FINAL DECISION
Endeavour Energy
Distribution Determination

2019 to 2024

Overview

April 2019

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Note

This Overview forms part of the AER's final decision on the distribution determination that will apply to Endeavour Energy for the 2019–24 regulatory control period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. The attachments have been numbered consistently with the equivalent attachments to our longer draft decision. In these circumstances, our draft decision reasons form part of this final decision.

In addition to this Overview, the final decision includes the following attachments:

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 9 – Capital expenditure sharing scheme

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Attachment 12 – Classification of services

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Attachment 18 – Tariff structure statement

Attachment A – Negotiating framework

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Shortened forms

Shortened form	Extended form
ACS	Alternative control services
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ANS	Ancillary network services
Augex	Augmentation capital expenditure
Capex	Capital expenditure
CCP/CCP10	Consumer Challenge Panel, sub-panel 10
CESS	Capital expenditure sharing scheme
CPI	Consumer price index
DMIA/DMIAM	Demand management innovation allowance (mechanism)
DMIS	Demand management incentive scheme
DUoS	Distribution use of system
EBSS	Efficiency benefit sharing scheme
ERW	Emergency recoverable works
F&A	Framework and Approach
NDSC	Negotiated distribution service criteria
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NGL	National Gas Law
NSW	New South Wales
Opex	Operating expenditure
PTRM	Post-tax revenue model
RAB	Regulatory asset base
RBA	Reserve Bank of Australia
Repex	Replacement capital expenditure
RFM	Roll forward model
SCS	Standard control services

Shortened form	Extended form
STPIS	Service target performance incentive scheme
TAB	Tax asset base
TSS	Tariff structure statement

About this decision

The Australian Energy Regulator (AER) works to make all Australian energy consumers better off, now and in the future. We regulate energy networks in all jurisdictions except Western Australia. We set the amount of revenue that network businesses can recover from customers for using these networks.

The National Electricity Law and Rules (NEL and NER) provide the regulatory framework governing electricity transmission and distribution networks. Our work under this framework is guided by the National Electricity Objective (NEO):[1]

> "…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—
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system."

Endeavour Energy (Endeavour) is the electricity distribution network service provider for Sydney's greater west, the Blue Mountains, Southern Highlands, the Illawarra and South Coast. On 30 April 2018, Endeavour submitted its initial regulatory proposal for the 2019–24 regulatory control period, commencing 1 July 2019 to 30 June 2024. On 1 November 2018, we released our draft decision for Endeavour. In response, Endeavour submitted a revised regulatory proposal on 8 January 2019. Stakeholder consultation on our draft decision and Endeavour's revised regulatory proposal closed on 5 February 2019. This final decision is released on 30 April 2019.

The key component of our distribution determination for Endeavour will be the total revenue it can recover from customers for the provision of common distribution services (standard control services (SCS)): those used by most, if not all, of Endeavour's customers. This is our building block determination, and will form the basis of Endeavour's distribution tariffs for the 2019–24 regulatory control period. Endeavour's tariff structure statement (TSS) sets out the tariff structure through which it will recover its regulated revenue for SCS from customers.

Endeavour also provides alternative control services (ACS), the costs of which are recovered from users of those services only, through a capped price on the individual service. These costs are considered separately to our revenue determination. We discuss Endeavour's ACS in Attachment 15 to this final decision. Endeavour has not proposed to provide any services on a negotiated basis in the 2019–24 regulatory control period.[2]

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1 NEL, s. 7.

2 Our distribution determination for Endeavour includes an approved negotiating framework and negotiated distribution service criteria, as required by the NER. Because Endeavour has not included any negotiated services in its proposal, these elements of our determination will be inactive for the 2019–24 regulatory control period.

1 Our final decision

Our final decision allows Endeavour Energy (Endeavour) to recover $4,201.2 million ($ nominal, smoothed) from its customers for the 2019–24 regulatory control period, commencing 1 July 2019 to 30 June 2024.

As a result of this decision, the cost of electricity distribution network services in greater western Sydney, the Blue Mountains, Southern Highlands, the Illawarra and South Coast will be around 4.2 per cent ($ nominal) lower on average by 30 June 2024 compared to the current level.

Distribution network costs represent around 29.7 per cent of total electricity bills on average in greater western Sydney, the Blue Mountains, Southern Highlands, the Illawarra and South Coast. This means that the average annual electricity bill for a residential or small business customer on Endeavour's network is estimated to be around 1.3 per cent ($ nominal) lower by 30 June 2024 compared to the current level, holding all other components of the bill constant.

This outcome is $211.7 million ($ nominal, smoothed) lower than our draft decision, and $160.3 million ($ nominal, smoothed) lower than Endeavour's revised proposal. Having assessed Endeavour's revised proposal, we consider our final decision is justified as it:

- builds on the operational efficiencies Endeavour has achieved in response to our lower approved revenues for the current 2014–19 regulatory control period and locks in ongoing efficiency gains for future regulatory control periods for the benefit of customers
- is balanced against the additional costs associated with servicing the high residential and infrastructure growth regions of Endeavour's distribution area.

Increased efficiency

This final decision for the upcoming 2019–24 regulatory control period continues the momentum built up over the current 2014–19 period as Endeavour has become more efficient and more customer focused, so it is better able to provide the services consumers want at the price they value. The amount of revenue Endeavour could recover from its customers fell from $5,521.7 million ($2018–19, smoothed) for the 2009–14 regulatory control period to $4,310.3 million ($2018–19)[3] for the 2014–19 period (a 21.9 per cent reduction).

The 2014–19 determination challenged Endeavour to not only deliver network services more efficiently to its customers through prudent and efficient operating and capital expenditures, but to do so without compromising network safety and reliability. At the

[3] Based on the 2014–19 remade final decision.

same time, Endeavour was also navigating its way through the complex process of partial privatisation.

In response, Endeavour rationalised its business operations commensurate with lower recoverable revenues for 2014–19.[4] In recent years, we have seen Endeavour continue to improve its efficiency through a range of measures, including a 26 per cent reduction in staffing levels over the first three years of the current regulatory control period.

Today, Endeavour has become a more efficient network service provider with capability to operate and deliver network services from a lower revenue base — as evidenced by this final decision which accepts Endeavour's revised operating expenditure (opex) as a starting point for its forecast expenditure for the next five years. These savings are now locked in for consumers.

This final decision approves total opex of $1,437.5 million ($2018–19) for the 2019–24 regulatory control period, which is $32.1 million (2.2 per cent) lower than proposed by Endeavour in its revised proposal as it did not include the minimum 0.5 per cent per year forecast opex productivity growth that we apply in our determinations, and $95.8 million lower than for the 2014–19 period.

In terms of capital expenditure (capex), we accept a total net capex of $1,715.1 million ($2018–19) for the 2019–24 regulatory control period, which is the same as proposed by Endeavour in its revised proposal and $148.5 million (9.5 per cent) higher than for the 2014–19 period. Our acceptance reflects the additional information Endeavour provided to us and input from consumer groups to narrow or eliminate the key areas of contention following our draft decision.

Listening to customers

As well as increasing efficiency to drive lower costs, Endeavour has also improved its approach to consumer engagement, though more can be done.

Improvements initially made in Endeavour's approach to consumer engagement for its 2014–19 remittal proposal have flowed into its 2019–24 regulatory proposal development. For example, its 2019–24 initial regulatory proposal was made following a period of engagement with consumers on how best to address the consumer priorities of affordability, reliability and safety. This engagement included a series of expenditure 'deep dive' workshops undertaken by Endeavour as part of our agreement allowing a three-month time extension for its submission to 30 April 2018. This engagement was a significant improvement since our last decision for Endeavour in 2015.

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[4] Adding further uncertainty to this environment would have been Endeavour's legal challenge to the lower revenue we had approved for it for the 2014–19 regulatory control period. This matter was finalised in September 2018 following publication of our 2014–19 remade final decision (remittal) for Endeavour, after our 2015 final decision was set aside.

However, some areas of contention identified by consumer groups in the course of Endeavour's engagement remained at the time its initial proposal was submitted to us. After submitting its proposal, Endeavour continued to engage with us and key stakeholders to understand and address concerns with its forecast increase in capex for the 2019–24 regulatory control period in particular. This culminated in Endeavour submitting new information in response to that engagement which included a reduced capex forecast in the weeks prior to us releasing our November 2018 draft decision. We adopted this additional information in our draft decision as it better reflects the efficiency gains Endeavour has achieved in the 2014–19 period.

This is a clear example of the value to a network service provider from a comprehensively designed and well implemented consumer engagement program — in terms of successful passage through the regulatory determination process with a high degree of support from its stakeholders.

We are encouraged by the increasing number of network service providers that are devoting more resources to their respective consumer engagement programs, including greater emphasis on 'deep dive' workshops as part of their pre-lodgement engagement initiatives. Another positive development is the commitment of several network service providers to maintaining an open and ongoing dialogue with stakeholders throughout the regulatory control period, as opposed to engaging intensively once every five years when a regulatory proposal is being considered. By keeping the conversation going, constructive discussions around key and contentious issues could be had well before a regulatory proposal is finalised and submitted to us, with further possible refinements aired as part of our subsequent public consultation processes.

Helping to keep Endeavour focussed during this regulatory determination process have been several consumer groups. We are especially appreciative of Energy Consumers Australia (ECA), Public Interest Advocacy Centre (PIAC), Energy Users Association of Australia (EUAA) and our Consumer Challenge Panel (CCP10) for their strong engagement and commitment to obtaining beneficial outcomes for consumers. Their enduring commitment not only challenges network service providers to consider alternative options for the delivery of services at least cost to consumers, but also challenges us in terms of testing the robustness of our decisions. For example, consumer groups played a key role in helping to resolve Endeavour's 2014–19 remittal, and also advocated strongly for a more thorough consideration of the approach to forecasting opex productivity growth in our regulatory determinations — a matter we have addressed in this final decision for Endeavour.

Endeavour could have taken better advantage of the opportunity it had following our draft decision to more clearly demonstrate in its 2019–24 revised proposal how it had undertaken additional engagement with consumer groups to further refine its proposal, particularly in respect of its capex requirements (including the formerly proposed contingent project for Western Sydney Airport) and approach to forecasting opex productivity growth. General feedback on Endeavour's engagement approach from consumer groups suggests that not only is more meaningful engagement required earlier in the regulatory process (such as part of 'deep dive' workshops), but

Endeavour also needs to maintain the strong momentum it had achieved by the midway point with its consumer-endorsed capex proposal right through to the end of the regulatory determination process. Such an approach may have helped Endeavour to further enhance consumer groups' perception of its revised proposal.

What the decision means

Looking ahead, we estimate our 2019–24 final decision would mean that by the end of the 2019–24 regulatory control period (as at 30 June 2024):

- average network tariffs would decrease by around 4.2 per cent ($ nominal) for Endeavour compared to the 2018–19 level (as at 30 June 2019)
- average annual electricity bills would decrease by around 1.3 per cent ($ nominal) for residential or small business customers on Endeavour's network compared to the 2018–19 level (as at 30 June 2019), holding all other components of the bill constant.[5] This suggests that average annual bills would be around $24 and $44 lower for residential and small business customers, respectively.

In making this final decision, we have had regard to a range of sources including Endeavour's revised proposal, submissions received as well as additional analysis undertaken and published by us. We are satisfied that the revenue we have determined that Endeavour can recover from its customers for the 2019–24 regulatory control period is in the long-term interests of consumers and that its customers are paying no more than they should for safe and reliable electricity.

Other relevant decisions

This final decision incorporates the outcomes of three reviews progressed in parallel to our consideration of Endeavour's 2019–24 regulatory proposal, namely:

- 2018 rate of return guideline review:[6] We released our final decision on this review on 17 December 2018. Legislative amendments to the National Electricity Law (NEL) and National Gas Law (NGL) that established the guideline as a binding instrument were made on 13 December 2018. As the instrument is binding, we have determined a rate of return using the approach set out in the instrument.
- Regulatory tax approach review:[7] We released our final report on this review on 17 December 2018. Our post-tax revenue model (PTRM) has been updated to implement the findings from this review, allowing for immediate expensing of forecast capex and applying the diminishing value method to calculate the tax depreciation for new assets.[8]

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5 We estimate the expected bill impact by varying the distribution network charges in accordance with our final decision, while holding all other components constant. This approach isolates the effect of our final decision on the core distribution network charges, and does not imply that other components will remain unchanged across the regulatory control period.

