Attachment 6: Operating expenditure

Regulatory proposal for the ACT electricity distribution network 2019–24
January 2018

evoenergy

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Key points

Evoenergy has achieved substantial reductions in operating expenditure (opex) over the 2014–19 regulatory control period. Total Standard Control Services (SCS) opex for the period is expected to be $281.4[1] million ($2018/19) which is over 20 per cent less than the previous regulatory control period and only five per cent higher than the Australian Energy Regulator's (AER's) 2015 final decision,[2] which is currently being remade.

In achieving these savings, Evoenergy has been able to maintain its safety performance, but the opex reductions have resulted in some deterioration to network reliability performance.

Evoenergy's forecast of opex required for 2019–24 to achieve the opex objectives under the National Electricity Rules (Rules) is $308.9 million[3] which is less than 10 per cent higher than opex over the 2014–19 period.

Evoenergy has adopted a base-step-trend approach for forecasting SCS opex as this approach ensures the forecast reflects the opex criteria under the Rules. This method uses opex in a *base* year which reflects efficient and recurrent costs, applies a rate of change (or *trend)* to this opex to account for changes in output and cost inputs, and adjusts this to account for future *step* changes in Evoenergy's circumstances and operating environment over the 2019–24 regulatory control period.

The forecast uses 2017/18 as the base year as this is the most efficient starting point to forecast opex over the 2019–24 regulatory control period. Opex[4] in the base year is lower than the AER's forecast for opex in the same year included in its 2015 final decision.

Evoenergy has applied an approach consistent with that used by the AER in recent decisions to trend its base year opex, resulting in a forecast average annual growth to base opex of 2.1 per cent over the next regulatory control period.

The forecast includes two step changes: one driven by changes to vegetation clearance responsibilities in the Australian Capital Territory (ACT) and the other being an efficient trade-off between capital expenditure (capex) and opex for demand management in a new urban development area.

[1] Excluding anticipated cost pass through amounts, debt raising costs and the Demand Management Innovation Allowance (DMIA).

[2] AER 2015, Final decision, ActewAGL's distribution determination 2015-16 to 2018-19, April

[3] Excluding debt raising costs and the DMIA.

[4] Excluding anticipated cost pass through amounts, debt raising costs and the DMIA.

6.1 Overview

Over the 2014–19 regulatory control period Evoenergy[5] has been through significant change and reform as a business. The extent and speed of these changes was necessitated by the AER's 2015 final decision on opex and the uncertainty surrounding the outcome, following an appeal to the Australian Competition Tribunal and Federal Court on several matters, including opex, which resulted in the AER's decision being set aside. This is now in the process of being remade by the AER.

During the 2014–19 regulatory period Evoenergy has reduced average annual opex by over 20 per cent compared to the 2009–14 period,[6] and has reduced average staff levels by 20 per cent between 2013/14 and 2016/17. During this time, Evoenergy has been able to maintain its safety performance, but the opex reduction has resulted in some deterioration to network reliability performance.

The 2019–24 regulatory control period will see Evoenergy consolidate the efficiencies achieved and continue its evolution as it adapts to the ongoing and dynamic National Electricity Market reforms and technological advancements driving industry change for all market participants. This continuous efficiency drive will be achieved while maintaining the quality, reliability and security of supply of SCS to its customers, and Evoenergy's forecast opex reflects efficient costs.

Evoenergy's 2019–24 opex forecast of $308.9 million is less than 10 per cent higher than its total opex over the 2014–19 regulatory control period. This increase has been driven by:

