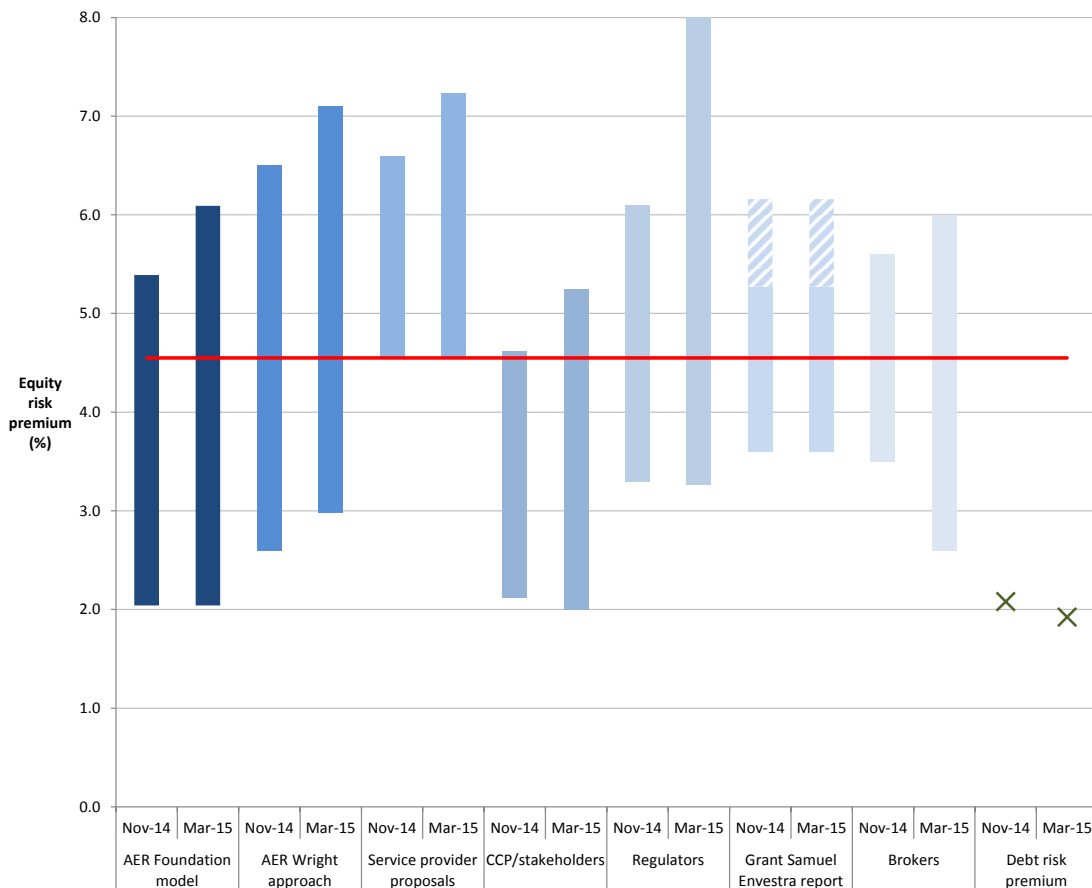
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<sup>33</sup> NER, cl. 6A.6.2(e)(1).

<sup>34</sup> McKenzie & Partington, *Part A: Return on equity, Report to the AER*, October 2014, p. 13; and *Return on equity, Report to the AER*, (Updated) April 2015, John Handley, *Advice on return on equity, Report prepared for the AER*, October 2014, p. 3.

<sup>35</sup> Our task is to determine the efficient financing costs commensurate with the risk of providing regulated network service by an efficient benchmark entity (allowed rate of return objective). Risks in this context are those which are compensated via the return on equity (systematic risks).

**Figure 5 Equity risk premium comparison**



Source: AER analysis and various submissions and reports.

Notes: The AER foundation model ERP range uses the range and point estimate for MRP and equity beta as set out in step three of Attachment 3, section 3.4. The calculation of the Wright approach, debt premium, brokers, and other regulators ranges is outlined in Attachment 3, Appendices E.1, E.2, E.4, and E.5 respectively.

Grant Samuel's final WACC range included an uplift above an initial SLCAPM range. The lower bound of the Grant Samuel range shown above excludes the uplift while the upper bound includes the uplift and is on the basis that it is an uplift to return on equity. Grant Samuel made no explicit allowance for the impact of Australia's dividend imputation system. We are uncertain as to the extent of any dividend imputation adjustment that should be applied to estimates from other market practitioners. Accordingly, the upper bound of the range shown above includes an adjustment for dividend imputation, while the lower bound does not. The upper shaded portion of the range includes the entirety of the uplift on return on equity and a full dividend imputation adjustment.<sup>36</sup>

The service provider proposals range is based on the proposals from service providers for which we are making final or preliminary decisions in April–May 2015.<sup>37</sup> ERPs were calculated as the proposed return on equity less the risk free rate utilised in the service provider's proposed estimation approach.

<sup>36</sup> Grant Samuel, *Envestra: Financial services guide and independent expert's report*, March 2014, Appendix 3.

<sup>37</sup> ActewAGL, Ausgrid, Directlink, Endeavour Energy, Energex, Ergon Energy, Essential Energy, Jemena Gas Networks, SA Power Networks, TasNetworks, and TransGrid.

The CCP/stakeholder range is based on submissions made (not including service providers) in relation to our final or preliminary decisions in April–May 2015. The lower bound is based on the Energy Users Association of Australia submission on NSW distributors' revised proposals. The upper bound is based on Origin's submission on ActewAGL's proposal.<sup>38</sup>

## 2.4 Value of imputation credits (gamma)

Under the Australian imputation tax system, investors can receive an imputation credit for income tax paid at the company level.<sup>39</sup> These are received after company income tax is paid, but before personal income tax is paid. For eligible investors, this credit offsets their Australian income tax liabilities. If the amount of imputation credits received exceeds an investor's tax liability, that investor can receive a cash refund for the balance. Imputation credits are therefore a benefit to investors in addition to any cash dividend or capital gains they receive from owning shares.

In determining a service provider's revenue allowance, the NER require that the estimated cost of corporate income tax be estimated in accordance with a formula that reduces the estimated cost by the 'value of imputation credits'.<sup>40</sup> That is, the revenue a service provider recovers from customers in respect of its expected tax liability must be reduced in a manner consistent with the value of imputation credits.

We do not accept TransGrid's proposed value of imputation credits of 0.25. Instead, we adopt a value of imputation credits of 0.4.

In coming to a value of imputation credits of 0.4 we have considered the full range of evidence before us with regard to its merits. Overall this evidence suggests that a range of estimates for the value of imputation credits might be reasonable.

