



FINAL DECISION
Energex determination 2015–16
to 2019–20

Attachment 7 – Operating
expenditure

October 2015

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Note

This attachment forms part of the AER's final decision on Energex's 2015–20 distribution determination. 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

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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

Shortened form	Extended form
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
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

7 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 is one of the building blocks we use to determine a service provider's total revenue requirement.

We are satisfied that Energex's total forecast operating expenditure (opex) of \$1,703.8 million (\$2014–15) for the 2015–20 regulatory control period reasonably reflects the opex criteria.¹ This is the same position we reached in our preliminary decision. The opex forecast we approve (and Energex proposed) is outlined in Table 7.1.

Table 7.1 AER preliminary and final decision on Energex total opex (\$ million, 2014–15)

	2015–16	2016–17	2017–18	2018–19	2019–20	Total
Energex's proposal (AER final decision)	336.0	332.6	337.2	348.0	350.0	1703.8

Source: Energex regulatory proposal.

Note: Excludes debt raising costs.

Energex based its opex on its actual opex in 2012–13 with various adjustments.² In our preliminary decision, we tested Energex's opex forecast by comparing it to an alternative opex forecast we developed ourselves. In developing our alternative estimate, we considered that Energex's revealed expenditure in 2012–13 was not an appropriate starting point for a total opex forecast that we would be satisfied reasonably reflects the opex criteria.³ We instead based our alternative opex forecast on an estimate which relied partly on benchmarking. However, as a result of Energex's forecast productivity improvements and other adjustments, its proposed total forecast opex was 7 per cent lower than ours over the 2015–20 regulatory control period.⁴

Energex did not raise issue with our position in the preliminary decision in its revised regulatory proposal.⁵ Further, the submissions we received from Energex and other

¹ NER, cl. 6.5.6(c) and 6.12.1(3)(i).

² AER, *Preliminary Decision, Energex determination 2015–16 to 2019–20, Attachment 7 – Operating expenditure*, April 2015, p. 7-28 and Appendix B.

³ AER, *Preliminary Decision, Energex determination 2015–16 to 2019–20, Attachment 7 – Operating expenditure*, April 2015, pp. 7-23–7-27 and Appendix A.

⁴ AER, *Preliminary Decision, Energex determination 2015–16 to 2019–20, Attachment 7 – Operating expenditure*, April 2015, pp. 7-21–7-23.

⁵ Energex, *Revised Regulatory Proposal*, 3 July 2015, p. 68.

stakeholders did not cause us to depart from our position in the preliminary decision.⁶ We address the issues raised in submissions below.

7.1 Submissions

Whilst Energex did not contend our position in the preliminary decision, it did raise issues with our assessment approach and our use of benchmarking. Specifically, Energex submitted that:

- we applied our benchmarking techniques in a ‘deterministic’ manner
- the differences across distributors means that the data cannot be easily normalised
- the data that we used is not of sufficient quality
- we relied heavily on benchmarking at the expense of closer consideration of Energex’s initial regulatory proposal.⁷

Other stakeholders did contend our position in the preliminary decision.⁸ They raised issues with:

- our position to accept Energex’s proposed total forecast opex for the 2015–20 regulatory control period
- our choice of the benchmark comparison point
- the operating environment factor (OEF) adjustments we applied
- our position on Energex’s rate of change.⁹

As we discuss below, these issues do not affect the reasons that we set out in the preliminary decision.

⁶ Energex, *Revised Regulatory Proposal*, 3 July 2015, pp. 68 and 69; Alliance of Electricity Consumers, Submission to Energex and Ergon Energy’s Revised Regulatory Proposals (Queensland): AER Regulatory Determination 2015–2020, 24 July 2015, p. 10; Energy Users Association of Australia, *Submission to the AER: Draft Determination for Energex & Energex Revised Proposal, Energex 2015–2020 Regulatory Control Period*, 24 July 2015, pp. 8–10; Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 4, 5, 8 and 43–64.

⁷ Energex, *Revised Regulatory Proposal*, 3 July 2015, p. 69.

