



FINAL DECISION
Endeavour Energy distribution
determination
2015–16 to 2018–19

Attachment 19 – Analysis of
financial viability

April 2015

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Note

This attachment forms part of the AER's final decision on Endeavour Energy's revenue proposal 2015–19. It should be read with other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 - Annual revenue requirement

Attachment 2 - Regulatory asset base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency benefit sharing scheme

Attachment 10 - Capital expenditure sharing scheme

Attachment 11 - Service target performance incentive scheme

Attachment 12 - Demand management incentive scheme

Attachment 13 - Classification of services

Attachment 14 - Control mechanism

Attachment 15 - Pass through events

Attachment 16 - Alternative control services

Attachment 17 - Negotiated services framework and criteria

Attachment 18 - Connection methodology

Attachment 19 - Analysis of financial viability

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Shortened forms

| Shortened form | Extended form |
|----------------------------------|--|
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| AER | Australian Energy Regulator |
| augex | augmentation expenditure |
| capex | capital expenditure |
| CCP | Consumer Challenge Panel |
| CESS | capital expenditure sharing scheme |
| CPI | consumer price index |
| DRP | debt risk premium |
| DMIA | demand management innovation allowance |
| DMIS | demand management incentive scheme |
| distributor | distribution network service provider |
| DUoS | distribution use of system |
| EBSS | efficiency benefit sharing scheme |
| ERP | equity risk premium |
| Expenditure Assessment Guideline | expenditure forecast assessment Guideline for electricity distribution |
| F&A | framework and approach |
| MRP | market risk premium |
| NEL | national electricity law |
| NEM | national electricity market |
| NEO | national electricity objective |
| NER | national electricity rules |
| NSP | network service provider |
| opex | operating expenditure |
| PPI | partial performance indicators |
| PTRM | post-tax revenue model |
| RAB | regulatory asset base |
| RBA | Reserve Bank of Australia |
| repex | replacement expenditure |
| RFM | roll forward model |

| Shortened form | Extended form |
|----------------|---|
| RIN | regulatory information notice |
| RPP | revenue and pricing principles |
| SAIDI | system average interruption duration index |
| SAIFI | system average interruption frequency index |
| SLCAPM | Sharpe-Lintner capital asset pricing model |
| STPIS | service target performance incentive scheme |
| WACC | weighted average cost of capital |

19 Analysis of financial viability

This attachment sets out further detail of our analysis of financial viability. In particular, it details the cash flow analysis we undertook and RSM Bird Cameron's review. This attachment details our analysis and conclusions, including discussion of the key assumptions.

Based on our analysis, and RSM Bird Cameron's review and commentary, we are not persuaded that Endeavour Energy faces financial risks that are likely to threaten its ongoing financial viability.

19.1 Background

In its revised proposal, Endeavour Energy indicated that its financial viability would be threatened as a result of our draft decision. In support of this, Endeavour Energy submitted a range of material including:

- a report from David Newbury submitting that sizeable opex reductions in a short period of time would negatively impact the ongoing financeability of Endeavour Energy and its viability¹
- a confidential credit profile report by Standard and Poors (S&P)²
- A report by UBS including confidential content relevant to financeability³

Neither the NEL nor the NER include an explicit obligation requiring us to consider the impact of our determination on the viability of the service provider in its actual circumstances. Our task is to determine the revenue that a service provider can recover from its customers with reference to an efficient and prudent level of expenditure. The service provider's actual ownership circumstances and the financial structure of its shareholders are not factors that we are required to consider in fulfilling our task under the NEL or the NER.

We are satisfied that a revenue allowance that meets the requirements of the rules will provide for the service provider, acting as a prudent operator with efficient costs, using a realistic expectation of demand and cost inputs, with the revenue it would require to operate viably. However, to the extent that a service provider departs from such expenditure levels, it may be at greater financial risk. Since Endeavour Energy raised this issue as a concern, we have considered it and the material put forward in support of its concerns. Endeavour Energy has not been clear about what it means by the term financial viability. In our analysis we have considered whether Endeavour Energy would be at material risk of insolvency. We understand this to be consistent with Endeavour Energy's interpretation of threats to its financial viability. We undertook this

¹ David Newbury, *Cambridge Economic Policy Associates: Expert Report*, January 2015.