Although we have broadly maintained the approach to determining the value of imputation credits set out in the Rate of Return Guideline, we have re-examined the relevant evidence and estimates. This re-examination, and new evidence and advice considered since the Guideline, led us to depart from the value of 0.5 in the Guideline. Most notably, our updated consideration of the relevant advice and evidence led us to generally lower estimates of the 'utilisation rate' than the 0.7 estimate in the Guideline. Estimating the value of imputation credits is a complex and somewhat imprecise task. There is no consensus among experts on the appropriate value or estimation techniques to use.

Consistent with the relevant academic literature, we estimate the value of imputation credits as the product of the distribution rate and the utilisation rate. While there is a widely accepted approach to estimating the distribution rate, there is no single

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<sup>38</sup> EUAA, *Submission to NSW DNSP Revised Revenue Proposal to AER Draft Determination (2014 to 2019)*, February 2015, pp. 15–16; Origin Energy, *Submission to ActewAGL's regulatory proposal for 2014–19*, August 2014, p. 4.

<sup>39</sup> *Income Tax Assessment Act 1997*, parts 3–6.

<sup>40</sup> NER, cl. 6A.5.4(a)(4), 6A.5.4(b)(4) and 6A.6.4

accepted approach to estimating the utilisation rate and there is a range of evidence relevant to the utilisation rate. This includes:

- The proportion of Australian equity held by domestic investors (the 'equity ownership approach').
- The reported value of credits utilised by investors in Australian Taxation Office (ATO) statistics ('tax statistics').
- Implied market value studies—there is no separate market in which imputation credits are traded, and therefore there is no observable market price for imputation credits.

In estimating the utilisation rate, we place:

- significant reliance upon the equity ownership approach
- some reliance upon tax statistics
- less reliance upon implied market value studies.

Overall, the evidence on the distribution rate and the utilisation rate suggests that a reasonable estimate of the value of imputation credits is within the range 0.3 to 0.5. From within this range, we choose a value of 0.4. This is because:

- The equity ownership approach, on which we have placed the most reliance, suggests a value between 0.40 and 0.47 when applied to all equity and between 0.31 and 0.44 when applied to only listed equity. Therefore, the overlap of the evidence from the equity ownership approach suggests a value between 0.40 and 0.44.
- The evidence from tax statistics suggests the value could be lower than 0.4. Therefore, with regard to this evidence and the less reliance we place on it, we choose a value at the lower end of the range suggested by the overlap of evidence from the equity ownership approach (that is, 0.4).
- An estimate of 0.4 is reasonable in light of both higher and lower estimates from implied market value studies and the lesser degree of reliance we place on these studies. The service providers submitted evidence to support placing more reliance on SFG Consulting's dividend drop off study relative to other implied market value studies. However, we consider that neither the difference from 0.4 of the estimate from this study (0.32) nor any increased reliance we might place on it relative to other implied market value studies are sufficient to warrant an estimate lower than 0.4.

## 2.5 Regulatory depreciation (return of capital)

We use regulatory depreciation to model the nominal asset values over the 2014–18 period and set the depreciation allowance as part of the overall revenue allowance for TransGrid. The regulatory depreciation allowance is the net total of the straight-line depreciation (negative) amount and the (positive) amount from indexation of the RAB.

We have to decide on whether to approve the depreciation schedules submitted by TransGrid setting out its proposed allowance. If we do not approve TransGrid's depreciation schedules we must determine alternative depreciation schedules to apply to TransGrid as set out in the NER.<sup>41</sup>

Our final decision is to determine alternative depreciation schedules, and hence, the regulatory depreciation allowance, to apply to TransGrid.<sup>42</sup> Table 7 sets out our final decision on TransGrid's depreciation allowance for the 2014–18 period. Our final decision sets the allowance at \$453.3 million (\$ nominal), 7 per cent more than TransGrid's revised proposal.

**Table 7 AER's final decision on TransGrid's depreciation allowance for the 2014–18 period (\$ million, nominal)**

|   | 2014–15 | 2015–16 | 2016–17 | 2017–18 | Total  |
|---|---------|---------|---------|---------|--------|
| Straight-line depreciation                | 242.9   | 262.2   | 281.9   | 269.5   | 1056.5 |
| Less: inflation indexation on opening RAB | 144.6   | 148.5   | 153.5   | 156.5   | 603.2  |
| Regulatory depreciation                   | 98.3    | 113.6   | 128.4   | 113.0   | 453.3  |

Source: AER analysis.

We accept TransGrid's proposed depreciation method. However, we have amended TransGrid's revised proposed forecast regulatory depreciation allowance and determine an allowance of \$453.3 million (\$ nominal) for the 2014–18 period. Our amendment is driven by our:

- updates to the remaining asset lives as at 1 July 2014 to reflect actual capex in 2013–14
- decisions on other components of TransGrid's revised proposal, such as the opening RAB value (Attachment 2), forecast inflation (Attachment 3), and forecast capex (Attachment 6), which affect the forecast regulatory depreciation allowance. In particular, the lower forecast inflation rate used in this final decision means the resulting regulatory depreciation allowance (which nets out the inflation indexation on the opening RAB) is higher than proposed.

Details of our final decision on the regulatory depreciation allowance are set out in Attachment 5.

<sup>41</sup> NER, 6A.6.3(b)

<sup>42</sup> NER, cl. 6A.6.3(b).

## 2.6 Capital expenditure (capex)

Capex refers to the capital expenses incurred in the provision of network services. The return on and of forecast capex are two of the building blocks we use to determine a TNSP's total revenue requirement.

We have estimated total forecast capex of \$1015.0 million (\$2013-14) for TransGrid's 2014-18 period. This is 75.3 per cent of TransGrid's capex proposal.

Table 8 shows our final decision compared to TransGrid's revised proposal.