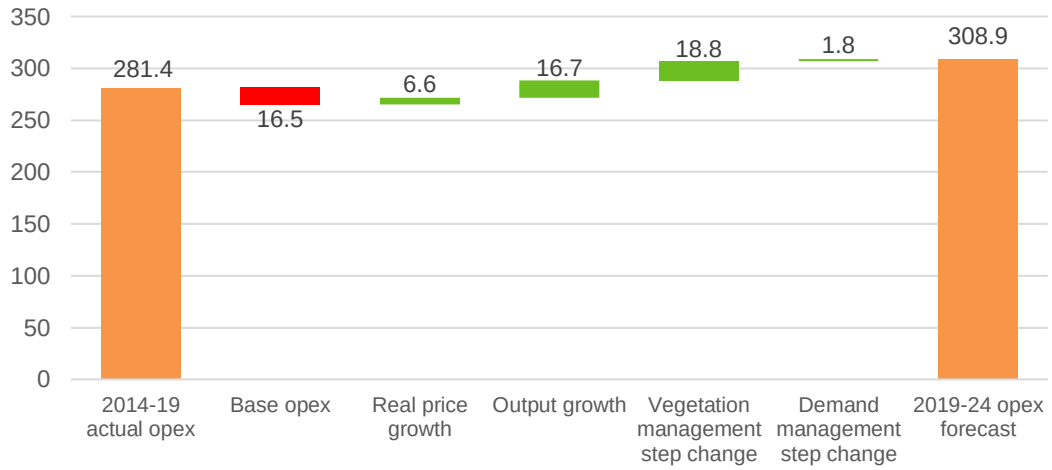
- an opex base starting point that is lower than the AER's opex forecast for the 2017/18 base year included in its 2015 final decision and Evoenergy's average annual opex during the 2014–19 regulatory control period, which somewhat offsets the increases driven by the factors outlined below;
- additional efficient opex to account for changes in opex driven by real input price and output growth; and
- step changes for:
  - increased vegetation management obligations associated with amendments to the *Utilities (Technical Regulation) Act 2014* (ACT); and
  - an efficient trade-off between capex and opex to manage demand growth in new urban land development.

The bridge between Evoenergy's 2014–19 actual opex and its forecast for the 2019–24 regulatory control period is shown in Figure 6.1.

[5] ActewAGL Distribution's energy networks business was rebranded as Evoenergy from 1 January 2018 in accordance with the AER's Ring-fencing Guidelines.

[6] Compared to actual opex in 2009–14 when recast using the 2012 cost allocation methodology (CAM) (updated from the 2008 CAM) and service classification to ensure a like-for-like capitalisation approach for comparative purposes.

Figure 6.1 2014–19 and 2019–24 opex bridge ($ million, 2018/19)



Having been through a period of significant change, Evoenergy now looks ahead to stability and regulatory certainty to allow it to focus on maintaining service levels and responding to changes occurring in the energy market.

Over the next regulatory period and into the future, the industry in which Evoenergy operates will continue to evolve and be driven by consumers embracing new technologies and taking more control of their energy use.

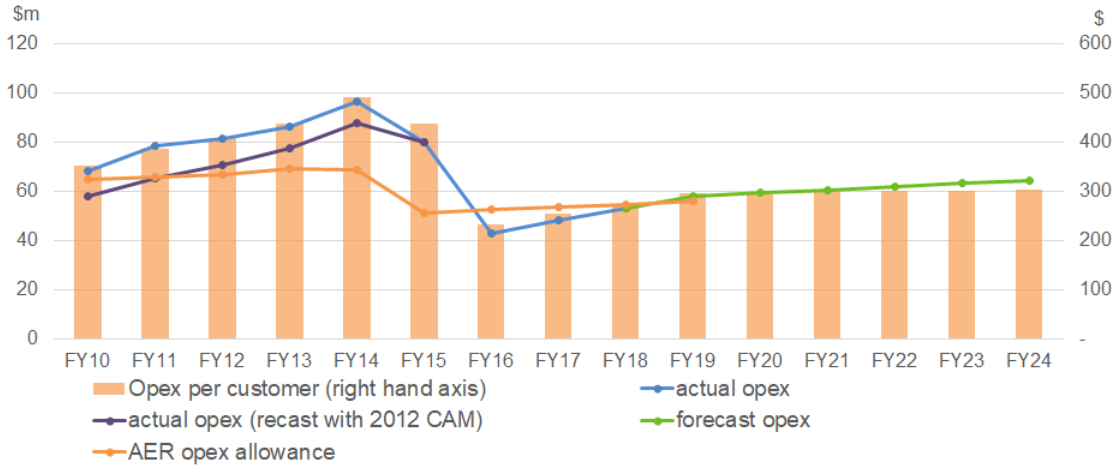
Evoenergy's opex forecast provides for its service levels to be maintained and regulatory obligations to be met, while continuing to drive efficiency and agility to respond to these industry changes.