6 AER, *Rate of return instrument*, 17 December 2018.

7 AER, *Final report – Review of regulatory tax approach*, 17 December 2018.

8 AER, *Distribution PTRM (version 4*), April 2019.

- Approach to forecasting opex productivity growth for electricity distributors review:[9] We released our final decision on 8 March 2019. Productivity growth is one element in the trend component of our opex forecasting approach. Our forecast of productivity growth is intended to capture the efficiency improvements distributors can make in providing distribution services. In our review, we determined that a prudent electricity distributor, acting efficiently, can achieve opex productivity growth of 0.5 per cent each year. We have applied this finding in our 2019–24 final decision for Endeavour.

Our 2019–24 final decision also incorporates the revenue impact of the finalised remittal. In 2015, Endeavour appealed the 2014–19 revenue allowance we determined for it. In turn, the Australian Competition Tribunal set aside, and directed us to remake, our decision for Endeavour. We remade our 2014–19 final decision in September 2018 following receipt of Endeavour's remittal proposal in April 2018.[10] Key consumer groups, including our CCP10, were supportive of Endeavour's remittal proposal and our decision. Endeavour will return to customers from 1 July 2019 the difference between what it recovers under interim tariff undertakings and the 2014–19 revenue we have approved — now upwardly revised to $242.3 million ($ 2018–19) from the estimated $227.1 million ($ 2018–19) at the time of our September 2018 decision.

1.1 What is driving revenue?

The changing impact of inflation over time makes it difficult to compare revenue from one period to the next on a like-for-like basis. To do this we use 'real' values based on a common year (in this case, 2018–19[11]), which have been adjusted for the impact of inflation.

In real terms, the total revenue allowance in this final decision is 9.3 per cent lower than total allowed revenue for the current 2014–19 period.[12] Figure 1 shows real revenues decrease from 2018–19 levels by 4.2 per cent in 2019–20, followed by average decreases of 1.6 per cent per annum over 2020–24.

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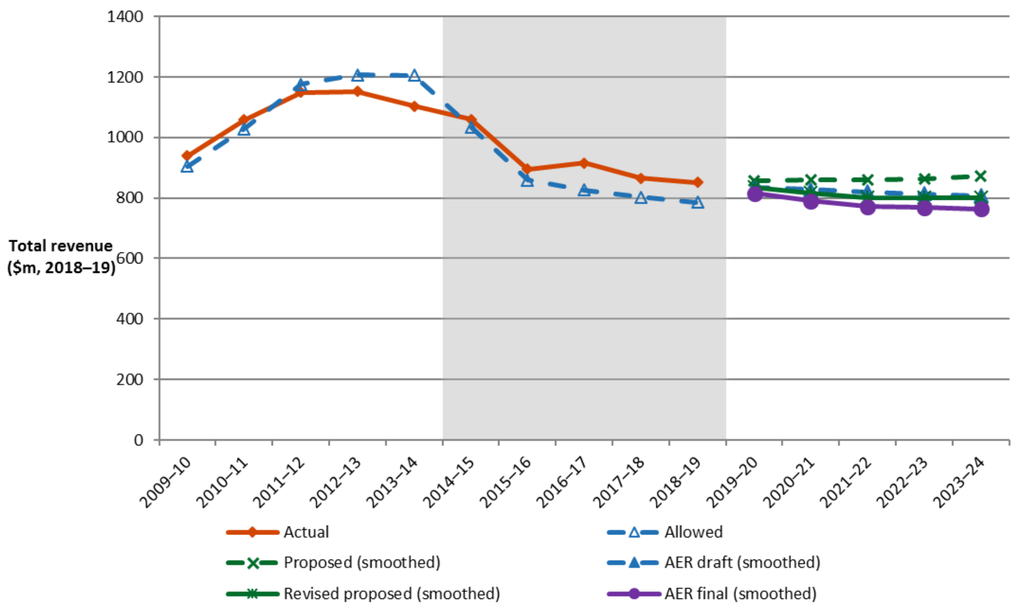
9 AER, *Final decision – Forecasting productivity growth for electricity distributors*, 8 March 2019.

10 AER, *Final decision, Ausgrid 2014–19 electricity distribution determination*, January 2019.

11 That is, 30 June 2019 dollar terms, based on Endeavour's estimated actual revenue for 2018-19.

12 This comparison is between the total revenue allowed under this final decision and that in our remade final decision on Endeavour's total revenue allowance for 2014–19 (https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/endeavour-energy-determination-2014-19-remittal).

Figure 1 Revenue over time ($ million, 2018–19)



Source: AER analysis.

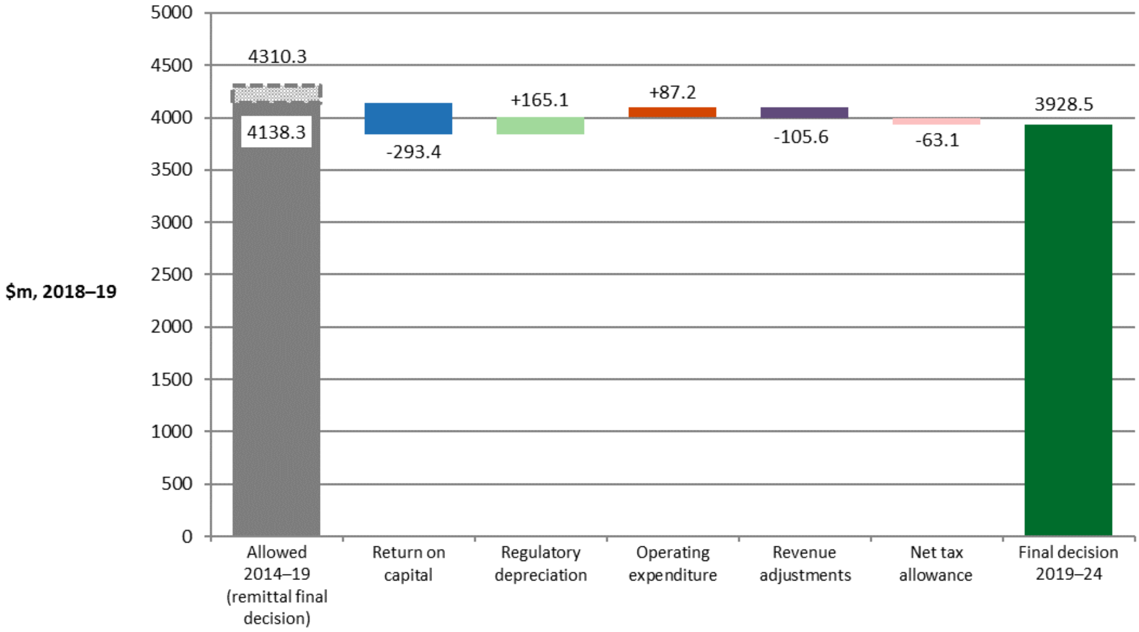
Endeavour's allowed revenue for 2009–14 included provision for significant increases in capital investment to improve network security and reliability of supply in line with licence conditions imposed by the NSW Government at the time. Over that period Endeavour's regulatory asset base (RAB) grew by 34.0 per cent in real terms. In a challenging investment environment during the global financial crisis, the rate of return (a forecast of the financing costs Endeavour would require to attract efficient investment in its network) was set at 10.02 per cent. When applied to the growing RAB, this resulted in substantial increased revenues and higher prices for customers.

Lower approved revenues for the current 2014–19 regulatory control period reflect an improved investment environment. Approved rates of return have fallen from 10.02 per cent to 6.74 per cent. Evidence also suggests that distribution services could be provided at substantially lower cost than suggested by historical expenditure, while still maintaining safety and complying with reliability obligations. In addition, flatter electricity demand forecasts have meant that Endeavour has been under less pressure to expand and augment its network to meet the needs of additional customers or any increased demand from existing customers. Growth in the RAB fell to 6.8 per cent in real terms.

Our final decision for 2019–24 reflects a continuation of many of these trends. Figure 2 highlights the key drivers of the real change in Endeavour's revenues from the current

2014–19 regulatory control period to this final decision for 2019–24, by reference to the revenue 'building blocks' that form the basis of our assessment.[13]

Figure 2 Change in revenue from 2014–19 to 2019–24 ($ million, 2018–19)



Source: AER analysis.

Note: The 'Allowed 2014–19 (remittal final decision)' column shows an additional $172.0 million (dashed grey outline) on top of the $4,138.3 million total. The $4,138.3 million is the sum of the revenue building blocks in the remittal PTRM, and incorporates some of the remittal changes including expected inflation and the return on debt updates. The additional $172.0 million comprises $54.0 million for newly classified alternative control service (ACS) metering in 2014–15 and $118.0 million representing further changes in the remittal PTRM calculations including: service target performance financial incentives, negotiated cap settlement amounts and difference in CPI adjustments.[14]

'Revenue adjustments' include increments/decrements accrued under incentives schemes such as the capital expenditure sharing scheme (CESS), efficiency benefit sharing scheme (EBSS) and demand management innovation allowance mechanism (DMIAM). It also includes a return to customers of $242.3 million arising from our 2014–19 remade final decision for Endeavour.

The return on capital (the product of the size of Endeavour's RAB and the allowed rate of return) is the largest component of Endeavour's regulated revenue. In this final decision, a relatively stable forecast of capex to be added to the RAB over the 2019–

[13] There is an overall period-to-period revenue decrease from our 2014–19 remade final decision (remittal) compared to this 2019–24 final decision. The sum of the period-to-period changes in individual building blocks is positive, but adjustments for yield calculation (updated for actual volumes), service target performance financial incentives, negotiated cap settlement amounts and difference in CPI adjustments offset these to result in an overall decrease.

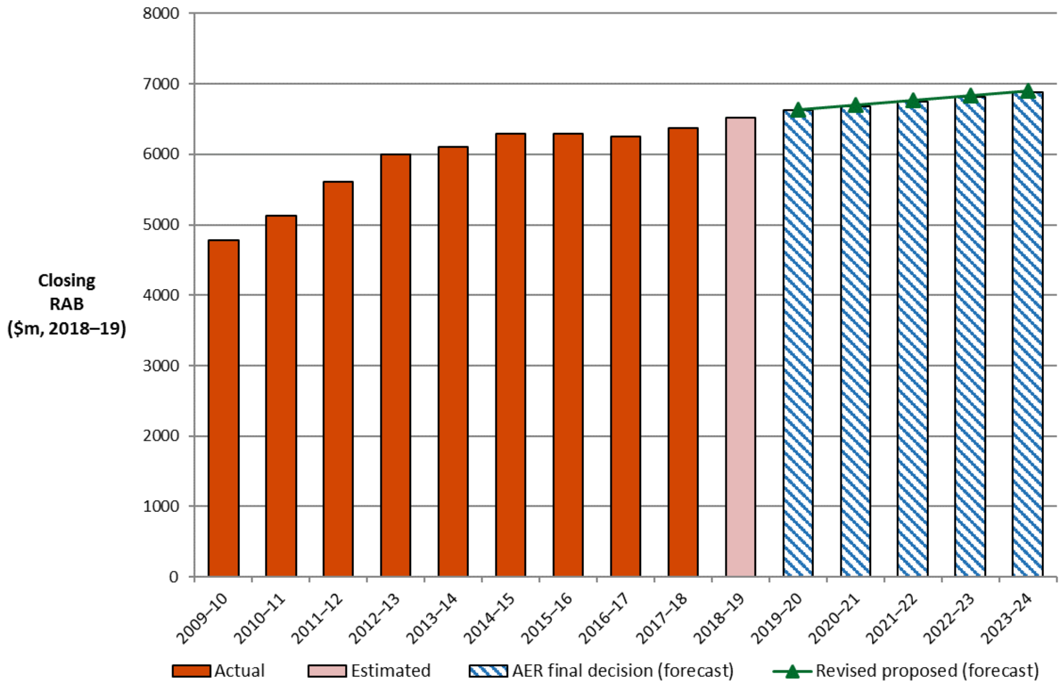
[14] Building block revenues are converted from nominal to real ($2018–19) values using both forecast and actual CPI; the 'Allowed 2014–19 (remittal final decision)' amount is converted from nominal to real ($2018–19) values only using actual CPI.

24 regulatory control period and our reduction to the placeholder rate of return mean that the return on capital for 2019–24 is significantly lower than that for the current 2014-19 period.