**Table 8 Our final decision on TransGrid's total forecast capex (million \$2013–14)**

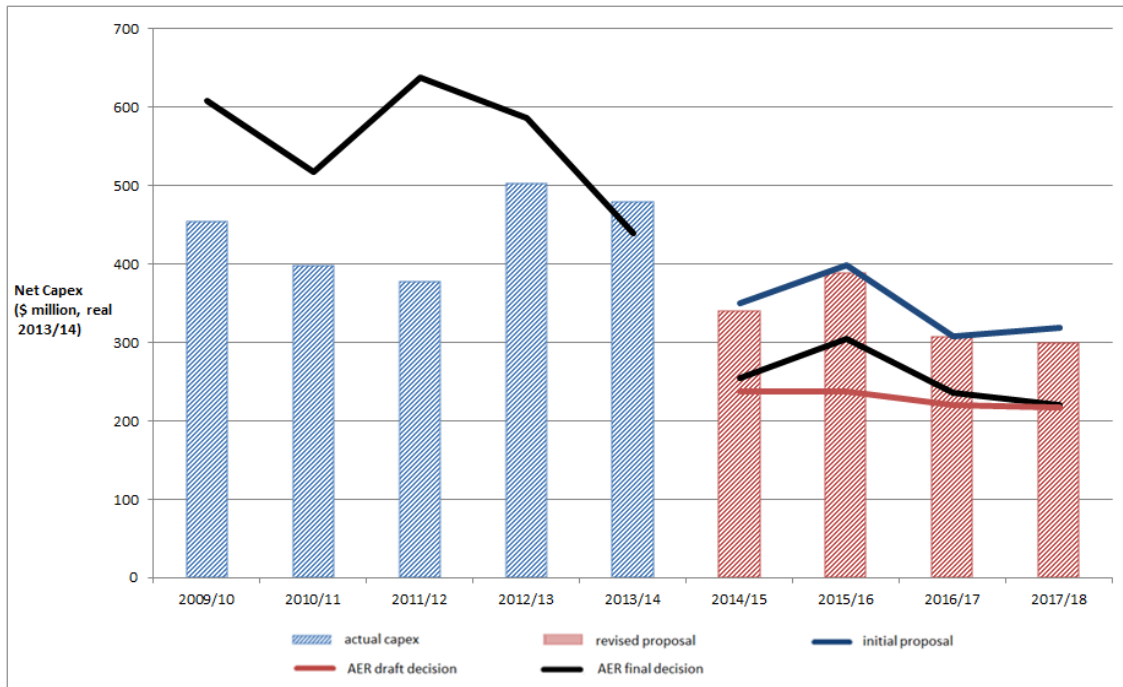
|                           | 2014–15 | 2015–16 | 2016–17 | 2017–18 | Total   |
|---------------------------|---------|---------|---------|---------|---------|
| TransGrid's proposal      | 342.5   | 387.8   | 310.3   | 307.5   | 1,348.1 |
| AER final decision        | 255.3   | 304.6   | 235.3   | 219.8   | 1,015.0 |
| Difference                | -87.2   | -83.2   | -75.0   | -87.7   | -333.1  |
| Percentage difference (%) | -25%    | -21%    | -24%    | -29%    | -25%    |

Source: AER analysis

Note: Numbers may not total due to rounding.

Figure 6 shows our final decision compared to TransGrid's revised proposal, its past allowances and past actual expenditure.

**Figure 6 TransGrid forecast capex, AER draft decision, and actual capex 2009–19**



Source: AER analysis

Attachment 6 sets out our detailed reasons for our final decision on TransGrid's total forecast capex. We have accepted TransGrid's proposed growth related capex (augmentation and customer connections), as well as the non-network capex component of TransGrid's revised capex proposal. We have also accepted TransGrid's proposal for real cost escalators, which adopted our draft decision.

There are two key areas of difference between our substitute estimate and TransGrid's revised proposal: repex and strategic property acquisitions.

We considered TransGrid's proposed repex, low span and other security and compliance related capex together as a total repex amount. Our final decision results in an average annual increase of 12 per cent compared with actual expenditure in the 2009-14 regulatory control period, as opposed to the 52 per cent average annual increase proposed by TransGrid. This reduction reflects our concerns with TransGrid's forecasting methodology, and its overly conservative risk assessment for the 2014-18 period, both at an absolute level and in comparison to the current period. This accounts for most of the difference between us and TransGrid. As a contribution to the total capex forecast, our estimate reflects 71 per cent of TransGrid's proposed forecast repex and security and compliance capex.

We also made adjustments to our total forecast capex where the need for forecast strategic property acquisitions included in TransGrid's forecast has not been demonstrated, or where evidence shows the expected cost of a proposed acquisition is lower than that included in TransGrid's forecast. Our substitute estimate includes 62



per cent of TransGrid's proposed forecast for strategic property acquisitions capex. This accounts for 12.4 per cent of the difference between us and TransGrid.

## 2.7 Operating expenditure (opex)

Opex includes forecast operating, maintenance and other non-capital costs incurred in the provision of transmission network services. It includes labour costs and other non-capital costs that TransGrid is likely to require during the 2014–18 period for the efficient operation of its network.

We have estimated total forecast opex of \$667.0 million (\$2013-14) for TransGrid for the 2014-18 period, excluding debt raising costs. This is seven per cent lower than TransGrid's forecast. Table 9 shows our final decision compared to TransGrid's proposal.

**Table 9 Our final decision on total opex (\$million 2013–14)**

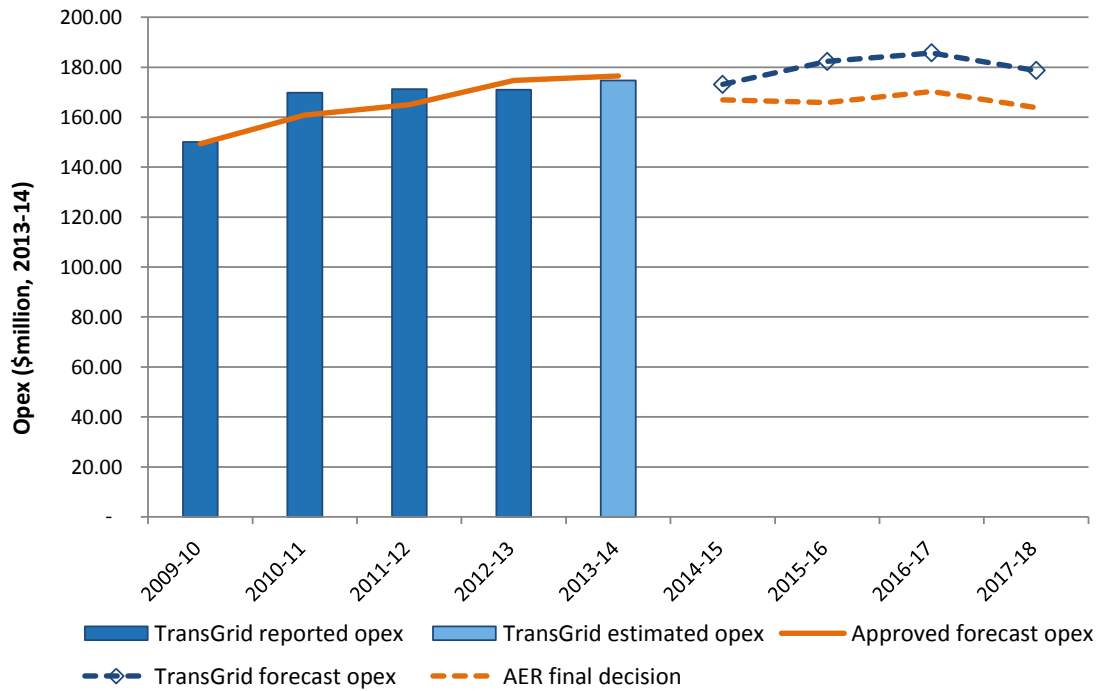
|                              | 2014–15 | 2015–16 | 2016–17 | 2017–18 | Total |
|------------------------------|---------|---------|---------|---------|-------|
| TransGrid's revised proposal | 173.1   | 182.3   | 185.7   | 178.7   | 719.9 |
| AER final decision           | 167.0   | 165.8   | 170.3   | 163.8   | 667.0 |
| Difference                   | -6.1    | -16.5   | -15.4   | -14.9   | -52.9 |

Source: TransGrid, Revised Revenue Proposal, PTRM; AER analysis.