In recognising energy cost pressures and responding to customer feedback regarding the importance of certainty and predictability (see Table 6.1), Evoenergy's opex forecast stabilises average opex per customer at $299 per year over the 2019–24 period, down from a peak of $491 per customer in 2013/14.

Figure 6.2 illustrates this future stability, showing Evoenergy's opex performance (shown both in terms of actual opex and when actual opex is recast using Evoenergy's current cost allocation method (CAM)[7] and service classification for comparative purposes) against the AER's opex allowance over the 2009–14 and 2014–19 regulatory control periods, as well as the forecast for 2019–24 on the left hand axis, and average opex per customer (orange bars) on the right hand axis.

[7] Evoenergy's current CAM is described in "ActewAGL Distribution cost allocation methodology, November 2012" which was approved by AER under the Rules clause 6.5.4 (c) in June 2013. The document will be updated before the 1 July 2018 to reflect the requirements of the AER's Ring-fencing Guideline published in October 2017 and explicitly account for gas distribution networks, gas facilities and organisational changes arising from the creation of separate legal entities. Evoenergy's methodology of allocating costs for the electricity distribution business is not expected to change.

Figure 6.2 Multi-period opex profile ($2018/19)



6.2 Consumer feedback

Consumer engagement has played an important role in developing Evoenergy's regulatory proposal. Evoenergy has engaged with consumers via a number of methods to obtain and provide insight into the opportunities and challenges associated with the next five-year plan, including consumer publications, presentations to, and feedback from the Energy Consumer Reference Council, consumer workshops, consumer interviews, written submissions from stakeholder groups, online surveys and social media promotion.

The key themes of consumer feedback and how these have been factored into Evoenergy's opex forecast are presented in Table 6.1.

Table 6.1 How Evoenergy's opex forecast takes into account consumer feedback

Theme of consumer feedback	Examples of how these views are reflected in the opex forecast
Importance of strong consumer involvement in the regulatory submission process; building understanding of the electricity sector and the regulatory process as informed and engaged customers will make a valuable contribution.	Evoenergy has consulted with consumers throughout the development of its regulatory proposal to understand their concerns and preferences and has taken these into consideration when preparing its opex forecast.
Predictability and certainty across many aspects of Evoenergy's five-year plan is important, particularly with respect to price changes.	The opex forecast provides for safe, reliable distribution services and includes only minor increases across the period, which results in stable opex per customer over the regulatory control period, contributing to price stability.

Theme of consumer feedback	Examples of how these views are reflected in the opex forecast
Technology has the potential to be an important enabler for the electricity network and should play a role in the future of Evoenergy; with the potential to provide innovation solutions and cost-effective outcomes.	Technology has played an important role in Evoenergy achieving opex efficiencies in recent years and will continue to do so as it moves forward in an evolving industry. Evoenergy's opex forecast reflects the expectation that further efficiencies enabled by technology adoption, such as moving to cloud-based storage services and improved access to network data, will be achieved and will offset additional administrative costs incurred as a result of industry changes such as higher solar photovoltaic and battery storage penetration.
The cost/reliability trade-off approach with respect to opex currently adopted by Evoenergy is supported by customers.	Evoenergy's reduced program of works, including less frequent inspections and maintenance on selected assets based on risk assessments, responds to consumer feedback on the cost/reliability trade-off by ensuring reliability is maintained at the lowest sustainable cost.
Maintaining security of supply is important, particularly during the adoption of new technology.	The opex forecast has been prepared on a basis that ensures the security of supply is maintained. Evoenergy will ensure that this is maintained when innovative non-network solutions are deployed through careful selection of technologies and vendors as well as phased introduction of non-network solutions.

6.3 Opex categories

Evoenergy groups its SCS opex into the categories shown in Table 6.2. Evoenergy's expenditure forecasting methodology[8] details the categorisation of costs. Alternative Control Services opex is addressed in Attachment 14 (Alternative Control Services).