Our 2019–24 final decision applies the 2018 Rate of Return Instrument (2018 Instrument) and estimates a rate of return on Endeavour's RAB of 5.73 per cent[15] compared to the 6.74 per cent we previously set for the current 2014–19 period.[16]

This reduction in the rate of return for 2019–24 is helping to offset projected increases in Endeavour's RAB as Endeavour's forecast capex for 2019–24 increases from the current period to accommodate expected growth in its network area and particularly in Sydney's west. This growth in the RAB, combined with Endeavour's proposed change in approach to the calculation of the regulatory depreciation allowance, is also contributing to the increase in regulatory depreciation relative to the current period. However, as Figure 3 shows, projected real RAB growth of 5.6 per cent over the 2019–24 regulatory control period is considerably below its peak over the 2009–14 period.

Figure 3 Value of Endeavour's RAB over time ($ million, 2018–19)



Source: AER analysis.

Over the current 2014–19 regulatory control period, we have also seen Endeavour make significant progress in improving its operating efficiency. At the time of our 2015 decision, we expressed concern that Endeavour's opex was materially above efficient

15 Nominal, vanilla weighted average cost of capital.

16 Based on the first year of the 2014–19 regulatory control period.

levels. We are now in a position to accept Endeavour's revealed (actual) opex at the end of the current period as a starting point for its forecast expenditure for the next five years, which under this final decision would remain in line with current levels.

Endeavour's 2019–24 proposal includes revenue adjustments for benefits accrued under the efficiency benefit sharing scheme (EBSS), capital expenditure sharing scheme (CESS) and demand management innovation allowance mechanism (DMIAM). However, these incentive scheme payments are offset by a downward adjustment of $242.3 million due to the outcome of the 2014–19 remittal for Endeavour. This represents the amount to be returned to customers to correct the difference between revenue recovered under interim price undertakings and our 2014–19 remade final decision.

1.2 Key differences between our final decision and Endeavour's revised proposal

Our 2019–24 final decision does not allow the total revenue proposed by Endeavour in its revised proposal. Total revenue approved in this 2019–24 final decision is $160.3 million ($ nominal, smoothed) or 3.7 per cent lower than proposed by Endeavour.

The biggest contributors to the difference between our 2019–24 final decision and Endeavour's revised proposal are our change to the rate of return (and therefore the return on capital), opex and net tax allowance.

Our final decision adopts the approach in the 2018 Instrument to calculate a rate of return of 5.73 per cent. This is lower than the revised proposed rate of return of 5.98 per cent. Our final decision also adopts a value of imputation credits (gamma) of 0.585 as per the 2018 Instrument compared to Endeavour's proposed 0.4.

While the total revenue in this final decision shares many of the same drivers that informed Endeavour's revised proposal, our current assessment of its opex forecast is also contributing to the difference between the two. On the information before us, we consider Endeavour's total forecast opex over-estimates the likely changes in the costs of labour and network growth. Since our November 2018 draft decision, we have also given further consideration to our approach to forecasting opex productivity growth. We expand on this difference below and in Attachment 6.

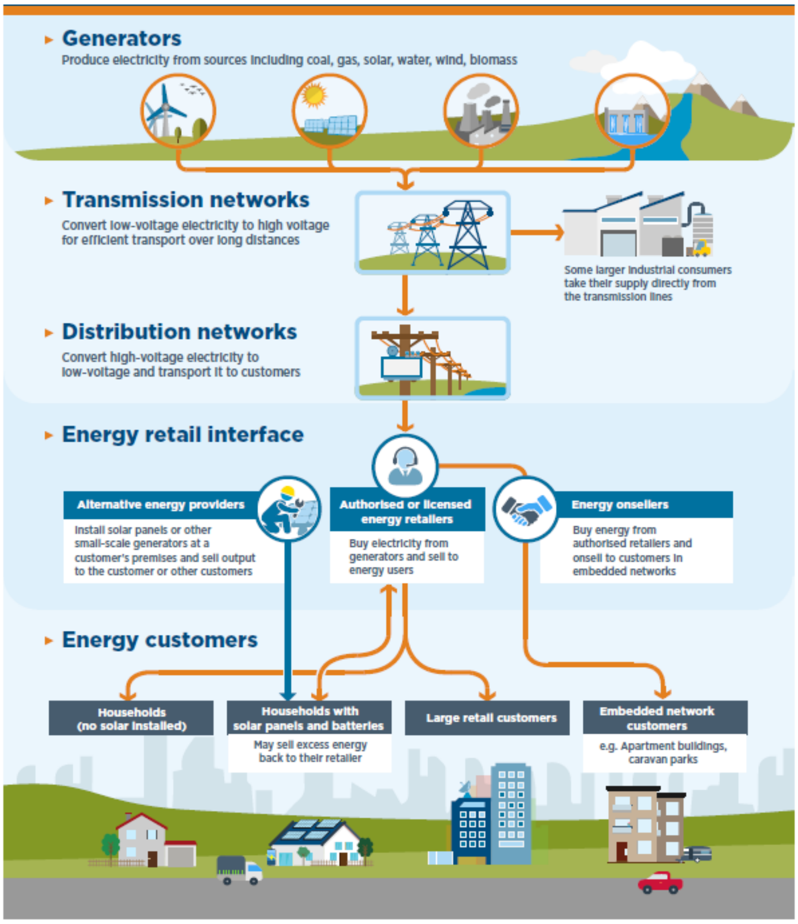
1.3 Expected impact of our final decision on electricity bills?

The distribution network tariffs that will be set by reference to our final decision are only one contributor to electricity bills, and make up around 29.7 per cent of the total retail electricity bills Endeavour's customers pay.[17] Other components of the electricity bill

[17] Endeavour Energy, *RIN0.01 Final RIN Workbook 1 Reset (Consolidated)*, 30 April 2018.

include environmental policy costs, wholesale electricity costs and retail costs. Figure 4 illustrates the different components of the electricity supply chain. Each of these costs contributes to the retail prices charged to customers by their chosen electricity retailer.

Figure 4 Electricity supply chain



Source: AER, *State of the Energy Market*, December 2018, p. 28.

Table 1 shows the estimated average annual impact of our final decision for the 2019–24 regulatory control period on electricity bills for residential and small business customers. These estimates suggest a 1.3 per cent ($ nominal) decrease over the five-year 2019–24 regulatory control period.

We estimate the expected bill impact by varying the distribution charges in accordance with our 2019–24 final decision, while holding all other components constant. This approach isolates the effect of our final decision on distribution network charges from other parts of the bill. However, this does not imply that other components will remain unchanged across the regulatory control period.[18]

We estimate the impact of our 2019–24 final decision would be to decrease the average annual residential electricity bill by 2023–24 by around $24 or 1.3 per cent ($ nominal) from the current 2018–19 level. Had we accepted Endeavour's revised proposal, the expected impact would have been an increase of around $3 or 0.2 per cent.

Similarly, for an average small business customer on Endeavour's network, we expect the average annual electricity bill by 2023–24 to decrease by around $44 or 1.3 per cent ($ nominal) from the current 2018–19 level. Again, had we accepted Endeavour's revised proposal, the expected impact would have been an increase of around $5 or 0.2 per cent.

Table 1 Estimated contribution to annual electricity bills for the 2019–24 regulatory control period ($ nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
AER final decision						
Residential annual bill[a]	1877[a]	1856	1849	1845	1852	1853
Annual change[c]		–20 (–1.1%)	–7 (–0.4%)	–3 (–0.2%)	6 (0.3%)	2 (0.1%)
Small business annual bill[b]	3503[b]	3465	3451	3445	3456	3459
Annual change[c]		–38 (–1.1%)	–14 (–0.4%)	–6 (–0.2%)	12 (0.3%)	3 (0.1%)
Endeavour's revised proposal						
Residential annual bill[a]	1877[a]	1869	1866	1866	1875	1879
Annual change[c]		–8 (–0.4%)	–3 (–0.1%)	–1 (–0%)	9 (0.5%)	4 (0.2%)
Small business annual bill[b]	3503[b]	3489	3484	3483	3500	3509
Annual change[c]		–14 (–0.4%)	–5 (–0.1%)	–1 (–0%)	17 (0.5%)	8 (0.2%)

Source: AER analysis; AER, Energy Made Easy website (standing offer); Endeavour Energy, *RIN0.01 Final RIN Workbook 1 Reset (Consolidated)*, April 2018.

(a) Annual bill for 2018–19 is sourced from Energy Made Easy website and reflects the average consumption of 5,000 kWh for residential customers in NSW (postcode 2500).

(b) Annual bill for 2018–19 is sourced from Energy Made Easy website and reflects the average consumption of 10,000 kWh for small business customers in NSW (postcode 2500).

(c) Annual change amounts and percentages are indicative. They are derived by varying the distribution component to the 2018–19 bill amounts in proportion to yearly expected revenue divided by forecast energy

18 It also assumes that actual energy consumption will equal the forecast adopted in our final decision. Since Endeavour operates under a revenue cap, changes in energy consumption will also affect annual electricity bills across the 2019–24 regulatory control period.

as proposed by Endeavour. Actual bill impacts will vary depending on electricity consumption and tariff class.

1.4 Endeavour's consumer engagement

The NEO puts the long-term interests of consumers at the centre of our decisions as a regulator and the way Endeavour operates its network. An important part of this is ensuring the regulatory proposal Endeavour puts to us for approval reflects the NEO, and that Endeavour has engaged with its consumers to determine how best to provide services that align with their long-term interests.

Consumer engagement in this context is about Endeavour working openly and collaboratively with consumers and providing opportunities for their views and preferences to be heard and to influence Endeavour's decisions. In the regulatory process, stronger consumer engagement can help us test service providers' expenditure proposals, and can raise alternative views on matters such as service priorities, capex and opex proposals and tariff structures.

Commencing in January 2016, Endeavour's engagement on its 2019–24 initial and revised proposals included:[19]

- Establishment phase (January–June 2016): including review and improvement, key learnings, and strategy setting and design
- Research phase (June–December 2016): including persona research, and research of attitudes towards electricity in Australia
- Engagement phase 1 (January–December 2017): including a directions paper, 11 focus groups, two deliberative forums, online community, and engagement audit
- Engagement phase 2 (January–June 2018): further stakeholder engagement, including four 'deep dive' workshops
- Engagement phase 3 (May–December 2018): including targeted engagement on outstanding issues from the 'deep dive' workshops and the Western Sydney Aerotropolis, continued engagement with the AER on repex modelling, presentations to Customer Consultative Group meetings, continued engagement on capital contributions policy with developers, and retailer engagement.

The significant advances Endeavour has made in its consumer engagement since our 2015 decision has been widely acknowledged by key consumer groups. After submission of its 2019–24 initial regulatory proposal in April 2018, Endeavour continued to engage with a number of stakeholders on identified areas of contention. This continued engagement was reflected in a submission made by Endeavour on 30 August 2018 in response to our June 2018 Issues Paper, which included a series of

[19] Endeavour Energy, *Revised Regulatory Proposal 1 July 2019 to 30 June 2024*, January 2019, pp. 10–12.

potential reductions to its proposed capex program that formed the basis of the lower capex forecast included in our November 2018 draft decision.

In response to our draft decision, and reflective of the positive transformation occurring inside its business, Endeavour noted in its 2019–24 revised regulatory proposal:[20]

> "Our initial proposal and this revised proposal are the product of extensive engagement processes that have been a key factor in shaping our expenditure forecasts and organisational focus…
>
> Since lodging our initial proposal in April [2018], we have continued to engage with the AER and stakeholders with the objective of working towards an outcome that is acceptable to all parties. Based on these discussions, in August last year we reduced our capital plan from $2.1 billion to $1.7 billion and increased our capital contribution forecast. These changes reflected the clear feedback we received that new developments should fund a higher proportion of their connection costs and that elements of our proposed repex and augex needed to be reduced and/or deferred."

Stakeholders generally responded positively in submissions made on Endeavour's revised proposal, although considered Endeavour could have responded more favourably to the outcomes of three AER reviews conducted over the past year.

CCP10 noted:[21]

> "CCP10 is pleased that Endeavour Energy has accepted a large proportion of the matters raised in the AER Draft Decision. Similarly, the revision of the capital expenditure requirements undertaken by Endeavour in their initial proposal reflected a significant commitment to address the concerns raised by consumer groups. Endeavour Energy's commitment to no real price increases is consistent with the long-term objectives of consumer groups and advocates…
>
> CCP10 believes Endeavour Energy's Revised Proposal is capable of acceptance subject to:
>
> a) the AER review of the revised capex proposal of $1739.6M, and
>
> b) a decision by the AER to adopt a trend productivity adjustment of at least 1% per annum and the inclusion of the changes to the PTRM from the Tax Review.
>
> Without these conditions, it cannot be said that the Revised Proposal fairly and meaningfully reflects the outcomes of Endeavour's intensive and otherwise effective engagement with consumer groups."