Note: Excludes debt raising costs and has been expressed in year end terms.

Figure 7 shows our final decision compared to TransGrid's revised proposal, its past allowances and past actual expenditure.

**Figure 7 AER final decision compared to TransGrid's past and proposed opex (\$million, 2013-14)**



Source: AER analysis

Note: Excludes network support costs, debt raising costs and movements in provisions.

Attachment 7 sets out our detailed reasons for our final decision on TransGrid's total forecast opex. The key areas of difference between our substitute estimate and TransGrid's proposal are:

- **Forecasting method:** TransGrid developed its forecast using a hybrid 'base-step-trend' approach, which included 'bottom-up' or 'zero-based' forecasts of certain categories. The difference in forecasting method accounts for \$14.9 million (\$2013–14) of the difference between TransGrid's proposed opex and our estimate.
- **Rate of change:** TransGrid forecast output growth as a function of forecast capex. It forecast productivity growth based on assumed economies of scale factors applied to forecast output growth. TransGrid adopted our approach to forecasting price growth. The difference in the forecast rate of change accounts for \$21.9 million (\$2013–14) of the difference between our substitute estimate and TransGrid's proposal. Of this, \$19.8 million (\$2013–14) is attributable to output growth and productivity growth.
- **Step changes:** We have included four of the ten step changes proposed by TransGrid in its revised proposal. This amounts to \$0.1 million (\$2013–14) of step changes over the 2014–18 period compared to the \$23.4 million (\$2013–14) proposed by TransGrid (not including the two negative step changes we have assessed as productivity growth). We have also included a step change of

\$12.4 million (\$2013–14) for three of TransGrid's major operating projects (MOPs) in TransGrid's revised proposal, which deliver capex/opex trade-offs.

## 2.8 Efficiency benefit sharing scheme (EBSS) carryover amounts

During the 2004–09 regulatory control period, TransGrid operated under a predecessor of the EBSS, the efficiency carry forward mechanism (ECFM). During the 2009–14 regulatory control period TransGrid operated under version one of the EBSS.<sup>43</sup> In the 2014–18 period TransGrid will receive an adjustment to its revenue for carryover amounts in relation to both the ECFM and the EBSS.

Our final decision is to apply ECFM and EBSS carryover amounts totalling \$60.9 million. The difference between our final decision and TransGrid's proposal is shown in Table 10.

**Table 10 AER's final decision on TransGrid's EBSS and ECFM carryover amounts (\$ million, 2013–14)**

|                                | 2014–15 | 2015–16 | 2016–17 | 2017–18 | Total |
|--------------------------------|---------|---------|---------|---------|-------|
| TransGrid's proposed carryover | 22.5    | 13.5    | 15.5    | 23.3    | 74.8  |
| Final decision                 | 21.1    | 13.2    | 15.0    | 11.6    | 60.9  |
| Difference                     | -1.5    | -0.3    | -0.5    | -11.7   | -14.0 |

Source: AER analysis. Totals may not sum due to rounding.

The main difference between TransGrid's proposed carryover amount and our final decision is the different treatment of provisions. We are not satisfied that the provisions TransGrid reported as opex accurately reflect the costs faced by it in this period. This is because we consider provisions to be estimates of costs that TransGrid expects to incur, not costs it has actually incurred in the 2009–14 regulatory control period. The EBSS is intended to reward service providers for efficiency gains (and penalise them for efficiency losses).<sup>44</sup> We consider that it would be undesirable to reward TransGrid for movements in provisions under the EBSS when, in effect, they amount to changes in assumptions and not efficiency gains.

Instead, we consider the amount incurred and charged against the provision in the 2009–14 regulatory control period better reflects the cost TransGrid faced in that period.

<sup>43</sup> AER, *Electricity transmission network service providers: Efficiency benefit sharing scheme*, September 2007.

<sup>44</sup> NER, cl. 6A.6.5(b)(2)

## 2.9 Corporate income tax

The estimated cost of corporate income tax contributes to our determination of the total revenue cap for TransGrid over the 2014–18 period. An allowance for corporate income tax enables TransGrid to recover the costs associated with the estimated corporate income tax payable during that period.

We have determined a cost of corporate income tax allowance of \$101.5 million (\$ nominal). This is 51 per cent lower than TransGrid's revised proposal. Table 11 sets out our final decision on TransGrid's corporate income tax allowance for the 2014–18 period.

**Table 11 AER's final decision on TransGrid's cost of corporate income tax allowance for the 2014–18 period (\$ million, nominal)**

|                                    | 2014–15 | 2015–16 | 2016–17 | 2017–18 | Total |
|------------------------------------|---------|---------|---------|---------|-------|
| Tax payable                        | 28.6    | 31.3    | 54.4    | 54.9    | 169.2 |
| Less: value of imputation credits  | 11.4    | 12.5    | 21.8    | 22.0    | 67.7  |
| Net corporate income tax allowance | 17.1    | 18.8    | 32.6    | 33.0    | 101.5 |

Source: AER analysis.

We accept TransGrid's proposed approach to estimating its cost of corporate income tax. However, our final decision reflects our amendment to the value of imputation credits (gamma) as discussed in Attachment 4, which is a key input to calculating TransGrid's cost of corporate income tax.<sup>45</sup> Changes to other building block components that affect revenues also impact the tax calculation.

Details of our final decision on the corporate income tax allowance are set out in Attachment 8.

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<sup>45</sup> NER, cl. 6A.6.4.

## 3 Incentive schemes

Incentive schemes are a component of incentive-based regulation and complement our approach to assessing efficient costs. The incentive schemes that will apply to TransGrid are:

- The efficiency benefit sharing scheme (EBSS)
- The capital expenditure sharing scheme (CESS)
- The service target performance incentive scheme (STPIS).

### 3.1 Efficiency benefit sharing scheme (EBSS)

The EBSS provides an additional incentive for service providers to pursue efficiency improvements in opex. It is a key component of incentive regulation under the NER.

As opex is largely recurrent and predictable, opex in one period is generally a good indicator of opex in the next period (step changes provide for increases where this is not the case). Where a service provider is relatively efficient, we use the actual opex it incurred in a chosen base year of the regulatory control period to forecast opex for the next regulatory control period. We call this the 'revealed cost approach'.