[8] ActewAGL Distribution 2017, *Expenditure forecasting methodology*, June

Table 6.2 Evoenergy's SCS controllable opex categories

Opex category	
Maintenance	Zone substation maintenance
	Transmission maintenance
	Property services
	Distribution maintenance
	Secondary systems maintenance
Vegetation management	Vegetation management
Emergency response	Emergency response
Non-network	IT support
Network overheads	Systems control
	Fault call centre
	Strategy and planning
	Network analysis and planning
	Electrical standards
	Regulatory & National Electricity Market operations
	Apprenticeships and engineers training
	Customer service
	Advertising & marketing
	Business overhead
	Recoveries
Corporate overheads	Corporate services

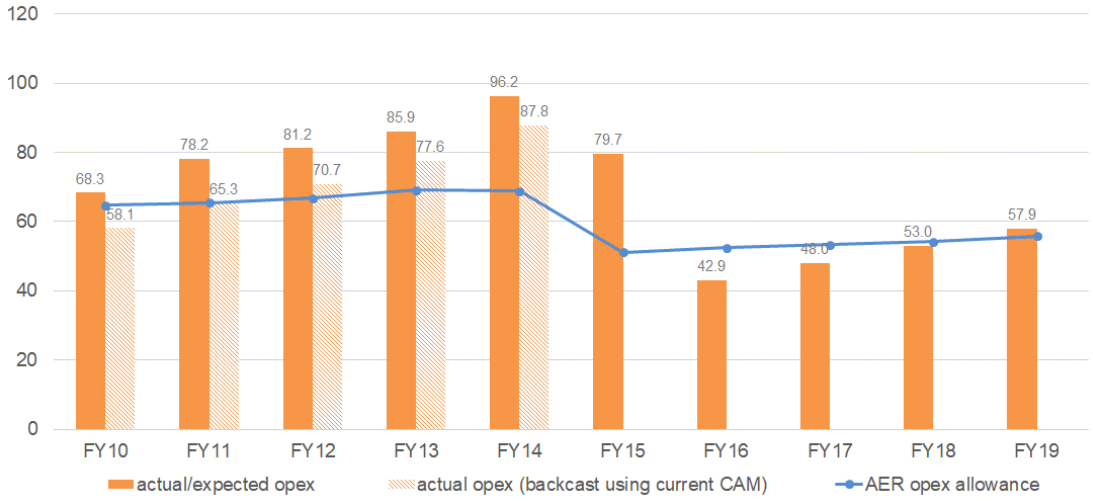
6.4 Historical operating expenditure

6.4.1 Performance

Evoenergy's opex over the 2014–19 period was significantly lower than levels expected in the revised regulatory proposal for the period, over 20 per cent lower than actual expenditure over the previous 2009–14 regulatory control period,[9] and only five per cent higher than the AER's 2015 final decision allowance, which is yet to be remade. Further, opex in Evoenergy's proposed base year is lower than the AER's opex forecast for 2017/18 included in its 2015 final decision. The savings achieved will be shared with Evoenergy's customers over the long term.

Figure 6.3 summarises Evoenergy's opex performance over the 2009–14 and 2014–19 regulatory control periods against the AER's allowances in these periods. Opex in the 2014–19 regulatory control period is expected to be $281.4 million.[10]

Figure 6.3 Evoenergy's actual opex performance against AER allowances 2009/10 – 2018/19 ($ million, 2018/19)



1. The 2014–19 opex allowance has been remitted to the AER to be remade and this process is ongoing.
2. Actuals cover the period up to October 2017, with budget estimates for the remainder of 2017/18 and a forecast estimate using base-step-trend approach for 2018/19 consistent with Evoenergy's forecasting approach for 2019–24.
3. The significantly lower level of opex in 2015/16 is due to a number of extenuating one-off factors.[11]

[9] When 2014–19 opex is recast using the current (2012) cost allocation methodology to ensure a like-for-like capitalisation approach for comparative purposes.

[10] Excluding anticipated pass through event costs.