ECA noted:[22]

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20 Endeavour Energy, *Revised Regulatory Proposal 1 July 2019 to 30 June 2024*, January 2019, p. 10–16.

21 CCP, *CCP10 Response to the Endeavour Energy Revised Regulatory Proposal 2019-24 and AER draft determination*, February 2019, pp. 23–24.

"Our view is that Endeavour Energy's revised proposal is capable of acceptance if Endeavour Energy agrees to:

- meet the AER's minimum productivity requirement of one per cent;
- accept the 2018 Rate of Return Guideline; and
- apply the outcomes of the AER's tax review…

Our view is that Endeavour Energy's approach to stakeholder engagement was mixed. Endeavour Energy's decision to make a submission to the AER's Issues Paper, proposing amendments to its original revenue proposal was an innovative and positive step...On reflection, Endeavour Energy's proactive approach to stakeholder engagement dwindled after consultation on the AER's Issues Paper closed. In future, we expect any network business to continue to engage with us and other consumer stakeholders, and provide an adequate amount of time for consultation on any materials that it will rely on to support its proposed revenue approach."

EUAA noted:[23]

"We believe that Endeavour's Final Proposal is only capable of acceptance if they agree to follow the final conclusions of the AER reviews on opex productivity with a minimum of 1% annual productivity factor, calculation of the tax allowance, and the AER is satisfied with its $1.7b capex proposal."

PIAC noted:[24]

"Endeavour has conducted substantial engagement on its capex proposal and, as a result, has substantively revised it since its initial proposal — reducing it from some $2.2 billion to $1.7 billion. PIAC supports this as an example of good consumer engagement…

PIAC is pleased that Endeavour Energy has accepted the AER's draft opex determination…However, as noted previously, we cannot accept a revenue determination which does not include a positive opex productivity."

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[22] ECA, *Submission to the AER's Draft Decision on the Endeavour Energy 2019 to 2024 Distribution Determination*, February 2019, pp. 1-3.

[23] EUAA, *Submission – NSW DNSP's 2019–24 Revenue Reset – January 2019*, February 2019, p. 16.

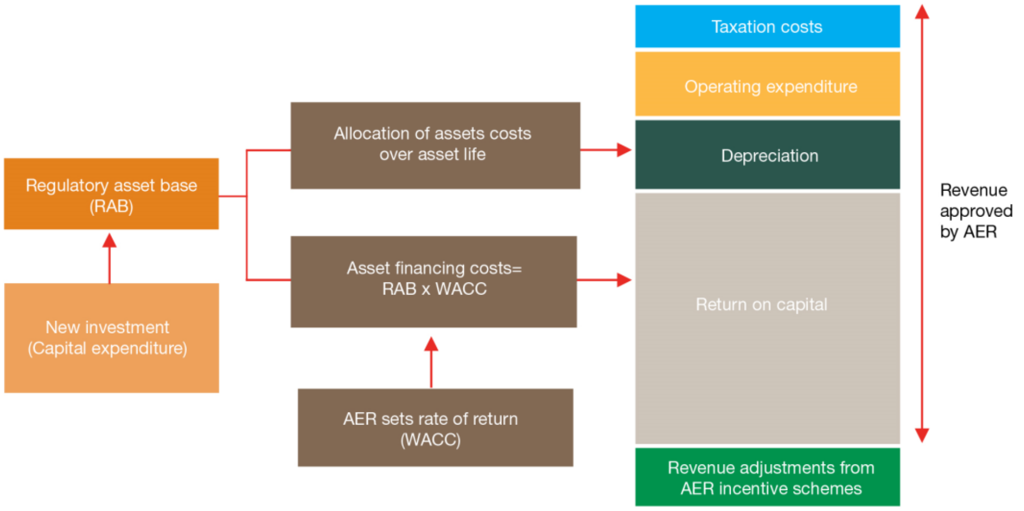
[24] PIAC, *PIAC submission to the AER's draft determinations and the NSW DNSPs' 2019–24 revised proposals*, February 2019, pp. 10–13.

2 Key components of our final decision on revenue

The total revenue Endeavour has proposed reflects its forecast of the efficient cost of providing network services over the 2019–24 regulatory control period. Endeavour's revised proposal, and our assessment of it under the NEL and NER, are based on a 'building block' approach to determining a total revenue allowance which looks at five cost components (see Figure 5):

- return on the RAB (or return on capital, to compensate investors for the opportunity cost of funds invested in the business)
- depreciation of the RAB (or return of capital, to return the initial investment to investors over time)
    - The forecast capex approved in our decisions affects the projected size of the RAB and therefore the revenue generated from the return on capital and depreciation building blocks.
- forecast opex (the operating, maintenance and other non-capital expenses incurred in the provision of network services)
- revenue adjustments (including revenue increments/decrements resulting from the application of incentive schemes)
- estimated cost of corporate income tax.

Figure 5 The building block model to forecast network revenues



Source: AER 2018 State of the Energy Market report.

We use an incentive approach where, once regulated revenues are set for a five-year period, networks who keep actual costs below the regulatory forecast of costs retain part of the benefit. This benchmark incentive framework is a foundation of our regulatory approach and promotes the delivery of the NEO. Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. Consumers also benefit when efficient costs are revealed and a lower cost benchmark is set in subsequent regulatory periods.

In the sections below, we discuss the key components of our final decision on Endeavour's revenue for the 2019–24 period in turn.

2.1 Regulatory asset base

The regulatory asset base (RAB) is the value of assets used by Endeavour to provide regulated distribution network services. The value of the RAB substantially impacts Endeavour's revenue requirement and the price consumers ultimately pay. This makes it a key issue for many stakeholders. Other things being equal, a higher RAB would increase both the return on capital and depreciation (return of capital) components of the revenue determination.

As part of this final decision on Endeavour's revenue for 2019–24, we make a decision on Endeavour's opening RAB as at 1 July 2019.[25] We use the RAB at the start of each regulatory year to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

For our 2019–24 final decision, we have determined:

- an opening RAB value of $6,526.1 million ($ nominal) as at 1 July 2019, by updating for the actual consumer price index (CPI) for 2018–19 as it has become available since the submission of Endeavour's revised proposal.
- a forecast closing RAB value of $7,771.4 million ($ nominal) as at 30 June 2024.

The key differences between the forecast RAB outcome in our final decision and Endeavour's revised proposal are our related decisions on the opening RAB and final decision on forecast depreciation (section 2.3).

Table 2 sets out our final decision on the forecast RAB values for Endeavour over the 2019–24 regulatory control period. Further details on Endeavour's RAB can be found in Attachment 2.

[25] NER, cl. 6.12.1(6).

Table 2 AER's final decision on Endeavour's RAB for the 2019–24 regulatory control period ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24
Opening RAB	6,526.1	6,793.4	7,024.8	7,258.3	7,512.6
Capital expenditure[a]	375.0	352.8	365.6	394.6	394.5
Inflation indexation on opening RAB	158.2	164.7	170.3	176.0	182.2
Less: straight-line depreciation	265.9	286.2	302.4	316.3	317.9
Closing RAB	**6,793.4**	**7,024.8**	**7,258.3**	**7,512.6**	**7,771.4**

Source: AER analysis.

(a) Net of forecast disposals and capital contributions. In accordance with the timing assumptions of the PTRM, the capex includes a half-year weighted average cost of capital (WACC) allowance to compensate for the six month period before capex is added to the RAB for revenue modelling.

2.2 Rate of return and value of imputation credits

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

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

An accurate estimate of the rate of return is necessary to promote efficient prices in the long-term interests of consumers. If the rate of return is set too low, the network business may not be able to attract sufficient funds to be able to make the required investments in the network and reliability may decline. Conversely, if the rate of return is set too high, the network business may seek to spend too much and consumers will pay inefficiently high tariffs.

In December 2018, the NEL and NGL were amended to require us to make a binding rate of return instrument. As a binding instrument, it sets out the methodology for calculating the rate of return. The method must be capable of automatic application to all regulated network service providers without the exercise of discretion. The 2018 Rate of Return Instrument (2018 Instrument) specifies the return on debt as a formula, being the trailing average portfolio approach, and requires a business that is not already using a trailing average to transition to it over a 10-year period that is in the future.

As required under the NER, we have applied the 2018 Instrument and estimate an allowed rate of return of 5.73 per cent (nominal vanilla).[26] Endeavour's revised proposal has adopted the 2018 Instrument.[27] Submissions to this process and also separate but concurrent regulatory processes support the immediate full application of the binding 2018 Instrument to all resets.[28]

Our calculated rate of return, in Table 3, will apply to the first year of the 2019–24 regulatory control period. A different rate of return will apply for the remaining regulatory years of the period. This is because we will update the return on debt component of the rate of return each year in accordance with the 2018 Instrument to use a 10-year trailing average portfolio return on debt that is rolled-forward each year. Our final decision is to accept Endeavour's proposed return on equity and debt averaging periods because they satisfied the 2018 Instrument.[29]

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26 See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/rate-of-return-guideline-2018/final-decision. The legislative amendments to replace the (previous) non-binding Rate of Return Guidelines with a binding legislative instrument were passed by the South Australian Parliament in December 2018. See, Statutes Amendment (National Energy Laws) (Binding Rate of Return Instrument) Act 2018 (SA). NGL, Chapter 2, Part 1, division 1A; NEL, Part 3, division 1B.

27 Endeavour Energy, Revised Regulatory Proposal 1 July 2019–30 June 2024, January 2019, pp. 18 and 23.

28 For example, see: EUAA, *Submission – NSW DNSP's 2019-24 Revenue Reset*, January 2019, p. 5; Origin, *Re: AER draft decision for NSW electricity distributors 2019-24*, 5 February 2019, p. 2; PIAC, *PIAC submission to the AER's draft determinations and the NSW DNSPs' 2019-24 revised proposals*, 7 February 2019, p. 9; ECA, *Submission to the AER's draft decision on the Endeavour Energy 2019 to 2024 distribution determination*, 15 February 2019, p. 2; CCP10, *CCP10 Response to the Ausgrid revised regulatory proposal 2019-24 and AER Draft Determination*, January 2019, p. 48; and CCP, *CCP10 Response to the Evoenergy Revised Regulatory Proposal 2019-24 and AER draft determination*, January 2019, pp. 43–44.

29 AER, *Rate of return instrument*, December 2018, clauses 7–8, 23–25; Endeavour Energy, *Letter to AER on Updated Rate of Return Averaging Period Nominations*, 15 August 2018. Endeavour's earlier risk free rate averaging period did not meet the draft 2018 Guidelines' criteria of concluding no later than 3 months before the start of the regulatory period. Endeavour Energy, *Endeavour Energy's rate of return averaging period nominations (confidential)*, 20 April 2018; AER, *Draft Rate of return guidelines*, July 2018, p. 5.

Table 3 Final decision on Endeavour's rate of return (% nominal)

	AER draft decision (2019-24)	Endeavour revised proposal (2019-24)	AER final decision (2019-24)	Allowed return over regulatory control period
Nominal risk free rate	2.66% [a]	2.7% [b]	2.14% [c]	
Market risk premium	6%	6.1%	6.1%	
Equity beta	0.6	0.6	0.6	
Return on equity (nominal post–tax)	6.3%	6.36%	5.80%	Constant (%)
Return on debt (nominal pre–tax)	5.73%	5.73%	5.68% [d]	Updated annually
Gearing	60%	60%	60%	Constant (60%)
Nominal vanilla WACC	5.96%	5.98%	5.73%	Updated annually for return on debt
Forecast inflation	2.42%	2.42%	2.42%	Constant (%)

Source: AER analysis.

[a] Calculated using a placeholder averaging period of 20 business days ending 31 July 2018.

[b] Indicative risk free rate implied from Endeavour's revised PTRM.

[c] Final decision to accept proposed period of 1 February 2019 to 28 February 2019.

[d] Final decision is to accept the proposed debt averaging periods and return on debt updated for the latest averaging period.

Debt and equity raising costs

In addition to compensating for the required rate of return on debt and equity, we provide an allowance for the transaction costs associated with raising debt and equity. We include debt raising costs in the opex forecast because these are regular and ongoing costs. We include equity raising costs in the capex forecast because these costs are only incurred once and would be associated with funding the particular capital investments.

Our final decision forecasts for debt and equity raising costs are included in capex and opex Attachments 5 and 6, respectively. We have set equity raising costs of $10.9 million ($2018–19). As we have rejected Endeavour's revised opex proposal, we have set debt raising costs of $16.4 million ($2018–19) using our benchmark approach which Endeavour has adopted in its proposal (see Table 4).[30]

[30] Endeavour Energy, *Regulatory Proposal 1 July 2019 to 30 June 2024*, January 2019, p. 182. Also see our opex Attachment 6 for our opex final decision.