To encourage a service provider to become more efficient during the regulatory control period, it is allowed to keep any difference between its approved forecast and its actual opex during a regulatory control period. This is supplemented by the EBSS which allows the service provider to retain efficiency savings and efficiency losses for a longer period of time. In total these rewards and penalties work together to provide a continuous incentive for a service provider to pursue efficiency gains over the regulatory control period. The EBSS also discourages a service provider from incurring opex in the expected base year in order to receive a higher opex allowance in the following regulatory control period.<sup>46</sup>

We summarise our final decision on the EBSS carryover amounts TransGrid has accrued in section 2.8 of this overview. Attachment 9 sets out our detailed reasons for that decision.

We will apply version 2 of the EBSS to TransGrid. Our detailed reasons are also set out in Attachment 9.

### 3.2 Capital expenditure sharing scheme (CESS)

The CESS provides financial rewards for service providers whose capex becomes more efficient throughout the regulatory control period, and financial penalties for those

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<sup>46</sup> These concepts are explained more fully in the explanatory statement to the EBSS, AER, *Efficiency benefit sharing scheme for electricity network service providers - explanatory statement*, November 2013.

that become less efficient. Consumers benefit from improved efficiency through lower regulated prices.

As part of the Better Regulation Program we consulted on and published the Capital Expenditure Incentive Guideline, which sets out version 1 of the CESS. The CESS approximates efficiency gains and efficiency losses by calculating the difference between forecast and actual capex. It shares these gains or losses between service providers and consumers.

Under the CESS a service provider retains 30 per cent of the benefit or cost of an underspend or overspend, while consumers retain 70 per cent of the benefit or cost of an underspend or overspend. This means that for a one dollar saving in capex the service provider keeps 30 cents of the benefit while consumers keep 70 cents of the benefit. Conversely, in the case of an overspend, the service provider must bear 30 cents of the cost and consumers 70 cents.

We will apply version 1 of the CESS, as set out in the Capital Expenditure Incentives Guideline, to TransGrid in the 2015–18 regulatory control period.

Attachment 10 sets out our reasons for our final decision on the CESS.

### **3.3 Service target performance incentive scheme (STPIS)**

The current version of the STPIS, version 4.1, has three components:

- The service component provides a financial incentive for TNSPs to improve and maintain service performance.
- The market impact component provides an incentive to TNSPs to minimise the impact of transmission outages that can affect the NEM spot price.
- The network capability component funds and incentivises TNSPs to identify and implement incremental changes that would improve the capability of the network when it is most needed.

We will apply version 4.1 of the STPIS to TransGrid. Attachment 11 sets out our detailed reasons for our final decision on the STPIS.

Table 11.1 of Attachment 11 sets out our final decision on TransGrid's service component parameter values.

We accept TransGrid's proposed performance targets for the service component because they comply with the requirements in clause 3.2 of the STPIS. However, we do not accept TransGrid's proposed caps and collars. We consider the caps and collars calculated using our principle based approach, discussed in Attachment 11, will result in a materially stronger incentive to improve and maintain service performance.

As foreshadowed in our transitional transmission determination for TransGrid, we have validated and confirmed the 2011, 2012 and 2013 market impact performance data which was included within TransGrid's 2015–18 revenue proposal. We also audited

TransGrid's 2014 market impact performance data as part of our annual STPIS compliance review. As a result of our audit, we made adjustments to the market impact performance values submitted by TransGrid.

TransGrid's market impact parameter targets that will apply within the 2015–18 regulatory control period will be published annually as part of our service standards compliance reporting process.<sup>47</sup>

For the network capability component of the STPIS, we accept TransGrid's proposed priority projects and improvement targets. The average total expenditure of the priority projects in each regulatory year is not greater than one per cent of TransGrid's proposed average MAR as required by the STPIS. Table 11.2 of Attachment 11 sets out our final decision on TransGrid's proposed priority projects, improvement targets and project ranking.

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<sup>47</sup> Our annual service standards compliance reports are available at <http://www.aer.gov.au/node/484>.

## 4 Regulatory framework

The NEL and the NER provide the regulatory framework under which we operate. These set out how we must assess a revenue proposal and make our decision. In this section we set out some key aspects of this framework.

The NEO is the central feature of the regulatory framework. The NEO is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:<sup>48</sup>

- price, quality, safety, reliability and security of supply of electricity
- the reliability, safety and security of the national electricity system.

The NEL also includes the revenue and pricing principles (RPP), which support the NEO.<sup>49</sup> As the NEL requires,<sup>50</sup> we have taken the RPPs into account throughout our analysis. The RPPs are:

A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—

- providing direct control network services; and
- complying with a regulatory obligation or requirement or making a regulatory payment.

A regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides. The economic efficiency that should be promoted includes—

- efficient investment in a distribution system or transmission system with which the operator provides direct control network services; and
- the efficient provision of electricity network services; and
- the efficient use of the distribution system or transmission system with which the operator provides direct control network services.

Regard should be had to the regulatory asset base with respect to a distribution system or transmission system adopted—

- in any previous—
  - as the case requires, distribution determination or transmission determination; or

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<sup>48</sup> NEL, s. 7.

<sup>49</sup> NEL, s. 7A.

<sup>50</sup> NEL, s. 16(2).



- determination or decision under the National Electricity Code or jurisdictional electricity legislation regulating the revenue earned, or prices charged, by a person providing services by means of that distribution system or transmission system; or
- in the Rules.

A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services.

Regard should be had to the economic costs and risks of the potential for under and over utilisation of a distribution system or transmission system with which a regulated network service provider provides direct control network services.

Consistent with Energy Ministers' views, we set the amount of revenue that service providers can recover from customers to balance all of the elements of the NEO, and consider each of the RPPs are equally vital.<sup>51</sup>

Chapter 6A of the NER provides specifically for the economic regulation of TNSPs. It includes detailed rules about the constituent components of our decisions. These are intended to contribute to the achievement of the NEO.<sup>52</sup> The AEMC has made clear that, in relation to key aspects of revenue, the rules guide the AER. These rules do not dictate any specific regulatory outcome.<sup>53</sup> For example, the AEMC has said:

Some stakeholders appear to have understood the objectives as imposing on the regulator a requirement and that failure to comply with this would mean the regulator is in breach of the rules. This is not the case. Although the language of an obligation is used in some objectives, it is not necessarily expected that the substance of the objective will always be fully achieved, but rather the regulator should be striving to achieve the objective as fully as possible.

Given this framework, we consider the NEO and how to achieve it throughout our decision making processes.

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<sup>51</sup> Hansard, SA House of Assembly, 27 September 2007 pp. 965, Hansard, SA House of Assembly, 26 September 2013, p. 7173.

<sup>52</sup> NEL, s. 88.  
AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012*, *National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, p. 8.

<sup>53</sup> AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006 No. 18*, p. 33-34  
AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012*, *National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, pp 35-6.