² S&P, *Confidential credit assessment: Endeavour Energy—Stand-alone credit profile*, January 2015.

³ UBS, *Financeability— Debt issue and capital structure (Confidential version)*, January 2015.

analysis using our PTRM to model Endeavour Energy's cash flows under a number of different scenarios. We then engaged RSM Bird Cameron to review and provide comment on our analysis. We chose and generated these scenarios for the reasons set out in Table 19-1. We are satisfied that Endeavour Energy would not be at material risk of insolvency because:

- Endeavour Energy is subject to a stable regulatory environment that is favourable for capital raising.⁴
- we are not persuaded that the assumptions Endeavour Energy provided to S&P were reasonable. The conclusions in the stand-alone credit profile prepared by S&P derive from the assumptions provided by Endeavour Energy.
- we are satisfied that our PTRM cash flow analysis and RSM Bird Cameron's review of our analysis supports this conclusion.

RSM Bird Cameron's report has been published with this decision. We discuss this report in greater detail in this attachment.

19.2 The four scenarios

We provided to RSM Bird Cameron analysis of four scenarios. In all cases, these scenarios test the impact on financial viability if Endeavour Energy were to:

- receive revenue in line with our determination
- face costs in line with its revised proposal prior to the start of the 2014 to 2019 period.

The difference between the scenarios is the extent to which Endeavour Energy's costs converge towards our determination revenue over the 2014 to 2019 period. Specific details of the scenarios are set out in Table 19-1, below. The scenarios test variations to the following key elements:

- Debt convergence—over the regulatory period, the revenue and costs relating to debt (interest payments) will converge. This is because we update 10 per cent of the cost of debt each year in line with our trailing average approach. We largely agree with Endeavour Energy on how this update will be calculated. Consequently, as each year passes the difference between the amount Endeavour Energy sought for interest costs in its revised proposal and our regulatory allowance will converge. Eventually, in 10 years, the difference converges to zero. As this brings revenue and costs closer together, it reduces the risks to Endeavour Energy's financial viability.
- Reductions in opex—in scenario 1 and 2, we assume Endeavour Energy spends the total opex it proposed in its revised proposal, regardless of the revenue it

⁴ For example, RARE infrastructure submitted that "[t]here are many characteristics of the Australian Regulatory framework that makes its energy network potentially attractive investments". RARE Infrastructure, *Letter to the AER*, 13 February 2015.

receives. This has a substantially negative impact on the key indicators of financial viability. However, Endeavour Energy has a financial incentive to reduce its opex costs. We have therefore tested the sensitivity of the conclusions to the potential for opex efficiency savings. Scenario 3 and scenario 4 test the outcomes where Endeavour Energy is able to reduce its opex. Any savings in opex improve Endeavour Energy's financial performance. We discuss this in greater detail in section 19.2.

- The hybrid tax calculation—this refers to our calculation of tax to reflect the actual revenue and tax expenses that are assumed in the scenarios below. This variation allows us to more accurately reflect the short term tax obligation faced by Endeavour Energy.

Table 19-1 Revenue and cost inputs for the four scenarios

| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
|---------|---|--|--|--|
| Revenue | Smoothed revenue from the draft decision | Smoothed revenue from the indicative final decision ^a including debt convergence. | Smoothed revenue from the indicative final decision ^a including debt convergence | Smoothed revenue from the indicative final ^a decision including debt convergence |
| Costs | All costs from revised proposal except for hybrid tax calculation. | All costs from revised proposal except for: <ul style="list-style-type: none"> • hybrid tax calculation • debt convergence | Based on revised proposal except for: <ul style="list-style-type: none"> • hybrid tax calculation • debt convergence • 10 % per annum reductions between forecast opex costs and benchmark efficient opex allowance | Based on revised proposal except for: <ul style="list-style-type: none"> • hybrid tax calculation • debt convergence • 20 % per annum reductions between forecast opex costs and benchmark efficient opex allowance |
| Comment | Worst case scenario. Importantly, this scenario excludes the effects of debt convergence. Excluding debt convergence artificially worsens the outcomes. | More favourable to Endeavour Energy than Scenario 1. This scenario is more closely reflective of the final decision circumstances than scenario 1. | More favourable to Endeavour Energy than Scenario 2. This scenario reflects partial efficiency savings by Endeavour Energy to reduce the difference between its proposed opex costs and our final decision opex determination. | More favourable to Endeavour Energy than Scenario 3. This scenario reflects faster opex efficiency savings than scenario 2. In combination, scenarios 3 and 4 illustrate the sensitivity of the outcome to the ability to make efficiency savings. |

(a) At the time this analysis was provided to RSM Bird Cameron, decision inputs were not completely finalised. However, they are closely reflective of the final decision inputs.