Table 4 AER's final decision on debt raising costs ($ million, 2018–19)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
	3.2	3.3	3.3	3.3	3.4	16.4

Source: AER analysis.

Note: Columns may not add to total due to rounding for presentation in table.

Imputation credits

Our final decision applies a gamma of 0.585 as per the binding 2018 Instrument.[31] This was the result of extensive analysis and consultation conducted as part of the 2018 rate of return review.[32] Endeavour's revised proposal has adopted the 2018 Instrument for gamma.[33]

2.3 Regulatory depreciation (return of capital)

Regulatory depreciation is the allowance provided so capital investors recover their investment over the economic life of the asset (return of capital). Endeavour invests capital in large assets to provide electricity network services to its customers. The costs of these assets are recovered over the assets' useful lives, which in many cases can be 50 or more years. This means only a small part of the cost of such assets are recovered from customers upfront or in any year. The greater proportion is recovered over time through the depreciation allowance. The regulatory depreciation allowance is the net total of the straight-line depreciation less the inflation indexation adjustment of the RAB.

Our final decision on Endeavour's revenue for 2019–24 includes a regulatory depreciation allowance of $637.2 million ($ nominal). This is $7.4 million (1.2 per cent) higher than Endeavour's revised proposal. The higher depreciation allowance is mainly because we have corrected an input error in the revised PTRM relating to the remaining asset life for the '2014–15 to 2018–19 Land' asset class.

Our final decision on Endeavour's regulatory depreciation is that we accept its revised proposed straight-line depreciation method and period-by-period tracking approach used to calculate the regulatory depreciation allowance, which is consistent with our draft decision. We accept Endeavour's revised proposed asset classes and standard asset lives, subject to some changes arising from the tax review (section 2.6) and an aggregation of the land and easement asset classes.

Further, we accept Endeavour's proposed weighted average method to calculate the remaining asset lives as at 1 July 2019 for depreciating its existing assets. In accepting the weighted average method, we have updated Endeavour's remaining asset lives as

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31 AER, *Rate of return instrument*, December 2018, clause 27.

32 AER, *Rate of return instrument explanatory statement*, December 2018, pp. 307–382.

33 Endeavour Energy, *Revised regulatory proposal 1 July 2019–30 June 2024*, January 2019, p. 18, 23.

at 1 July 2019 to reflect our update to the RAB roll forward for the 2014–19 regulatory control period.

Table 5 sets out our final decision on the forecast regulatory depreciation allowance for Endeavour's 2019–24 regulatory control period.

Further detail on our final decision regarding depreciation is set out in Attachment 4.

Table 5 AER's final decision on Endeavour's forecast regulatory depreciation allowance for the 2019–24 regulatory control period ($ million, nominal)

	2019–20	2020–21	2021–22	2022–21	2021–24	Total
Straight-line depreciation	265.9	286.2	302.4	316.3	317.9	1,488.7
Less: inflation indexation on opening RAB	158.2	164.7	170.3	176.0	182.2	851.5
Regulatory depreciation	**107.7**	**121.4**	**132.0**	**140.3**	**135.7**	**637.2**

Source: AER analysis.

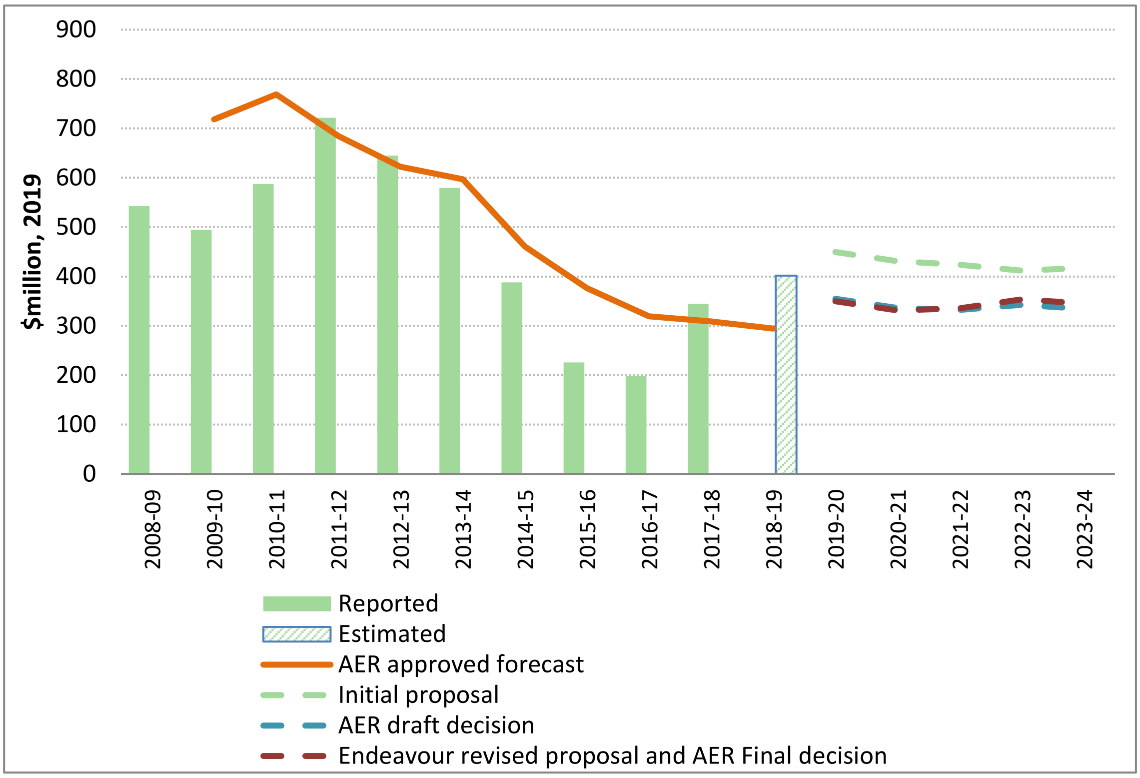
2.4 Capital expenditure

Capital expenditure (capex) — the capital costs and expenditure incurred in the provision of network services — mostly relates to assets with long lives, the costs of which are recovered over several regulatory control periods.

Capex is added to Endeavour's RAB, which is used to determine the return on capital and return of capital (regulatory depreciation) building block allowances. All else being equal, higher forecast capex will lead to a higher projected RAB value and higher return on capital and regulatory depreciation allowances.

Our final decision on Endeavour's revenue includes a total net capex forecast of $1,715 million ($2018–19) for the 2019–24 regulatory control period. Table 6 illustrates the change in Endeavour's capex over time.

Table 6 Endeavour's capex over time ($ million, 2018–19)



Source: AER analysis.

Our final decision accepts Endeavour's revised total net capex forecast $1,715 million ($2018–19). This forecast is 10 per cent above its actual and estimated net capex over the 2014–19 regulatory control period.

In its revised proposal, Endeavour has largely accepted our draft decision for the majority of its capex, which is approximately 20 per cent lower than its initial forecast of $2,133 million. The only revision is to its augex forecast, which is an increase from our draft decision by $39.3 million for the Western Sydney Aerotropolis project.

We are satisfied that Endeavour's revised total net capex forecast reasonably reflects the capex criteria and is consistent with the efficient costs that a prudent operator would incur in the 2019–24 regulatory control period. Table 7 sets out the capex amounts by driver that Endeavour has justified would reasonably reflect the capex criteria.

Table 7 Assessment of required capex by driver for the 2019–24 regulatory control period ($ million, 2018–19)

Driver	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Augmentation	64.81	64.51	77.99	94.03	87.79	389.14
Gross connections (incl. capital contributions)	182.38	164.27	159.97	159.42	162.41	828.45
Replacement	109.29	120.30	118.79	124.14	127.82	600.34
Non-network	49.69	35.11	31.71	30.02	23.56	170.09
Capitalised overheads	79.39	79.66	80.46	79.96	80.54	400.00
Other System	17.64	12.24	10.42	10.35	10.72	61.37
Gross Capex	**503.18**	**476.09**	**479.35**	**497.93**	**492.84**	**2,449.39**
Less capital Contributions	148.40	139.80	139.10	139.50	142.80	709.80
Less disposals	5.30	5.00	4.80	4.70	4.60	24.50
Net capex	**349.47**	**331.25**	**335.33**	**353.64**	**345.38**	**1,715.07**

Source: AER analysis.

Notes: Numbers may not add due to rounding.

Net capex = gross capex *less* capital contributions *less* asset disposals.

2.5 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenses incurred in the provision of network services. Forecast opex for standard control services (SCS) is one of the building blocks we use to determine a service provider's annual total revenue requirement.

Our final decision on Endeavour's revenue includes $1,437.5 million ($2018–19) in total forecast opex for the 2019–24 regulatory control period. This is $32.1 million (2.2 per cent) lower than Endeavour's revised total opex proposal of $1,469.6 million ($2018–19) which we do not accept.

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

Table 8 AER final decision on total opex ($ million, 2018-19)

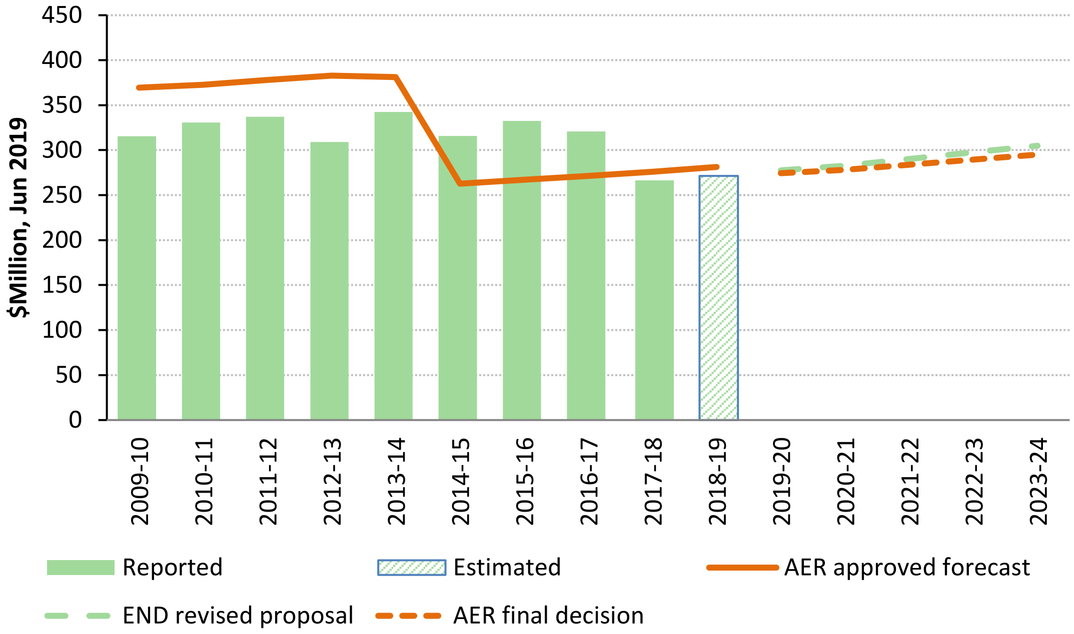
	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Endeavour's revised proposal	280.8	286.2	293.4	300.9	308.3	1,469.6
AER final decision	277.6	281.4	287.2	292.9	298.4	1,437.5
Difference	–3.1	–4.7	–6.2	–8.0	–9.8	–32.1

Source: Endeavour Energy, revenue proposal, PTRM, March 2019; AER analysis.

Note: Includes debt-raising costs. Numbers may not add up to total due to rounding.

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

Figure 6 AER final decision on total forecast opex ($ million, 2018–19)



Source: AER analysis.

Notes: Excludes debt-raising costs.

Endeavour's revised opex proposal adopted the approach we used in our draft decision, with updates to incorporate its actual 2017–18 opex and output weightings from the AER's 2018 annual benchmarking report.[34]

The reason we have not accepted Endeavour's revised opex proposal is our decision to include a productivity growth forecast of 0.5 per cent per year in our estimate of efficient forecast opex. Productivity growth captures the improvements in good industry practice that should be implemented by efficient distributors as part of business-as-usual operations. This comes from such things as new technology, changes to management practices and other factors that contribute to improved productivity within the industry over time.