⁸ Alliance of Electricity Consumers, Submission to Energex and Ergon Energy’s Revised Regulatory Proposals (Queensland): AER Regulatory Determination 2015–2020, 24 July 2015, p. 10; Energy Users Association of Australia, *Submission to the AER: Draft Determination for Energex & Energex Revised Proposal, Energex 2015–2020 Regulatory Control Period*, 24 July 2015, pp. 8–10; Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 4, 5, 8 and 43–64.

⁹ Alliance of Electricity Consumers, Submission to Energex and Ergon Energy’s Revised Regulatory Proposals (Queensland): AER Regulatory Determination 2015–2020, 24 July 2015, p. 10; Energy Users Association of Australia, *Submission to the AER: Draft Determination for Energex & Energex Revised Proposal, Energex 2015–2020 Regulatory Control Period*, 24 July 2015, pp. 8–10; Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 4, 5, 8 and 43–64.

7.1.1 Our assessment approach and use of benchmarking

We disagree with Energex's submission that we applied our benchmarking techniques deterministically and that we did so at the expense of its proposal. Energex appears to have misunderstood how we used our benchmarking techniques to assess its proposal.

The NER require us to undertake two tasks in respect of Energex's total forecast opex. In undertaking the first task we form a view about whether we are satisfied Energex's proposed total opex forecast reasonably reflects the opex criteria.¹⁰ If we are satisfied, we accept the service provider's forecast.¹¹ In undertaking the second task we determine a substitute estimate of the required total forecast opex that we are satisfied reasonably reflects the opex criteria.¹² We only undertake the second task if we arrive we are not satisfied the service provider's total opex forecast reasonably reflects the opex criteria.

Our assessment began with Energex's proposal. This involved us assessing its proposed base year opex, step changes and rate of change. We also developed an alternative estimate to assess Energex's proposal at the total opex level.

In the first task we assessed whether Energex's proposed base year opex was an appropriate starting point for a total forecast opex that we would be satisfied reasonably reflects the opex criteria. We did so by testing Energex's proposed base year opex using a number of qualitative and quantitative assessment techniques to determine if it was materially inefficient. Each result independently informed us about whether Energex's proposed base year opex would be an appropriate starting point for a total forecast opex that we would be satisfied reasonably reflects the opex criteria. Of these techniques, the results of the Cobb Douglas Stochastic Frontier Analysis (CD SFA) model together with the OEF adjustments that we applied are in our view the best method to measure any material inefficiency. This is the same analysis that we applied in determining the level of base year opex in our alternative estimate.

In the preliminary decision, each of the results of the techniques that we applied confirmed that Energex's base year opex was materially inefficient. A total forecast opex based on that base year opex would exceed that required to meet the realistic expectation of demand forecasts and cost inputs.¹³ It was therefore not an appropriate starting point to determine a total forecast opex allowance that we would be satisfied reasonably reflects the opex criteria. We therefore adjusted Energex's proposed base year opex by the material inefficiency that we identified based on the results of the CD SFA model together with the OEF adjustments that we applied.

¹⁰ NER, cl. 6.5.6(c).

¹¹ NER, cll. 6.5.6(c) and 6.12.1(4)(i).

¹² NER, cll. 6.5.6(d) and 6.12.1(4)(ii).

¹³ AER, *Preliminary Decision Ergon Energy determination 2015-16 to 2019-20: Attachment 7 – Operating expenditure*, April 2015, p. 7-45.

It follows that we did not apply any one of our qualitative or quantitative techniques deterministically. Nor did we rely on benchmarking at the expense of closely considering Energex's proposal.¹⁴ Indeed, in both the tasks that the NER requires to undertake, we began with Energex's proposal.

7.1.2 Benchmark comparison point

We have considered in detail the submissions that raised issue with our choice of the benchmark comparison point that we used to develop our alternative estimate of Energex's opex.¹⁵ The Consumer Challenge Panel (CCP) submitted that we should have chosen a benchmark comparison point equal to that of the efficient frontier business, CitiPower. The Energy Users Association of Australia submitted that the lowest performing service provider at the bottom of the top quartile was United Energy Distribution at 0.84 and not AusNet Services at 0.77.