[11] These factors include:

- a reversal in 2015/16 for provisions made in 2014/15 for redundancy payments and workers compensation payments which were not required; and
- receipt of a one-off payment from Icon Water in accordance with the terms of the Corporate Services Agreement for adjustments to services provided under the Agreement.

6.4.1.1 Main areas of opex savings

To move to a much lower opex base than levels in the 2009–14 regulatory control period, Evoenergy undertook a significant business transformation process. The following changes have been the main drivers of the opex savings achieved.

- **Restructuring and reducing the workforce**

Evoenergy undertook an extensive restructuring process, resulting in a considerable reduction in Evoenergy's workforce. Average staffing levels were reduced by 20 per cent between 2013/14 and 2016/17. Higher levels of opex in 2013/14 and 2014/15 were driven by costs to undertake this restructuring, mostly relating to redundancy payments.

- **Process reengineering and asset management optimisation**

Evoenergy has focused on reengineering its processes and optimising asset management practices to re-establish a sustainable opex base.

This has resulted in the program of works being reduced, including less frequent inspection and maintenance on selected assets (subject to risk assessment), as well as discontinuation of inspections of some lower risk assets (such as minipllars).

Savings have also been achieved in vegetation management as the result of using new technology (LIDAR) and new contractual arrangement with vegetation contractors.

- **Investment in systems technology**

Evoenergy has undertaken a business-wide systems replacement program, including significant asset information system investment. This program included:

- implementing an Advanced Distribution Management System (ADMS) to provide a single platform for network planning and operations in a real-time environment;
- Velocity as the new meter data and billing system;
- Cityworks as the new works management system;
- RIVA as the new asset management data base and decision support tool;
- ArcFM Designer as the new geographical information system linked to the ADMS.

Details of this replacement program are provided in section 5.12 of Attachment 5 (Capital expenditure). These systems have been instrumental in driving opex savings by enabling increased automation, process reengineering and asset management optimisation.

- **Reductions in overtime**

Evoenergy has significantly reduced overtime hours. Savings in opex overtime have been facilitated in part by the reduction in maintenance activities; however, it has contributed to an increased response time to network outages.

- **Reductions to investment in staff (skills and capability)**

In making such an immediate transition to a lower opex base, Evoenergy has had to significantly reduce investment in developing the skills and capability of its staff, in particular training, and recruitment of apprentices, cadets and graduates. As Evoenergy embeds a more stable operating base and continues to target efficiency improvements through technology adoption, it will re-evaluate investment in its people to ensure its long-term sustainable workforce needs are met.

6.4.1.2 Impact of opex reductions on risk and performance

In reducing opex to the extent achieved, safety and environmental management have been prioritised such that performance in these areas has not deteriorated.

However, since the time of the reductions, network reliability performance has deteriorated, suggesting that the risk associated with maintaining a reliable supply has increased on Evoenergy's network. As discussed in section 10.4 of Attachment 10 (Incentive schemes), Evoenergy's performance against key reliability metrics, including System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI), deteriorated over the period. The two areas in particular where the expenditure reductions have caused a degradation in SAIDI are:

- an increase in the average outage restoration time due to lack of availability of field crews to attend events; and
- an increase in the backlog of critical reliability defects due to initial transition issues associated with business restructuring and staff reductions.

However, the exact extent of the impact of reduced inspection and maintenance regimes on safety and reliability over the medium to long term is not yet clear. The effect of a transition to extended inspection and maintenance cycles on safety and reliability performance will not necessarily be observable until the completion of the respective cycles. Evoenergy will continue to monitor the impact of these changes as well as improvements in technology that could be implemented to address any resulting deterioration on safety and reliability performance.

Evoenergy is taking efficient measures to stabilise its network reliability performance, focusing on capex investment in automated fault isolation and restoration on its worst performing feeders.

6.5 Approach to forecasting opex

6.5.1 Opex forecasting method

Evoenergy has adopted a *base-step-trend approach* for forecasting controllable opex for SCS. The steps taken to develop Evoenergy's opex forecast for the 2019–24 regulatory control period are outlined in Figure 6.5.