Endeavour did not included any forecast opex productivity growth in its revised proposal, which was consistent with its April 2018 initial regulatory proposal. This difference in forecast productivity growth leads to a difference of $20.1 million (1.4 per cent) in forecast opex.

In formulating our alternative total opex estimate, we have also:

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[34] *Endeavour Energy Revised Regulatory Proposal, 1 July 2019 - 30 June 2024*, p.22.

- updated Endeavour's base opex to reflect the most recent Reserve Bank of Australia's (RBA) inflation forecast from February 2019.
- updated our output growth forecast, using an average of the output weights from the four benchmarking models presented in our 2018 annual benchmarking report (consistent with our draft decision) for the period 2006–17. This differs from Endeavour's approach, which involved taking an average of the weights derived from the results of five benchmarking models.[35]
- updated our labour price growth forecast according to Deloitte Access Economics' wage price index forecast updated in February 2019, which we averaged with Endeavour's forecast prepared by BIS Oxford Economics.

Table 9 summarises the differences between Endeavour's revised opex and the forecast we have substituted for the purposes of this final decision.

We have considered the issues raised in submissions about opex in establishing our alternative estimate.

We have set out the reasons for our final decision on opex in greater detail in Attachment 6. Our opex model, which calculates our alternative estimate of opex, is available on our website.

Table 9 AER alternative estimate compared to Endeavour's proposal ($ million, 2018–19)

	Endeavour revised proposal 2019-24	AER final decision 2019-24	Difference
Base opex	1,334.9	1,325.1	–9.8
2017–18 to 2018–19 increment	25.9	26.0	0.1
Price growth	71.3	67.5	–3.8
Output growth	20.8	22.6	1.7
Productivity growth	–	–20.1	–20.1
Debt raising costs	16.6	16.4	–0.2
Total opex	1,469.6	1,437.5	–32.1

Source: Endeavour Energy, *Revised Proposal 0.14 Revised Opex Model*, January 2019; AER analysis.

Note: Numbers may not add up to total due to rounding.

35 These included four econometric models based on data from 2012–17 published as part of our 2018 annual benchmarking report and the MPFP model based on data from 2006–16 published as part of our 2017 benchmarking report.

2.6 Corporate income tax

The 'building block' approach to the calculation of revenue includes an allowance for the estimated cost of corporate income tax payable by Endeavour. Our final decision is to include a corporate income tax allowance of $134.7 million ($ nominal) in Endeavour's revenue for 2019–24. This represents a reduction of $25.2 million (or 15.7 per cent) on Endeavour's revised proposal.

The key reasons for this reduction are:

- we amended the PTRM to implement the findings in our final report on the review of the regulatory tax approach (the tax review), which concluded shortly before the submission of Endeavour's revised proposal.[36] Specifically, for this final decision, we have applied the diminishing value (DV) method for tax depreciation to all new depreciable assets except for forecast capex associated with in-house software, equity raising costs and buildings. These changes have reduced the revised proposed corporate income tax allowance by $14.5 million (or 9.1 per cent).
- we reduced Endeavour's revised proposed return on equity (section 2.2). Our final decision on the forecast return on equity affects the amount of estimated taxable income. Therefore, it has contributed to the reduction on the revised proposed corporate income tax allowance by about $11.3 million (or 7.0 per cent).

For this final decision, we accept Endeavour's revised proposed:

- opening tax asset base (TAB) value of $5,880.3 million as at 1 July 2019
- standard and remaining tax asset lives as at 1 July 2019 for the existing asset classes, subject to an aggregation of the land and easement asset classes.[37] We also determine standard tax asset lives of 5 years for the new '2019–20 to 2023–2024 In-house software' and 40 years for the new '2019–20 to 2023–2024 Buildings (system)' asset classes. These new asset classes are to be depreciated using the straight-line (SL) method of tax depreciation.

We have applied a value of imputation credits (gamma) of 0.585 as per the binding 2018 Instrument (section 2.2).

Our final decision on regulatory depreciation (section 2.3) affects the calculation of the estimated taxable income, which in turn impacts the corporate income tax allowance.

Table 10 sets out our final decision on the estimated cost of corporate income tax allowance for Endeavour over the 2019–24 regulatory control period.

Further detail on our final decision regarding corporate income tax is set out in Attachment 7.

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

37 We have also corrected a remaining tax asset life input error in Endeavour's revised proposed PTRM.

Table 10 AER's final decision on Endeavour's cost of corporate income tax allowance for the 2019–24 regulatory control period ($ million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Tax payable	65.3	58.8	66.2	69.5	64.8	324.6
Less: value of imputation credits	38.2	34.4	38.7	40.7	37.9	189.9
Net corporate income tax allowance	**27.1**	**24.4**	**27.5**	**28.9**	**26.9**	**134.7**

Source: AER analysis.

2.7 Revenue adjustments

Our final decision on Endeavour's total revenue also includes a number of adjustments:

- Efficiency benefit sharing scheme (EBSS) — Endeavour has accrued rewards under the EBSS which we applied in the current 2014–19 regulatory control period. The EBSS carryover amount totals $232.1 million ($2018–19). The EBSS is intended to provide a continuous incentive for distributors to pursue efficiency improvements in opex, and provide for a fair sharing of these between network businesses and network users. Consumers benefit from improved efficiencies through lower regulated prices.
- Capital expenditure sharing scheme (CESS) — In the 2014–19 regulatory control period, Endeavour out-performed our capex forecast. Our final decision is to apply a CESS revenue increment amount of $6.9 million from the application of the CESS in the 2014–19 period. The CESS provides financial rewards for network service providers whose capex becomes more efficient and financial penalties for those that become less efficient. Consumers benefit from improved efficiency through lower regulated prices.
- Demand management innovation allowance mechanism (DMIAM) — A DMIAM allowance of $4.16 million ($2018–19) has been applied to Endeavour over the 2019–24 regulatory control period. The DMIAM aims to encourage distribution businesses to find investments that are lower cost alternatives to investing in network solutions.
- Remittal — A revenue reduction of $242.3 million ($2018–19) has been applied to Endeavour, in accordance with what we determined will be returned to customers under our 2014–19 remade final decision for Endeavour.[38] This amount reflects the difference between our 2014–19 remade final decision and the revenue expected to be recovered by Endeavour under the interim price undertakings that have

[38] NER, cl. 8A.14.

applied over the 2014–19 period. This adjustment was included in Endeavour's revised proposal.

3 Incentive schemes

Incentive schemes are a component of incentive based regulation and complement our approach to assessing efficient costs. These schemes provide important balancing incentives under the revenue determination to encourage Endeavour to pursue expenditure efficiencies and demand side alternatives to capex and opex, while maintaining the reliability and overall performance of its network.

The incentive schemes that might apply to an electricity network as part of our decision are the:

- opex efficiency benefit sharing scheme (EBSS)
- capital expenditure sharing scheme (CESS)
- service target performance incentive scheme (STPIS)
- demand management incentive scheme (DMIS) and demand management innovation allowance mechanism (DMIAM).

Once we make our decision on Endeavour's revenue cap, it has an incentive to provide services at the lowest possible cost, because its returns are determined by its actual costs of providing services. Our incentive schemes encourage network businesses to make efficient decisions. They give network businesses an incentive to pursue efficiency improvements in opex and capex, and to share them with consumers.

Our final decision is that each of the EBSS, CESS, STPIS, DMIS and DMIAM will apply to Endeavour for the 2019–24 regulatory control period. Endeavour's performance under these schemes in the 2019–24 regulatory control period will be reflected in its annual pricing proposals throughout that period and its revenue proposal for the subsequent, 2024–29 regulatory control period.

Our final decision on the incentive schemes are outlined below.

3.1 Efficiency benefit sharing scheme

The EBSS is intended to provide a continuous incentive for distributors to pursue efficiency improvements in opex, and provide for a fair sharing of these between network businesses and network users. Consumers benefit from improved efficiencies through lower regulated prices.

As noted earlier, our final decision is to approve EBSS carryover amounts totalling $232.1 million ($2018–19) for the 2014–19 period. This is $1.7 million lower than Endeavour's revised proposal of $233.8 million ($2017–18). Endeavour adopted our draft decision approach in its revised proposal.[39]

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[39] Endeavour, *Revised Regulatory Proposal 1 July 2019 – 30 June 2024*, January 2019, p. 23

We have updated our carryover amounts to reflect actual opex for 2017–18 and inflation numbers as set out in the RBA's latest *Statement on Monetary Policy*.[40]

Table 11 sets out our draft and final decisions on the EBSS carryover amounts Endeavour accrued during the 2014–19 regulatory control period.

Table 11 Final decision on EBSS carryover amounts ($ million, $2018–19)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Endeavour's proposal	23.2	69.1	78.7	64.1	0.0	235.1
AER draft decision	23.1	69.0	78.7	64.0	0.0	234.9
Endeavour's revised proposal	22.8	68.8	78.4	63.8	0.0	233.8
AER final decision	**22.7**	**68.3**	**77.9**	**63.3**	**0.0**	**232.1**

Source: Endeavour Energy, *0.03 PTRM*, April 2018; AER, *Endeavour Energy final decision 2014–19 distribution determination remittal - PTRM*, February 2019; Endeavour Energy, *Revised Proposal 0.08 Revised EBSS Model January 2019*; AER analysis.

Note: Numbers may not add up due to rounding.

Our final decision is to apply version two of the EBSS to Endeavour for the 2019–24 regulatory control period.[41] This is consistent with our draft decision and Endeavour's revised proposal.[42] When we apply the EBSS, we will

- exclude debt-raising costs from the EBSS as a pre-defined 'excluded category'
- adjust forecast opex to add (subtract) any approved revenue increments (decrements) made after the initial regulatory determination, such as approved pass through amounts
- adjust actual opex to remove DMIA opex
- adjust actual opex to add capitalised opex that has been excluded from the RAB[43]
- adjust actual opex to reverse any movements in provisions
- adjust opex for any services that will not be classified as standard control services (SCS) in the 2024–29 regulatory control period, to the extent this better achieves the requirements of clauses 6.5.8 of the NER.[44]

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[40] Reserve Bank of Australia, *Statement on Monetary Policy*, February 2019.

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

[42] AER, *Draft decision, Endeavour Energy Distribution determination 2019–24, Attachment 8 – Efficiency Benefit Sharing Scheme*, November 2018 pp. 10-11; Endeavour, *Revised Regulatory Proposal 1 July 2019 – 30 June 2024*, January 2019, p. 23.

[43] NER, cl. 6.5.8(c)(4) requires us to have regard to any incentives the service provider may have to capitalise expenditure.

[44] AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p.9.

Table 12 sets out the opex forecasts we will use to calculate efficiency gains in the 2019–24 regulatory control period, including forecast debt-raising costs.

Table 12 Forecast opex for the EBSS ($ million, $2018–19)

	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Total forecast opex	270.6	275.8	277.6	281.4	287.2	292.9	298.4
Less debt raising costs	3.3	3.4	3.2	3.3	3.3	3.3	3.4
Forecast opex for the EBSS	267.3	272.4	274.4	278.2	283.9	289.6	295.1

Source: AER, *Endeavour Energy final decision - PTRM*, April 2019; AER *PTRM Final decision Endeavour Energy 2014-19 distribution determination remittal* - September 2018.

Note: Numbers may not add up due to rounding.

3.2 Capital expenditure sharing scheme

The CESS provides financial rewards for network service providers whose capex becomes more efficient and financial penalties for those that become less efficient. Consumers benefit from improved efficiency through lower regulated prices.

As noted earlier, in the 2014–19 regulatory control period, Endeavour out-performed our capex forecast. Our final decision is to apply a CESS revenue increment amount of $6.9 million from the application of the CESS in the 2014–19 period.

We will also apply the CESS as set out in version 1 of the Capital Expenditure Incentives Guideline to Endeavour in the 2019–24 regulatory control period.

Further detail on our final decision regarding the CESS is set out in Attachment 9.

3.3 Service target performance incentive scheme

The STPIS is intended to balance a business' incentive to reduce expenditure with the need to maintain or improve service quality. The scheme achieves this by providing financial incentives to distributors to maintain and improve service performance where customers are willing to pay for these improvements.

Distributors can only retain their rewards for sustained and continuous improvements to the reliability of supply to customers. Once improvements are made, the benchmark performance targets will be tightened in future years.

Our final decision is to apply the service standards component (the s-factor) of our national STPIS, STPIS version 2.0 (November 2018)[45], to Endeavour for the 2019–24

[45] AER, *Electricity distribution network service providers—service target performance incentive scheme*, *Version 2.0*, November 2018. (AER, *STPIS*, November 2018).

regulatory control period. We will not apply the guaranteed service level component to Endeavour as the existing jurisdictional arrangements will continue to apply.