First, our choice of a benchmark comparison point of 0.77 reflects the advice that we received from Economic Insights following our draft decisions for the NSW/ACT distribution determinations.¹⁶ Ofgem, the energy network regulator in the United Kingdom has applied different approaches in benchmarking electricity and gas networks to account for possible data quality issues. Having regard to these different approaches, Economic Insights concluded that it was appropriate to adopt a comparison point of the distributor at the bottom of the top third of actual efficiency scores (0.77), rather than the bottom of the top quartile of actual efficiency scores (0.84). In our view, a benchmark comparison point of 0.77 rather than 0.84 also strikes the right balance having regard to the following considerations:

- making an adjustment that sufficiently removes any material inefficiency from the revealed expenditure
- incorporating a margin for potential forecasting, modelling and data errors
- avoiding the risk of undercompensating a service provider
- providing a service provider with a reasonable opportunity to recover at least the efficient costs of providing services
- exercising caution, given this is the first application of benchmarking opex in this manner for Energex.¹⁷

¹⁴ c.f. Ergon Energy, *Submission to the AER on its Preliminary Determination: Base Year Opex*, 3 July 2015, pp. 5 and 26.

¹⁵ Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 47 and 48; Energy Users Association of Australia, *Submission to the AER: Draft Determination for Energex & Energex Revised Proposal, Energex 2015–2020 Regulatory Control Period*, 24 July 2015, p. 10.

¹⁶ Economic Insights, *Responses to Consultants' Reports on Economic Benchmarking of Electricity DNSPs*, April 2015, pp. 65 and 66.

¹⁷ In balancing these considerations, we have had regard to the RPP: NEL, s. 7A.

Second, adopting a benchmark comparison point of the distributor at the efficient frontier, CitiPower would not provide for any margin or allowance for the considerations we referred to above. It would therefore not be appropriate to adopt CitiPower as the benchmark comparison point.

We therefore maintain our choice of 0.77 as the benchmark comparison point is the appropriate point of comparison to use in our alternative opex forecast.

7.1.3 Data issues

Energex submitted that there are issues with the data we used in the CD SFA model. Specifically, that the differences across distributors means that the data cannot be easily normalised and that the data that we used is not of sufficient quality.

We do not agree. The OEF adjustments we applied account for the differences that the CD SFA model does not account for. For those differences that the CD SFA model accounts for, it is telling that the results of the CD SFA model are consistent with the results of different benchmarking models, econometric estimation techniques, functional forms, output specifications and datasets.¹⁸ If the data we used could not be easily normalised or is not of sufficient quality, this would not be the case. Nor would this be the case if the statistical testing of the CD SFA model that we undertook did not show that the parameters were of the expected sign, the estimates have plausible values and are statistically significant and the associated confidence intervals are relatively narrow. As we discuss in Ergon Energy's final decision, the statistical testing of the CD SFA model that we undertook did demonstrate these results.¹⁹

7.1.4 Rate of change

The CCP raised issues regarding our position in the preliminary decision on Energex's rate of change. The CCP submitted that:

- we did not explain why our forecast price growth for Queensland is double the rate of South Australia
- the electricity network sector is contracting and therefore labour forecasts are too high and should be reducing rather than increasing
- our zero productivity forecast is inconsistent with the positive productivity improvements that Energex proposed, and our forecast positive productivity for gas distribution and electricity transmission.²⁰

¹⁸ Economic Insights, *Response to Ergon Energy's Consultants' Reports on Economic Benchmarking*, 12 October 2015, p.10.

¹⁹ AER, *Final decision Ergon Energy distribution determination 2015-16 to 2019-20: Attachment 7 – Operating expenditure*, October 2015, section A.4.

²⁰ Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 55, 57, 60 and 61.