19.2.1 Results of the scenarios

We summarise RSM Bird Cameron's conclusions in respect of each scenario in Table 19-2, below. RSM Bird Cameron's report identifies two key metrics: operating cash flows excluding regulatory depreciation, and cash flows after accounting for Endeavour Energy's proposed capex program. It presents these post-capex cash flows prior to and after external equity raised, and both of those subtotals including and excluding regulatory depreciation. Overall, Endeavour Energy performs favourably on both key indicators under all four scenarios.

Table 19-2 Summary of RSM Bird Cameron Conclusions

| Scenario | Conclusions |
|----------|---|
| 1 | <p>Endeavour Energy generates positive operating cash flows excluding the regulatory depreciation allowance.</p> <p>It generates positive cash flows prior to external equity raising if it uses portions of its regulatory depreciation allowance.</p> <p>It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance.</p> |
| 2 | <p>Endeavour Energy generates positive operating cash flows excluding the regulatory depreciation allowance.</p> <p>It generates positive cash flows prior to external equity raising without utilising its regulatory depreciation allowance.</p> <p>It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance</p> |
| 3 | <p>Endeavour Energy generates positive operating cash flows excluding the regulatory depreciation allowance.</p> <p>It generates positive cash flows prior to external equity raising without utilising its regulatory depreciation allowance.</p> <p>It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance</p> |
| 4 | <p>Endeavour Energy generates positive operating cash flows excluding the regulatory depreciation allowance.</p> <p>It generates positive cash flows prior to external equity raising without utilising its regulatory depreciation allowance.</p> <p>It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance</p> |

Source: RSM Bird Cameron, *Independent review of the AER's internal cash flow analysis of insolvency risk for NSW electricity service providers for the regulatory period 2014-19*, April 2015.

Based on the above scenarios and the assumptions provided, RSM Bird Cameron concludes that Endeavour Energy does not face material risk of insolvency under any of the four scenarios. In addition, RSM Bird Cameron's analysis was based on limitations of scope and assumptions that do not reflect a series of relevant factors. We discuss these factors below. They suggest Endeavour Energy is even less likely to face threats to its financial viability than presented in the four scenarios above.

These factors include:

- RSM Bird Cameron's report does not address the impact of Endeavour Energy's ownership, and whether that ownership is favourable or otherwise for capital raising.
- RSM Bird Cameron's report assumes a zero starting cash balance. Any positive starting cash balance would result in more favourable outcomes for Endeavour Energy.
- RSM Bird Cameron's report does not include any assumptions about the service provider's ability to defer capex..
- RSM Bird Cameron's report does not address fundamental questions of revenue certainty that distinguish regulated firms from unregulated firms. Unlike unregulated firms, Endeavour Energy faces predictable, stable revenue regardless of movements in its underlying demand.
- Significantly, Endeavour Energy's revenue allowance will be updated each year to incorporate current market rates on its debt portfolio. To some extent, RSM Bird Cameron's report addresses the effects of annually updating debt revenue through our debt convergence assumptions. However, our approach provides Endeavour Energy with an ongoing shield from interest rate risk regardless of market circumstances. Specifically, if benchmark debt costs rise as observed in the market, Endeavour Energy's revenue allowance will rise commensurately. Endeavour Energy is therefore shielded from interest rate risk compared to an unregulated private sector business.
- The value of Endeavour Energy's assets is protected within the regulatory asset base (RAB), and a return on capital for assets within the RAB is set periodically under a well-established regulatory regime. This allows Endeavour Energy to expect to generate a benchmark return on capital in the RAB and also to recover the face value of its investments over time through a stable and predictable regulatory depreciation allowance. In the short term, equity holders may face relatively lower returns due largely to opex inefficiencies and the return on debt transition. However, in the medium term as the service provider achieves efficiency gains, those equity holders can expect to predictably receive the benchmark return on equity.