Attachment 10 sets out our decision on Endeavour's STPIS for 2019–24.

3.4 Demand management incentive scheme

On 13 December 2017, we published a new DMIS[46] and DMIAM.[47] These schemes replace the current DMIS and DMIA in the 2019–24 regulatory control period for all electricity distributors.

In our draft decision, our decision was to apply the new DMIS and DMIAM to Endeavour for the 2019–24 regulatory control period, without any modification.[48] Endeavour's revised proposal accepted our draft decision.[49]

We received no submissions on Endeavour's proposed implementation of the new DMIS and DMIAM.

The DMIS contains three elements:[50]

- a cost uplift on expected costs of efficient demand management projects
- a net benefit constraint, to ensure the incentive payment for any project cannot be higher than that project's expected net benefit
- an overall incentive constraint, which limits the total incentive in any year to one per cent of the distributor's allowed revenue for that year.

The cost multiplier (uplift) applicable to any eligible project will be the cost multiplier specified in the version of the DMIS that is in effect under clause 6.6.3 of the NER at the time the eligible project becomes a committed project.[51]

The DMIAM comprises:[52]

- a fixed allowance of $200,000 ($2016–17) plus 0.075 per cent of the annual revenue requirement for each regulatory year, as set out in our PTRM for Endeavour
- project eligibility requirements

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46 AER, *Demand management incentive scheme, Electricity distribution network service providers*, December 2017.

47 AER, *Demand management innovation allowance mechanism*, *Electricity distribution network service providers*, December 2017.

48 AER, *Draft decision, Endeavour Energy distribution determination 2019-24, Attachment 11, Demand management incentive scheme*, November 2018.

49 Endeavour Energy, *Revised Regulatory Proposal 1 July 2019 – 30 June 2024*, p. 5.

50 AER, *Demand management incentive scheme*, *Electricity distribution network service providers*, December 2017.

51 AER, *Demand management incentive scheme*, *Electricity distribution network service providers*, December 2017, clause 2.1(2).

52 AER, *Demand management innovation allowance mechanism*, *Electricity distribution network service providers*, December 2017.

- compliance reporting requirements.

Our calculation of Endeavour's DMIAM funding over the 2019–24 regulatory control period is shown in Table 13. As noted earlier, the total DMIAM funding is $4.16 million ($2018–19) over the period. This calculation is based on the smoothed annual revenue requirement as set out in the PTRM for Endeavour in our 2019–24 final decision.

Table 13 AER's final decision on the DMIA for Endeavour ($ million, 2018–19)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
DMIA	0.81	0.85	0.86	0.85	0.80	4.16

Source: AER analysis.

4 Tariff structure statement

Endeavour's 2019–24 proposal includes the second iteration of its tariff structure statement (TSS). Its current TSS applies from 1 July 2017 to 30 June 2019.

A TSS applies to a distributor's tariffs for the duration of the regulatory control period. It describes a distributor's tariff classes and structures, the distributor's policies and procedures for assigning and reassigning customers to tariffs, the charging parameters for each tariff, and a description of the approach the distributor takes to setting tariffs in pricing proposals.[53] It is accompanied by an indicative pricing schedule.[54] A TSS provides consumers and retailers with certainty and transparency in relation to how and when network prices will change.

While an indicative pricing schedule must accompany the TSS, Endeavour's tariffs for the entire 2019–24 regulatory control period are not set as part of this determination. Rather, tariffs for 2019–20 will be subject to a separate approval process that takes place in May 2019, after this final revenue determination in April 2019. Tariffs for the following four years will also be approved on an annual basis in May of each year.

Our final decision is to amend Endeavour's revised TSS by:

- reassigning all residential and small business customers that receive a new smart meter to the transitional demand tariff
- creating a financial incentive for customers to opt-in to cost reflective tariffs (demand and time of use) from flat tariffs and transitional tariffs.

These amendments complement the changes Endeavour has already made in response to our draft decision. These include:

- offering a seasonal time of use tariff for residential customers
- retaining time of use energy charges in large business demand tariffs
- making the cost reflective demand tariff more competitive with the flat tariffs.

We have changed our policy position from the draft decision to allow Endeavour to:

- give residential and small business customers the opportunity to opt-out of cost reflective tariffs
- not offer reassigned customers a 12-month data sampling period on the flat tariff.

Attachment 18 of this final decision provides the detailed reasons for our changes to Endeavour's revised TSS.

53 NER, cl. 6.18.1A(a).

54 NER, cl. 6.18.1A(e).

5 Other price terms and conditions

In this section, we consider the other aspects of our determination. These may be described as the terms and conditions of our determination that cover how Endeavour must set its prices. These include the classification of services, the conditions under which we may grant Endeavour additional revenues to cover unforeseen circumstances and the framework for Endeavour's negotiated services and customer connections.

5.1 Classification of services

Service classification determines the nature of economic regulation, if any, that is applicable to specific distribution services. Classification is important to customers as it determines which network services are included in basic electricity charges, the basis on which additional services are sold, and which services we will not regulate. Our decision reflects our assessment of a number of factors, including existing and potential competition to supply these services.

We set out our proposed approach to the classification of distribution services for the NSW distributors in our Framework and Approach (F&A).[55] Our final decision is to retain the classification structure consistent with our F&A[56] and draft decision, with the exception of a minor amendment to the activity of 'rectification of simple customer faults' proposed by Ausgrid.[57]

In our draft decision, we amended the description of the 'common distribution service' to allow distributors to perform minor repairs on a customer's assets to restore power supply or to address a safety issue. The service only applies in situations when a distributor's crew is already onsite to perform other regulated services, and the incremental cost of repairing the assets is low. The most common example is where a distributor is called out to a customer's premises to rectify a suspected network fault, only to find that a customer-owned service fuse, connecting the network and customer mains, has blown. In such a case, our amendment to the 'common distribution service' allows the distributor to replace the service fuse and restore supply for the customer quickly.

In our draft decision, we placed a number of conditions around a distributor's ability to repair customer assets in order to protect the competitiveness of contestable markets.

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55 AER, *Final framework and approach for NSW electricity distributors – Regulatory control period commencing 1 July 2019*, July 2017.

56 AER, *Final framework and approach for NSW electricity distributor – Regulatory control period commencing 1 July 2019*, July 2017. NER, cl. 6.12.3(b) – The classification of distribution services must be as set out in the relevant framework and approach paper unless we consider that a material change of circumstances justifies departing from that proposed classification.

57 Ausgrid, *Revised Regulatory Proposal, 1 July 2019 to 30 June 2024*, January 2019, pp. 176-177.

One of these conditions limits distributors to work that can be performed in less than 20 minutes and does not normally require a second visit.

Ausgrid proposed that this time limit should be extended to 30 minutes in our final decision.[58] To support this proposed amendment, Ausgrid reviewed 5,000 call out jobs during 2017 and found that the average time on site was 38 minutes. Allowing 10 minutes to assess the issue and determine the cause of a fault, Ausgrid stated that 30 minutes is a more realistic amount of time in which Ausgrid could do simple repairs on customer assets.

We consider that the proposed amendment is consistent with providing efficient outcomes for customers. We also consider that allowing an additional 10 minutes for distributors to restore safe power supply to customers will not significantly impact the competitiveness of contestable markets for electricity services. This decision applies to all NSW distributors.

In its revised proposal, Endeavour accepted our service classification amendments in the draft decision, including the addition of 'rectification of simple customer faults' as an activity under the 'common distribution service'.[59]

A full list of Endeavour's classified services for the 2019–24 regulatory period can be found in Attachment 12.

5.2 Pass through events

We accept Endeavour's four nominated pass through events ('terrorism', 'natural disaster', 'insurance cap' and 'insurer's risk').

Our draft decision accepted these nominated pass through events, but with amended definitions so that the pass through events that apply to Endeavour will be consistent with recent decisions for other network service providers.[60] Endeavour's revised proposal adopted our amended definitions. These are set out in Table 14.

Table 14 Approved nominated pass through events

Pass through event	Definition
Insurance cap	An insurance cap event occurs if: • Endeavour Energy makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy, • Endeavour Energy incurs costs beyond the relevant policy limit, and • The costs beyond the relevant policy limit materially increase the costs

58 Ausgrid, *Revised Regulatory Proposal, 1 July 2019 to 30 June 2024*, January 2019, pp. 176-177.

59 Endeavour Energy, *Revised Regulatory Proposal 1 July 2019 – 30 June 2024*, p. 6.

60 E.g. AER, *Draft Decision, ElectraNet transmission determination 2018 to 2023, Attachment 13 - Pass through events*, October 2017, pp. 13-6, 13-7; AER, *Draft Decision, TransGrid transmission determination 2018 to 2023, Attachment 13 - Pass through events*, October 2017, pp. 13–6, 13–7.

Pass through event	Definition
	to Endeavour Energy in providing direct control services. For this insurance cap event: • A relevant insurance policy is an insurance policy held during the 2019-24 regulatory control period or a previous regulatory control period in which Endeavour Energy was regulated • Endeavour Energy will be deemed to have made a claim on a relevant insurance policy if the claim is made by a related party of Endeavour Energy in relation to any aspect of the network or Endeavour Energy's business. Note for the avoidance of doubt, in assessing an insurance cap event cost pass through application under rule 6.6.1(i), the AER will have regard to: • The relevant insurance policy for the event, and • The level of insurance that an efficient and prudent NSP would obtain in respect of the event.
Insurer's credit risk	An insurer's credit risk event occurs if: • An insurer of Endeavour Energy becomes insolvent, and as a result, in respect of an existing or potential claim for a risk that was insured by the insolvent insurer, Endeavour Energy: ○ Is subject to a higher or lower claim limit or a higher or lower deductable than would have otherwise applied under the insolvent insurer's policy; or ○ Incurs additional costs associated with funding an insurance claim, which otherwise have been covered by the insolvent insurer. Note: In assessing an insurer's credit risk event pass through application, the AER will have regard to, amongst other things, • Endeavour Energy's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation. • In the event that a claim would have been made after the insurance provider became insolvent, whether Endeavour Energy had reasonable opportunity to insure the risk with a different provider.
Natural disaster	Natural disaster event means any natural disaster including but not limited to cyclone, fire, flood or earthquake that occurs during the 2019-24 regulatory control period that increases the costs to Endeavour Energy in providing direct control services, provided the fire, flood or other event was not a consequence of the acts or omissions of the service provider. Note: in assessing a natural disaster event pass through application, the AER will have regard to, amongst other things: • Whether Endeavour Energy has insurance against the event, • The level of insurance that an efficient and prudent NSP would obtain in respect of the event, • Whether a relevant government authority has made a declaration that a natural disaster has occurred.
Terrorism	Terrorism event means an act, including, but not limited to, the use of force or violence or the threat of force or violence of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which: • from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including

Pass through event	Definition
	the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear), and • increases the costs to Endeavour Energy in providing direct control services. Note: In assessing a terrorism event pass through application, the AER will have regard to, amongst other things: • Whether Endeavour Energy has insurance against the event, • The level of insurance that an efficient and prudent NSP would obtain in respect of the event, and • Whether a declaration has been made by a relevant government authority that a terrorism event has occurred

5.3 Negotiated services framework and criteria

In our draft decision, we approved Endeavour's proposed distribution negotiating framework for the 2019–24 regulatory control period.[61] Endeavour's revised proposal accepted our draft decision.[62]

Our final decision is to approve Endeavour's negotiating framework. The distribution negotiating framework that will apply to Endeavour for the 2019–24 regulatory control period is set out in Attachment A.

We are also required to make a decision on the negotiated distribution service criteria (NDSC) for the distributor.[63] Our final decision is to retain the NDSC that we published for Endeavour in May 2018[64] for the 2019–24 regulatory control period. The NDSC give effect to the negotiated distribution services principles.[65]

5.4 Connection policy

Our draft decision modified Endeavour's proposed connection policy that it submitted in its April 2018 initial regulatory proposal.[66]

In its revised proposal, Endeavour accepted our draft decision but proposed further refinements.[67] These minor amendments are to:

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61 AER, *Draft Decision, Endeavour Energy distribution determination 2019-2024*, Attachment 16 – Negotiated services framework and criteria, November 2018, p. 16–1.

62 Endeavour Energy, *Endeavour Energy Revised Regulatory Proposal 2019–2024*, 8 January 2019, p. 24.

63 NER, cl. 6.12.1(16).

64 AER, *Draft Decision, Endeavour Energy distribution determination 2019-2024*, Attachment 16 – Negotiated services framework and criteria, November 2018, p. 16–1.