First, it is misleading to compare our estimate of labour wage growth in Queensland utilities in our preliminary decision to South Australia. Our forecast labour price growth in the preliminary decision was based on the average of the labour price forecasts prepared by Deloitte Access Economics (DAE) and PricewaterhouseCoopers (PwC). This approach could not be applied in the preliminary decision for SA Power Networks because comparable labour forecasts for the purposes of averaging were not available. However, SA Power Networks has since provided a comparable forecast in its revised regulatory proposal. We have adjusted our forecast labour price growth to reflect our preferred methodology of averaging the consultant forecasts of wage price index (WPI) for the utilities sector. This results in an estimate of labour wage growth in the South Australian utilities sector for the 2015–20 regulatory control period of 0.93 per cent per annum, as compared to 0.65 per cent per annum in the Queensland utilities sector.

Second, we consider it does not follow that labour price forecasts are too high and should be reducing. Taking into account current macroeconomic conditions, both DAE and PwC have forecast utility sector wage growth in Queensland to increase in real terms over the 2015–20 regulatory control period. We consider averaging these two forecasters' predictions leads to the best estimates available of labour price forecasts in the Queensland utilities sector.

Finally, there is no inherent reason why our estimate of productivity should necessarily be consistent with the positive productivity improvements that Energex proposed, or our forecast of positive productivity for gas distribution and electricity transmission. As we stated in the Guideline, our productivity forecast accounts for frontier shifts and economies of scale. It does not account for any efficiency catch up.²¹ In the case of Energex, its forecast productivity relates to efficiency catch up. We have accounted for this in our adjustment of Energex's base year opex. Further, electricity distribution productivity has declined over the 2006–13 period. Despite the models that measure productivity in gas distribution and electricity transmission being similar to the models that measure productivity in electricity distribution, we cannot disregard this decline. To this end, we note that Economic Insights is of the view that the recent trend of negative productivity growth is unlikely to continue and a zero productivity forecast was reasonable in the short term.²² We agree with this view. In the preliminary decision we outlined why we did not expect this decline to continue.²³

7.1.5 OEF adjustments

The CCP raised a number of issues on the OEF adjustments that we made in the preliminary decision. The CCP submitted that the OEF adjustments we applied were

²¹ AER, *Better Regulation Explanatory Statement Expenditure Forecast Assessment Guideline*, November 2013, pp. 189 and 190.

²² Economic Insights, *Response to Consultants' Reports on Economic Benchmarking of Electricity DNSPs*, 22 April 2015, p. 71.

²³ AER, *Preliminary Decision Energex determination 2015-16 to 2019-20: Attachment 7 – Operating expenditure*, April 2015, pp. 294–297.

arbitrary and in excess of that required to account for potential modelling and data errors.²⁴ For the following reasons, we do not agree with this submission.

First, we have systematically investigated over 60 OEF adjustments. The consultation we undertook in doing so was comprehensive.²⁵ This ensures that our benchmarking is robust so that the base year opex properly reflects, among other things, the realistic expectations of cost inputs that a prudent operator would require to achieve the opex objectives. Whilst we recognise that the OEF adjustments we will apply in future processes will evolve over time, we do not accept that the OEF adjustments that we applied to Energex in the preliminary decision (and in this final decision) were arbitrary.

Second, the NEL and the NER require us to balance the interests of both Energex and consumers.²⁶ This includes providing Energex with a reasonable opportunity to recover at least its efficient costs.²⁷ In circumstances where this is the first application of benchmarking for Energex and that to some extent, all models are susceptible to errors, we maintain our view that the approach we have applied is appropriate and sufficiently conservative to avoid the risks of undercompensating Energex whilst promoting efficient incentives. Further, in light of these circumstances, we were not provided with any evidence that demonstrates to us that our approach leads to over-compensating Energex to the detriment of consumers.

²⁴ Hugh Grant, *Consumer Challenge Panel (CCP2 Panel) Submission AER Preliminary 2015-20 Revenue Determinations Energex and Ergon Energy Revised Revenue Proposals*, 3 September 2015, pp. 49–52.

²⁵ Our consultation began in December 2012: AER, *Expenditure Forecast Assessment guidelines for electricity distribution and transmission: Issues Paper*, December 2012.

²⁶ NEL, ss. 7 and 7A.

²⁷ NEL, s. 7A(2).