In line with these observations, the credit rating agency Moody's observed that, regarding the factor, 'regulatory environment and asset ownership model' (Factor 1):⁵

[M]any networks are shown as outliers for Factor 1 principally reflecting the high quality regulatory regimes where they operate, which reduces overall business risk. Such regulatory frameworks tend to be well established, provide timely cost recovery and have de-coupling mechanisms that limit volume risk. This means that scores for these sub-factors can often be "Aaa" or "Aa" while

⁵ Moody's Investors Service, *Rating methodology: Regulated electric and gas networks*, 25 November 2014, p. 34.

issuers themselves are rated in the “A” or “Baa” range. This applies particularly to networks in developed countries with strong regulation, e.g. AusNet Services and Powercor Australia LLC (regulated in Australia by the AER)

19.2.2 Key assumptions

In its report, RSM Bird Cameron has detailed all of the material assumptions used in setting revenue and costs. This section includes further detail on:

- debt convergence—included in scenarios 2, 3 and 4
- opex efficiency gains— included in scenarios 3 and 4
- hybrid tax calculation— included in all scenarios
- interpretation of the regulatory depreciation allowance.

Debt convergence

One of the largest differences between Endeavour Energy's revised proposal and our draft and final decisions is the approach to transition into the trailing average portfolio return on debt. Specifically:

- Endeavour Energy proposed an immediate transition. This means that its starting (2014–15) portfolio is based on an average of the past 10 years of return on debt estimates.
- Our decision commences with an on-the-day rate for existing debt and a 10 year transition to the trailing average return on debt for new debt. This means that Endeavour Energy's starting (2014–15) portfolio is equal to the annual estimate of the return on debt within Endeavour Energy's nominated averaging period in that year.

Due to the difference in approaches, the starting difference in revenue between Endeavour Energy's proposed approach and our decisions is substantial. However, under Endeavour Energy's proposed approach and our decision, the return on debt portfolio will be updated each year to include 10 per cent weight on each subsequent year's estimate. This will impact both the revenue received by Endeavour Energy and the costs it faces. Consequently, once the full transition is complete in 10 years Endeavour Energy's cost of debt and allowed debt revenue should correspond, excluding relatively minor differences in the implementation of annual estimates of the return on debt.

Therefore, we consider it is a more realistic assumption to account for this debt convergence when considering Endeavour Energy's financial viability. To do so, we have included consistent forward estimates of the annual return on debt to model the progression of both our decision portfolio return on debt and Endeavour Energy's proposed portfolio. The calculations for this portfolio are set out in Table 19-3.

Table 19-3 Debt convergence (per cent)

| | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 |
|---------------------------------------|-------------------|---------|-------------------|-------------------|-------------------|
| Annual estimate of the return on debt | 6.51 | 5.38 | 5.38 ^a | 5.38 ^a | 5.38 ^a |
| Endeavour Energy's portfolio | 7.98 ^b | 7.72 | 7.46 | 7.20 | 6.94 |
| AER portfolio | 6.51 | 6.40 | 6.28 | 6.17 | 6.06 |
| Difference between portfolios | -1.47 | -1.32 | -1.18 | -1.03 | -0.88 |

- (a) For the forward estimates, we have used the most recent annual estimate held constant from 2016–17 to 2018–19. Regardless of what these inputs are, the portfolios will converge.
- (b) The distributors proposed a 10 year average of 7.98. For simplicity, we have assumed the annual estimate for each past year is also equal to 7.98. Therefore, each year through the regulatory control period, the annual estimate replaces 1 year (10 per cent) at 7.98 per cent.

We note that there are also differences between Endeavour Energy's proposed implementation of the annual estimates for the return on debt and our draft decision. These relate primarily to the choice of third party data series. Specifically, Endeavour Energy has proposed to rely entirely on the extrapolated RBA curve, whereas our draft and final decisions adopts a simple average of the extrapolated RBA curve and the extrapolated BVAL curve. However, we have excluded these differences from our analysis because the difference between approaches is relatively less material.