65 NER, cl. 6.7.1.

66 AER, *Draft Decision, Endeavour Energy Distribution Determination 2019 to 2024, Attachment 17 Connection policy*, November 2018.

67 Endeavour Energy, *Revised Regulatory Proposal, 1 July 2019 – 30 June 2024*, January 2019, p. 24 ; Endeavour Energy, *Attachment 0.05 Revised Connection Policy Provision of Connection Services*, January 2019, sections 2.1 and 4.1.

- clarify that Endeavour will fund some of the connection works, which would also benefit other customers and the overall management of the shared network
- clarify that Endeavour may request the customer's accredited service provider (ASP) for augmentation of the shared network as a part of the connection work, because it is more efficient to do so. Under this situation, Endeavour will refund the customers for the works done on the shared network.

We consider these proposed changes are reasonable.

We did not receive any submissions on our draft decision and Endeavour's revised proposal that addressed Endeavour's proposed connection policy.

Our final decision is to approve the connection policy submitted by Endeavour in its revised proposal.[68]

[68] Endeavour Energy, *Attachment 0.05 Revised Connection Policy Provision of Connection Services*, January 2019. See https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/endeavour-energy-determination-2019-24/revised-proposal.

A The National Electricity Objective

The National Electricity Law (NEL) requires us to make our decision in a manner that contributes, or is likely to contribute, to achieving the National Electricity Objective (NEO).[69] The focus of the NEO is on promoting efficient investment in, and operation and use of, electricity services (rather than assets) in the long-term interests of consumers.[70] This is not delivered by any one of the NEO's factors in isolation, but rather by balancing them in reaching a regulatory decision.[71]

In general, we consider that the long-term interests of consumers are best served where consumers receive a reasonable level of safe and reliable service that they value at least cost in the long run.[72] A decision that places too much emphasis on short term considerations may not lead to the best overall outcomes for consumers once the longer term implications of that decision are taken into account. [73]

There may be a range of economically efficient decisions that we could make in a revenue determination, each with different implications for the long-term interests of consumers.[74] A particular economically efficient outcome may nevertheless not be in the long-term interests of consumers, depending on how prices are structured and risks allocated within the market.[75] There are also a range of outcomes that are unlikely to advance the NEO, or advance the NEO to the degree than others would. For example, we consider that:

- the long-term interests of consumers would not be advanced if we encourage over-investment which results in prices so high that consumers are unwilling or unable to efficiently use the network.[76] This could have significant longer term pricing implications for those consumers who continue to use network services.
- equally, the long-term interests of consumers would not be advanced if allowed revenues result in prices so low that investors do not invest to sufficiently maintain the appropriate quality and level of service, and where customers are making more use of the network than is sustainable.[77] This could create longer term problems in the network, and could have adverse consequences for safety, security and reliability of the network.

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69 NEL, section 16(1).

70 This is also the view of the AEMC. See, for example, AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 5.

71 Hansard, SA House of Assembly, 26 September 2013, p. 7173. See also AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, pp. 7–8.

72 Hansard, SA House of Assembly, 9 February 2005, p. 1452.

73 See, for example, AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, pp. 6–7.

74 Re Michael: Ex parte Epic Energy [2002] WASCA 231 at [143].

75 See, for example, AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 5.

76 NEL, s. 7A(7).

77 NEL, s. 7A(6).

The legislative framework recognises the complexity of this task by providing us with significant discretion in many aspects of the decision-making process to make judgements on these matters.

A.1 Achieving the NEO to the greatest degree

Electricity determinations are complex decisions. In most cases, the provisions of the National Electricity Rules (NER) do not point to a single answer, either for our decision as a whole or in respect of particular components. They require us to exercise our regulatory judgement. For example, chapters 6 and 6A of the NER requires us to prepare forecasts, which are predictions about unknown future circumstances. Very often, there will be more than one plausible forecast,[78] and much debate amongst stakeholders about relevant costs. For certain components of our decision there may therefore be several plausible answers or several plausible point estimates.

When the constituent components of our decision are considered together, this means there will almost always be several potential, overall decisions. More than one of these may contribute to the achievement of the NEO. In these cases, our role is to make an overall decision that we are satisfied contributes to the achievement of the NEO to the greatest degree.[79]

We approach this from a practical perspective, accepting that it is not possible to consider every permutation specifically. Where there are choices to be made among several plausible alternatives, we have selected what we are satisfied would result in an overall decision that contributes to the achievement of the NEO to the greatest degree.

A.2 Interrelationships between constituent components

Examining constituent components in isolation ignores the importance of the interrelationships between components of the overall decision, and would not contribute to the achievement of the NEO. We have considered these interrelationships in our analysis of the constituent components of our final decision in the relevant attachments. Examples include:

- 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.
- direct mathematical links between different components of a decision. For example, the level of gamma has an impact on the appropriate tax allowance; the benchmark

[78] AEMC, *Rule Determination: National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, 16 November 2006, p. 52.

[79] NEL, s. 16(1)(d).

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.

- trade-offs between different components of revenue. For example, undertaking a particular capex project may affect the need for opex or vice versa.

B Constituent components

This Overview and the accompanying attachments, including where appropriate attachments to our draft decision, set out our final decision on Endeavour's distribution determination for the 2019–24 regulatory control period. Our final decision includes the following constituent components:[80]

Constituent component
In accordance with clause 6.12.1(1) of the NER, the AER's final decision is that the classification of services set out in Attachment 12 will apply to Endeavour for the 2019–24 regulatory control period.
In accordance with clause 6.12.1(2)(i) of the NER, the AER's final decision is not to approve the annual revenue requirement set out in Endeavour's building block proposal. Our final decision on Endeavour's annual revenue requirement for each year of the 2019–24 regulatory control period is set out in Attachment 1 of this final decision.
In accordance with clause 6.12.1(2)(ii) of the NER, the AER's final decision is to approve Endeavour's proposal that the regulatory control period will commence on 1 July 2019. Also in accordance with clause 6.12.1(2)(ii) of the NER, the AER's final decision is to approve Endeavour's proposal that the length of the regulatory control period will be 5 years from 1 July 2019 to 30 June 2024.
In accordance with clause 6.12.1(3)(i) and acting in accordance with clause 6.5.7(c) of the NER, the AER's final decision is to accept Endeavour's proposed total net capital expenditure forecast of $1,715 million ($2018–19). This is set out in Attachment 5 of this final decision.
In accordance with clause 6.12.1(4)(ii) and acting in accordance with clause 6.5.6(d) of the NER, the AER's final decision is not to accept Endeavour's proposed total forecast operating expenditure (opex) inclusive of debt raising costs and exclusive of the demand management innovation allowance mechanism (DMIAM) of $1,469.6 million ($2018-19). Our final decision therefore includes a substitute estimate of Endeavour's total forecast opex for the 2019–24 regulatory control period of $1,437.5 million ($2018–19) including debt raising costs and exclusive of DMIAM. This is set out in Attachment 6 of this final decision.
In accordance with clause 6.12.1(5) of the NER and the 2018 Rate of Return Instrument, the AER's final decision is that the allowed rate of return for the 2019–20 regulatory year is 5.73 per cent (nominal vanilla), as set out in section 2.2 of this final decision Overview, and that the rate of return for the remaining regulatory years 2020–24 will be updated annually because our 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 6.12.1(5A) of the NER and the 2018 Rate of Return Instrument, the AER's final decision on the value of imputation credits as referred to in clause 6.5.3 is to adopt

80 NEL, s. 16(1)(c).

Constituent component
a value of 0.585. This is set out in section 2.2 of this final decision Overview.
In accordance with clause 6.12.1(6) of the NER, the AER's final decision on Endeavour's regulatory asset base (RAB) as at 1 July 2019 in accordance with clause 6.5.1 and schedule 6.2 is $6,526.1 million ($ nominal). This is set out in Attachment 2 of this final decision.
In accordance with clause 6.12.1(7) and clause 6.5.3 of the NER, the AER estimates Endeavour's cost of corporate income tax is $134.7 million ($ nominal). This is set out in Attachment 7 of this final decision.
In accordance with clause 6.12.1(8) of the NER, the AER's final decision is not to approve the depreciation schedules submitted by Endeavour. Our final decision substitutes alternative depreciation schedules in accordance with clause 6.5.5(b) and this is set out in Attachment 4 of this final decision.
In accordance with clause 6.12.1(9) of the NER, the AER makes the following final decisions on how any applicable efficiency benefit sharing scheme (EBSS), capital expenditure sharing scheme (CESS), service target performance incentive scheme (STPIS), demand management incentive scheme (DMIS) or small-scale incentive scheme is to apply: • We will apply version 2 of the EBSS to Endeavour in the 2019–24 regulatory control period. This is set out in Attachment 8 of this final decision. • We will apply the CESS as set out in version 1 of the Capital Expenditure Incentives Guideline to Endeavour in the 2019–24 regulatory control period. This is set out in Attachment 9 of this final decision. • We will apply our STPIS to Endeavour for the 2019–24 regulatory control period. This is set out in Attachment 10 of this final decision. • We will apply the DMIS and DMIAM to Endeavour for the 2019–24 regulatory control period. This is set out in section 3.4 of this final decision Overview.
In accordance with clause 6.12.1(10) of the NER, the AER's final decision is that all appropriate amounts, values and inputs are as set out in this final decision including attachments.
In accordance with clause 6.12.1(11) of the NER and our framework and approach paper, the AER's final decision on the form of control mechanisms (including the X-factor) for standard control services is a revenue cap. The revenue cap for Endeavour for any given regulatory year is the total annual revenue calculated using the formula in Attachment 13 plus any adjustment required to move the distribution use of system (DUoS) unders and overs account to zero. This is set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(12) of the NER and our framework and approach paper, the AER's final decision on the form of the control mechanism for alternative control services is to apply price caps for all services. This is set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(13) of the NER, to demonstrate compliance with its distribution determination, the AER's final decision is that Endeavour must maintain a DUoS unders and overs account. It must provide information on this account to us in its annual pricing

Constituent component
proposal. This is set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(14) of the NER, the AER's final decision is to apply the following nominated pass through events for the 2019–24 regulatory control period in accordance with clause 6.5.10: • Terrorism event • Natural Disaster event • Insurance Cap event • Insurer's Credit Risk event These events have the definitions set out in section 5.2 of this final decision.
In accordance with clause 6.12.1(14A) the AER's final decision is not to approve the tariff structure statement (TSS) proposed by Endeavour. This is discussed in Attachment 18 of this final decision.
In accordance with clause 6.12.1(15) of the NER, the AER's final decision is to apply the negotiating framework as proposed by Endeavour for the 2019–24 regulatory control period. This is set out in section 5.3 of this final decision Overview.
In accordance with clause 6.12.1(16) of the NER, the AER's final decision is to apply the negotiated distribution services criteria published in May 2018 to Endeavour. This is set out in section 5.3 of this final decision Overview.
In accordance with clause 6.12.1(17) of the NER, the AER's final decision on the policies and procedures for assigning retail customers to tariff classes, or reassigning retail customers from one tariff class to another (including for any applicable restrictions), for Endeavour is set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(18) of the NER, the AER's final decision is that the depreciation approach based on forecast capex (forecast depreciation) is to be used to establish the RAB at the commencement of Endeavour's regulatory control period as at 1 July 2024. This is set out in Attachment 2 of this final decision.
In accordance with clause 6.12.1(19) of the NER, the AER's final decision on how Endeavour is to report to the AER on its recovery of designated pricing proposal charges is to set this out in its annual pricing proposal for each regulatory year of the 2019–24 regulatory control period. The method to account for the under and over recovery of designated pricing proposal charges is set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(20) of the NER, the AER's final decision is to require Endeavour to maintain a jurisdictional scheme unders and overs account. It must provide information on this account to us in its annual pricing proposal as set out in Attachment 13 of this final decision.
In accordance with clause 6.12.1(21) of the NER, the AER's final decision is to apply Endeavour's proposed connection policy. This is set out in section 5.4 of this final decision Overview.

C List of submissions

We received 7 submissions in response to our draft decision and Endeavour's revised revenue proposal. These are listed below.

Submission from	Date received
AGL	5 February 2019
Consumer Challenge Panel (CCP10)	5 February 2019
Energy Consumers Australia (ECA)	15 February 2019
Energy Users Association of Australia (EUAA)	5 February 2019
Origin	5 February 2019
Public Interest Advocacy Centre (PIAC)	7 February 2019
Red Energy / Lumo Energy	7 February 2019