## 4.1 Understanding the NEO

Energy Ministers have provided us with a substantial body of explanatory material that guides our understanding of the NEO.<sup>54</sup> The long term interests of consumers are not delivered by any one of the NEO's factors in isolation, but rather by balancing them in reaching a regulatory decision.<sup>55</sup>

In general, we consider that we will achieve this balance and, therefore, contribute to the achievement of the NEO, where consumers are provided a reasonable level of safe and reliable service that they value, at least cost in the long run.<sup>56</sup> In most industries, competition creates this outcome. Competition drives suppliers to develop their offerings to attract customers. Where a supplier's offering is not attractive it risks being displaced by other suppliers.

However, in the energy networks industry the usual competitive disciplines do not apply. TNSPs are largely natural monopolies. In addition, many of the products they offer are essential services for most consumers. Consequently, in an uncompetitive environment, consumers have little choice but to accept the quality, reliability and price the TNSPs offer.

The NEL and NER aim to remedy the absence of competition by providing that we, as regulator, make decisions that are in the long term interests of consumers. In particular, we might need to require the TNSPs to offer their services at a different price than they would choose themselves. By its nature, this process will involve exercising regulatory judgement to balance the NEO's various factors.

It is important to recognise that there are a number of plausible outcomes that may contribute to the achievement of the NEO. The nature of decisions under the NER is such that there may be a range of economically efficient decisions, with different implications for the long term interests of consumers.<sup>57</sup> At the same time, however, there are a range of outcomes that are unlikely to advance the NEO to a satisfactory extent. For example, we do not consider that the NEO would be advanced if allowed revenues encourage overinvestment and result in prices so high that consumers are unwilling or unable to efficiently use the network.<sup>58</sup> This could have significant longer term pricing implications for those consumers who continue to use network services. Equally, we do not consider the NEO would be advanced if allowed revenues result in prices so low that investors are unwilling to invest as required to adequately maintain

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<sup>54</sup> Hansard, SA House of Assembly, 9 February 2005 pp. 1451–1460.

Hansard, SA House of Assembly, 27 September 2007 pp. 963–972.

Hansard, SA House of Assembly, 26 September 2013 pp. 7171–7176.

<sup>55</sup> Hansard, SA House of Assembly, 26 September 2013 p. 7173.

<sup>56</sup> Hansard, SA House of Assembly, 9 February 2005 p. 1452.

<sup>57</sup> *Re Michael: Ex parte Epic Energy* [2002] WASCA 231 at [143].

Energy Ministers also accept this view – see Hansard, SA House of Assembly, 26 September 2013 p. 7172.

AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006 No. 18*, p. 50.

<sup>58</sup> NEL, s. 7A(7).

the appropriate quality and level of service, and where customers are making more use of the network than is sustainable. This could create longer term problems in the network<sup>59</sup> and could have adverse consequences for safety, security and reliability of the network.

## 4.2 The 2012 framework changes

This is the first decision we have made following changes to the NEL and NER in 2012 and 2013. The NEL and NER were amended to provide greater emphasis on the NEO and greater discretion to us.<sup>60</sup> The amended NER allow, and the AEMC has encouraged, us to approach decision making more holistically to meet overall objectives consistent with the NEO and RPPs.<sup>61</sup> Also, one of the purposes of these changes was to give consumers a clearer and more prominent role in the decision making process.<sup>62</sup>

In 2013, the NEL was changed with similar aims in mind. The long term interests of consumers are a key focus of the changes.<sup>63</sup> The changes also support analysing the decision *as a whole* in light of the NEO.<sup>64</sup> The NEL now requires us to specify how the constituent components of our decision relate to each other and how we have taken those interrelationships into account in making our decision.<sup>65</sup> It also anticipates the possibility of two or more decisions that will or are likely to contribute to the achievement of the NEO. It requires that, in those cases, we must make the decision we are satisfied will or is likely to contribute to the achievement of the NEO to the greatest degree.<sup>66</sup> The NER requires that we provide reasons for our decisions.<sup>67</sup>

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<sup>59</sup> NEL, s. 7A(6).

<sup>60</sup> NEL, ss. 16(1)(d) and 71P(2a)(c).

AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, pp. i, iii, iv, vi, vii, 8, 24 32, 36, 38, 45, 49, 67, 68, 90, 96 106, 112 and 113.

Hansard, SA House of Assembly, 26 September 2013 p. 7172.

<sup>61</sup> For example, NER, cl. 6A.6.2(b), 6A.6.6(a), 6A.6.7(a)

AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, pp. xi, 10, 19, 32 and 35.

<sup>62</sup> AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, esp. pp. 166–170.

<sup>63</sup> Hansard, SA House of Assembly, 26 September 2013 p. 7171.

<sup>64</sup> NEL, ss. 2, 16, 71A and 71P which focus the AER's decision making and merits review at the overall decision, rather than its constituent components.

Hansard, SA House of Assembly, 26 September 2013 pp. 7171 and 7173; See also NEL, ss. 2, 16 and 71A which focus the AER's decision making and merits review at the overall decision, rather than its constituent components. SCER, *Regulation Impact Statement – Limited Merits Review of Decision-Making in the Electricity and Gas Regulatory Frameworks* 6 June 2013 pp. i, ii, 6–7, 10, 36, 41 and 76.

<sup>65</sup> NEL, s. 16(c).

<sup>66</sup> NEL, s. 16(1)(d).

<sup>67</sup> NER, cl. 6A.13.3(2).

The NEL does not prescribe how we are to apply these overarching requirements and so in applying them, we have exercised our regulatory judgement.

We have done so by determining revenue in accordance with the detailed provisions in the NER. This assessment is in each of our Attachments. As part of that assessment, and in accordance with the NEL requirements, we identify and assess the interrelationships between the constituent components of our final decision. In the following sections, we explain our approach to evaluating these interrelationships and then set out how we assessed what will contribute to the achievement of the NEO to the greatest degree. Section 1 of this overview demonstrates how we have applied these approaches for this decision.

### 4.2.1 Interrelationships

A transmission determination is a complex decision and must be considered as such. Considering constituent components in isolation ignores the importance of interrelationships between the components and would not contribute to the achievement of the NEO. As outlined by Energy Ministers, considering the elements in isolation has resulted in regulatory failures in the past.<sup>68</sup> Interrelationships can take various forms, including:

- underlying drivers and context which are likely to affect many constituent components of our decision. For example, forecast demand affects the efficient levels of capex and opex in the regulatory control period and it also affects how overall revenue is translated into individual prices (see Attachment 6).
- direct mathematical links between different components of a decision. For example, the value of imputation credits ( $\gamma$ ) has an impact on the appropriate tax allowance; the benchmark efficient entity's debt to equity ratio has a direct effect on the cost of equity, the cost of debt, and the overall vanilla rate of return (see Attachments 3, 4 and 8).
- trade-offs between different components of revenue. For example, undertaking a particular capex project may affect the need for opex and vice versa (see Attachments 6 and 7).
- trade-offs between forecast and actual regulatory measures. The reasons for one part of a proposal may have impacts on other parts of a proposal. For example, an increase in augmentation to the network means the TNSP has more assets to maintain leading to higher opex requirements (see Attachments 6 and 7).
- the TNSP's approach to managing its network. The TNSP's governance arrangements and its approach to risk management will influence most aspects of the proposal, including capex/opex trade-offs (See Attachments 6 and 7).