Opex efficiency gains

In scenarios 1 and 2, we have assumed the service provider will spend its revised proposal opex forecast and will not make any efficiency savings. However, we expect that Endeavour Energy will have a strong incentive to make efficiency gains where its forecast expenses are above the opex allowance in the final decision. Therefore, we have modelled additional scenarios where the service provider is able to reduce the difference between:

- its revised proposal opex and
- our final decision on the opex that would be faced by the benchmark efficient entity.

In scenario 3, we assume Endeavour Energy reduces the difference between its proposed opex and our (indicative) final decision by 10 per cent per year. This means it would reach our opex target in 10 years. In scenario 4, we assume Endeavour Energy reduces the difference between its proposed opex and our (indicative) final decision by 20 per cent per year. This means it would reach our opex target in 5 years.

We have not attempted to determine which of scenarios 2–4 is the most plausible, but have used the results to assess the sensitivity of the conclusions to whether the service provider can improve its opex efficiency.

Table 19-4 Opex efficiency gains (\$million, 2013–14)

| Item | | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 |
|------|---|---------|---------|---------|---------|---------|
| 1 | AER indicative final decision ^a | 235.6 | 239.0 | 242.7 | 246.6 | 251.1 |
| 2 | Endeavour Energy revised proposal | 289.5 | 302.5 | 295.1 | 291.1 | 287.3 |
| 3 | Difference between costs and efficient baseline ^b | 54.0 | 63.5 | 52.5 | 44.5 | 36.2 |
| 4 | Difference with 50% efficiency gains (10% p.a.) ^c | 48.6 | 50.8 | 36.7 | 26.7 | 18.1 |
| 5 | Difference with 100% efficiency gains (20% p.a.) ^d | 43.2 | 38.1 | 21.0 | 8.9 | 0.0 |
| 6 | Opex costs with 50% efficiency gains ^e | 284.1 | 289.8 | 279.4 | 273.3 | 269.2 |
| 7 | Opex costs with 100% efficiency gains ^f | 278.7 | 277.1 | 263.6 | 255.5 | 251.1 |

- (a) At the time this analysis was provided to RSM Bird Cameron, decision inputs were not completely finalised. However, they are closely reflective of the final decision inputs.
- (b) This is equal to item 2 less item 1
- (c) This is equal to item 3 reduced by 10 per cent per year. For example: $48.6 = 54.0 * (100-10)\%$. Then, $50.8 = 63.5 * (100-10-10)\%$ etc.
- (d) This is equal to item 3 reduced by 20 per cent per annum using the approach as described in note (c).
- (e) This is equal to item 1 + item 4
- (f) This is equal to item 1 + item 5.

Hybrid tax allowance

The PTRM includes calculations of the benchmark tax allowance. These are based on the tax revenues and tax expenses generated within the building blocks multiplied by the benchmark rate of corporate taxation, less the value of imputation credits. However, to more accurately model the short term financial obligation imposed by tax, we have made the following adjustments:

- On the revenue side - rather than the internally generated revenue within the distributors' revised proposal PTRMs, we have used the smoothed revenue from our decision to calculate tax
- On the revenue side - further, while redeemed imputation credits ultimately provide a return to equity holders, they do so after the service provider has had to pay the face value of tax. Therefore, we have excluded the value of imputation credits from the tax allowance cash flows estimate. This has the effect of understating the final return to equity holders in years where the service providers pay tax.
- On the expenditure side - however, to recognise the costs that the service provider proposes to face, we have used its proposed tax expenses.

Interpretation of the regulatory depreciation allowance

Under the building block revenue framework, service providers recover a regulatory depreciation allowance. This allowance returns to the service provider the face value of its capital investment over time. This can then be:

- used to pay the face value of debt as it is retired
- distributed to equity holders to return the face value of their initial investment.

However, the service provider has flexibility to use its depreciation allowance to fund short term costs. Where the service provider faces cash flow issues, it could therefore use the depreciation allowance in the short term to manage these issues. We advised RSM Bird Cameron that this was a reasonable assumption to use in its analysis.

RSM Bird Cameron has estimated both operating cash flows and cash flows prior to external equity raised to exclude the regulatory depreciation allowance. It has then addressed in its conclusions the extent to which Endeavour Energy would need to use a proportion of its regulatory depreciation allowance to fund its short term financial obligations. We are satisfied that this interpretation of the depreciation allowance is reasonable, and that RSM Bird Cameron's conclusions make reasonable use of the assumptions provided.