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<sup>68</sup> SCER, *Regulation Impact Statement: Limited Merits Review of Decision-Making in the Electricity and Gas Regulatory Frameworks – Decision Paper*, 6 June 2013 p. 6

We have considered these types of interrelationships in our analysis of the constituent components of our decision. These considerations are explored in the relevant attachments.

## 5 Process

The NEL requires us to inform stakeholders of the material issues we are considering and to give them a reasonable opportunity to make submissions in respect of this decision.<sup>69</sup>

Below we set out the process we have followed leading up to the submission of TransGrid's proposal, to ensure that we have fully taken into account all views.

### 5.1 Better Regulation program

Following the 2012 changes to the NEL, we spent much of 2013 consulting on and refining our assessment methods and approaches to decision making. We referred to this as our Better Regulation program. The objective of this program was to refine our approaches, with a greater emphasis on incentive regulation.<sup>70</sup> The Better Regulation program was designed to be an inclusive process that provided an opportunity for all stakeholders to be engaged and provide their input.<sup>71</sup>

The resulting guidelines support our decision making framework as set out in section 16 of the NEL. Our consultation and engagement gives us confidence the approaches set out in the guidelines, which we have applied in this decision, will result in decisions that will or are likely to contribute to the achievement of the NEO. Our Better Regulation guidelines are available on our website and include:<sup>72</sup>

- Expenditure Forecast Assessment Guideline
- Expenditure Incentives Guideline
- Rate of Return Guideline
- Consumer Engagement Guideline
- Shared Assets Guideline
- Confidentiality Guideline.

### 5.2 Our engagement during the decision making process

Effective consultation with stakeholders is essential to the performance of our regulatory functions. In summary, throughout the review process, we engaged with stakeholders by:

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<sup>69</sup> NEL, s. 16(1)(b)

<sup>70</sup> AER, *Overview of the Better Regulation reform package*, April 2014, pp. 4 and 7–13.

<sup>71</sup> AER, *Overview of the Better Regulation reform package*, April 2014, pp. 4 and 7–13.

<sup>72</sup> <http://www.aer.gov.au/Better-regulation-reform-program>

- establishing the CCP to assist us to make better regulatory determinations by providing input on issues of importance to consumers, and convening regular meetings between the CCP and AER staff to discuss key issues
- publishing an issues paper on 8 July 2014 to help stakeholders engage with, and meaningfully respond to, issues in TransGrid's revenue proposal that we considered material to consumers<sup>73</sup>
- hosting a public forum in Sydney on 10 July 2014 so stakeholders could question the AER and TransGrid on its revenue proposal
- considering eight stakeholder submissions and three CCP submissions on TransGrid's revenue proposal
- having the CCP present its advice in response to TransGrid's revenue proposal to the AER Board in July 2014
- having TransGrid present its revenue proposal to the AER Board in August 2014, and again in October 2014, so questions could be raised and key issues explained
- publishing our draft decision for consultation on 27 November 2014, and hosting a pre-determination conference in Sydney on 8 December 2014 so stakeholders could question the AER and TransGrid on our draft decision
- considering TransGrid's revised proposal and stakeholder submissions on the draft decision and revised proposal. A list of stakeholder submissions is provided in Appendix B.
- having the CCP present its advice in response to our draft decision and TransGrid's revised proposal in February 2015
- having TransGrid present its revised proposal to the AER Board in February 2015, so questions could be raised and key issues explained
- consulting on benchmarking measures prepared by us and Economic Insights, jointly relevant to the preparation of the annual benchmarking report and our assessment of TransGrid's revenue proposal.

AER staff, including our technical advisors and consultants, directly engaged with staff at TransGrid throughout the review process, and tested material and information underpinning its revenue proposal. During this process, we requested and considered additional information from TransGrid to help us understand its proposals.

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<sup>73</sup> AER - Issues paper TransGrid, TasNetworks (Transend), Directlink electricity transmission revenue proposals - July 2014 (<http://www.aer.gov.au/node/23137>). Clause 6A.11.3(b)-(b2) requires the AER publish an issues paper, however cl. 11.57.2(a) of the transition rules excludes these sections from this determination. While we were not required to prepare an issues paper, we used it as a guide for stakeholders on what we saw as the key issues and suggestions where they could focus their responses in light of the volume of material submitted. We therefore structured our issues paper by providing a high level perspective on Directlink's proposal and our initial observations followed by some analysis around key drivers of Directlink's proposal.

# A Constituent components

Our final decision on TransGrid's transmission determination includes the following constituent components.<sup>74</sup>

## Constituent component

In accordance with clause 6A.14.1(i) of the NER, the AER has not approved the total revenue cap set out in TransGrid's revised building block proposal. Our final decision on TransGrid's total revenue cap is \$2191.0 million (\$ nominal) for the 2015–18 regulatory control period (or \$3036.4 million for the 2014–18 period, including the 2014–15 transitional year). This decision is discussed in Attachment 1 of this final decision. [See also section 1.1-1.3 of the transmission determination.]

In accordance with clause 6A.14.1(ii) of the NER, the AER has not approved the maximum allowed revenue (MAR) for each regulatory year of the regulatory control period set out in TransGrid's revised building block proposal. Our final decision on TransGrid's MAR for each year of the 2014–18 period is set out in Attachment 1 of this final decision. [See also section 1.1-1.3 of the transmission determination.]

In accordance with clause 6A.14.1(iii) of the NER, the AER has decided to apply the service component, network capability component and market impact component of Version 4.1 of the service target performance incentive scheme (STPIS) to TransGrid for the 2015–18 regulatory control period. The values and parameters of the STPIS are set out in section 1.1 of Attachment 11 of this final decision. [See also section 1.6 of the transmission determination.]

In accordance with clause 6A.14.1(iv) of the NER, the AER's decision on the values that are to be attributed to the parameters for the efficiency benefit sharing scheme (EBSS) that will apply to TransGrid in respect of the 2014–18 period are set out in section 9.1 of Attachment 9 of this final decision. [See also section 1.7 of the transmission determination.]

In accordance with clause 6A.14.1(v) of the NER, the AER has approved the commencement and length of the subsequent regulatory control period as TransGrid proposed in its revenue proposal. The subsequent regulatory control period will commence on 1 July 2015 and the length of this period is three years from 1 July 2015 to 30 June 2018. [See also section 1.9 of the transmission determination.]

In accordance with clause 6A.14.1(2) and acting in accordance with clause 6A.6.7(d) of the NER, the AER has not accepted TransGrid's total forecast capital expenditure of \$1,348.10 million (\$2013–14). Our substitute estimate of TransGrid's total forecast capex for the 2014–18 period is \$1015.01 million (\$2013–14). This is discussed in Attachment 6 of this final decision.

In accordance with clause 6A.14.1(3) and acting in accordance with clause 6A.6.6(d) of the NER, the AER has not accepted TransGrid's total forecast operating expenditure inclusive of debt raising costs of \$746.1 million (\$2013–14). Our substitute estimate of TransGrid's total forecast opex for the 2014–18 period is \$679.6 million (\$2013–14). This is discussed in Attachment 7 of this final decision.

In accordance with clause 6A.14.1(4)(i) of the NER, the AER has determined that the proposed 'Reinforcement Capacity in Southern New South Wales' is a contingent project for the purposes of the revenue determination.

In accordance with clause 6A.14.1(4)(ii) of the NER, the AER is satisfied that the capital expenditure of \$308.9 million (\$2013–14) for the 'Reinforcement Capacity in Southern New South Wales' contingent project as described in TransGrid's revised revenue proposal reasonably reflects the capital expenditure criteria, taking into account the capital expenditure factors.

In accordance with clause 6A.14.1(4)(iii) of the NER, the AER has determined that the triggers proposed by TransGrid for the 'Reinforcement Capacity in Southern New South Wales' contingent project are inconsistent with the NER. Our final decision includes revised triggers for this contingent project.

In accordance with clause 6A.14.1(5A) of the NER, the AER has determined that version 1 of the capital expenditure sharing scheme (CESS) as set out the Capital Expenditure Incentives Guideline will apply to TransGrid in the 2015–18 regulatory control period. This is discussed in Attachment 10 of this final decision. [See also section 1.8 of the transmission determination.]

In accordance with clause 6A.14.1(5B) and 6A.6.2 of the NER, the AER has decided that the allowed rate or return for 2014–15

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<sup>74</sup> NEL, s. 16(1)(c).



## Constituent component

and 2015–16 regulatory years are 6.84 and 6.75 per cent (nominal vanilla), respectively as set out in Table 1 of Attachment 3 of this final decision. The rate of return for the remaining regulatory years 2016–18 will be updated annually because our final decision is to apply a trailing average portfolio approach to estimating debt which incorporates annual updating of the allowed return on debt.

In accordance with clause 6A.14.1(5C) of the NER the AER has decided that the return on debt is to be estimated using a methodology referred to in clause 6A.6.2(i)(2), and using the formula to be applied in accordance with clause 6A.6.2(l). The methodology and formula are set out in Appendix I of Attachment 3 of this final decision.

In accordance with clause 6A.14.1(5D) of the NER the AER has decided that the value of imputation credits as referred to in clause 6A.6.4 is 0.4. This is set out in Attachment 4 of this final decision.

In accordance with clause 6A.14.1(5E) of the NER the AER has decided, in accordance with clause 6A.6.1 and schedule 6A.2, that the opening regulatory asset base (RAB) as at the commencement of the 2015–18 regulatory control period is \$6241.5 million (\$ nominal). This is based on an opening RAB value of \$6075.8 million (\$ nominal) as at 1 July 2014. This is set out in Attachment 2 of this final decision. [See also section 1.4 of the transmission determination.]

In accordance with clause 6A.14.1(5F) of the NER the AER has decided that the forecast depreciation approach is to be used to establish the RAB at the commencement of TransGrid's regulatory control period (1 July 2018). This is discussed in Attachment 2 of this final decision. [See also section 1.5 of the transmission determination.]

In accordance with clause 6A.14.1(6) of the NER the AER has approved TransGrid's proposed negotiating framework. [See section 2 of the transmission determination].

In accordance with clause 6A.14.1(7) of the NER the AER has specified the negotiated transmission services criteria for TransGrid. [See section 3 of the transmission determination.]

In accordance with clause 6A.14.1(8) of the NER the AER has approved TransGrid's proposed pricing methodology. [See section 4 of the transmission determination.]

In accordance with clause 6A.14.1(9) of the NER the AER has approved the following nominated pass through events to apply to TransGrid for the 2015-18 regulatory control period in accordance with clause 6A.6.9:

- terrorism event
- insurance cap event
- insurer's credit risk event

These events have the definitions listed in Table 13.1 in Attachment 13 of this final decision. [See also section 5 of the transmission determination.]

## B List of submissions

We invited submissions on our draft decision and TransGrid's revised proposal by 6 February 2015. In addition to the CCP, the following stakeholders made written submissions:

| Submission                            | Date  |
|---------------------------------------|---|
| AusNet Services                       | 6 February 2015                                   |
| Australian Gas Networks               | 13 February 2015                                  |
| CitiPower and Powercor                | 6 February 2015                                   |
| ElectraNet                            | 6 February 2015                                   |
| Energy Markets Reform Forum           | 6 February 2015                                   |
| Energy Networks Association           | 6 February 2015                                   |
| Energy Users Association of Australia | 6 February 2015                                   |
| EnerNOC                               | 6 February 2015                                   |
| Ergon Energy                          | 13 February 2015; 27 March 2015*                  |
| Ethnic Communities Council of NSW     | 6 February 2015                                   |
| Grid Australia                        | 6 February 2015                                   |
| Institute for Sustainable Futures     | 13 February 2015                                  |
| Jemena Limited                        | 6 February 2015                                   |
| Norske Skog Paper Mills               | 6 February 2015                                   |
| Origin Energy                         | 6 February 2015                                   |
| Powerlink                             | 6 February 2015                                   |
| Public Interest Advocacy Centre       | 6 February 2015                                   |
| Reposit Power                         | 6 February 2015                                   |
| SA Power Networks                     | 6 February 2015                                   |
| Snowy Hydro Limited                   | 6 February 2015                                   |
| The McKell Institute                  | 13 February 2015                                  |
| Total Environment Centre              | 6 February 2015                                   |
| United Energy                         | 6 February 2015, 13 February 2015; 27 March 2015* |

\* Clause 6A.16(a) of the NER provides that the AER may, but is not required to, consider any late submission. Submissions from Ergon Energy and United Energy on 27 March 2015 were provided a considerable time after submissions on our draft decision and TransGrid's revised proposal closed. As we were in the final stages of our review of TransGrid's revised proposal at that time, there was not sufficient time for the AER, consumers or regulated businesses to comment upon or respond to these submissions in a meaningful way. We therefore exercised our discretion under clause 6A.16(a) not to consider these late submissions for the

purposes of this final decision. This has not affected our consideration of submissions made by Ergon Energy on 13 February 2015, or by United Energy on 6 February and 13 February 2015.