Figure 6.4 Opex forecasting method

Step 1: Select the base year

Evoenergy has selected 2017/18 as the base year for developing its opex forecast for the 2019–24 regulatory control period. As this financial year is only part way through at the time of submitting this regulatory proposal, a combination of year-to-date actuals and budget to year end has been used for this purpose. The reasons for selecting this base year are detailed in sections 6.6.1 and 6.6.3.

Step 2: Make adjustments to base year opex for non-recurrent costs

Adjustments were made to base year opex to account for any non-recurrent costs incurred in the year to ensure the base year opex used for forecasting reflects the opex criteria,[12] as explained in section 6.6.2.

Step 3: Make annual adjustments to account for real price change, output growth and productivity growth to trend base opex across the access arrangement period

Once base opex had been established, adjustments were made to trend the adjusted base year opex forward. These include:

- real change in input prices to account for annual changes in the price of labour beyond that of inflation, as explained in section 6.6.4.1; and
- change in opex required as a result of growth in output and productivity, as explained in sections 6.6.4.2 and 6.6.4.3.

Step 4: Add step changes

Efficient foreseeable costs not reflected in base opex or trending were then added to the opex forecast as step changes. Evoenergy's proposed step changes are detailed in section 6.6.5.

6.6 Key forecast inputs and assumptions

6.6.1 Selection of base year for opex forecast

Evoenergy has used 2017/18 as the base year for developing its opex forecast for 2019–24. The combination of year-to-date actuals and budget estimates to year end in this year best reflects the opex criteria and provides the best basis for forecasting opex. This is the most recent year of available opex data and, as discussed in section 6.6.3, Evoenergy has tested the efficiency of opex in this year.

Use of 2017/18 opex, being the penultimate year, is consistent with the AER's typical approach for forecasting opex when an efficiency benefit sharing scheme (EBSS) is in place. Evoenergy notes that a decision for the 2014–19 regulatory control period is yet to be remade. Such a decision might include reinstatement of the EBSS, which was not included in the AER's 2015 final decision. Accordingly, Evoenergy can be expected to be acting on the incentives created by the EBSS in incurring opex in 2017/18, as there is a possibility of this scheme being applied retrospectively.

6.6.2 Base year adjustments

To establish the efficient base year opex for controllable costs, base opex has been adjusted to remove non-recurrent costs.

These are costs associated with implementation of Power of Choice reforms and the changes required by the AER's new Ring-fencing Guideline, which Evoenergy anticipates recovering as cost pass through events. These adjustments are set out in Table 6.3.

[12] Rules, clause 6.5.6(c).

Table 6.3 Base year opex

Base opex ($ million, nominal)	**54.80**
Less cost pass throughs:	
Power of Choice ($ million, nominal)	-1.19
Ring fencing implementation ($ million, nominal)	-2.18
Adjusted base opex ($ million, nominal)	51.43
Base opex for forecasting purposes ($ million, June 2019)[13]	**52.98**

6.6.3 Efficiency of base year opex

Evoenergy has used 2017/18 as the base year for developing its opex forecast for 2019–24. Evoenergy's expenditure in this year is consistent with the costs incurred by a prudent service provider acting efficiently. Evoenergy has considered a range of evidence in assessing the efficiency and prudency of this opex including:

- revealed costs in the base year and comparison to the AER's position on an efficient level;
- top-down and bottom-up benchmarking;
- bottom-up check of maintenance expenditure; and
- internal process and governance prudency.

These are discussed below.

6.6.3.1 Revealed costs in the base year

The 'revealed cost' approach is the AER's preferred approach to assessing base opex.[14] Evoenergy shares this preference. The combination of year-to-date actuals and budget estimates to year end in this year best reflects the opex criteria and provides the best basis for forecasting opex. This is the most recent year of available opex data.

Opex in 2017/18 is expected to be in line with the AER's forecast of efficient opex included in its 2015 final decision, which set the 2017/18 efficient opex forecast at $54.3 million ($2018/19).[15] The expected adjusted[16] opex in this year of $53.0 million is 2.4 per cent below the AER's forecast level. This follows significant cost savings achieved since the 2009–14 regulatory control period as detailed in section 6.4.1.

6.6.3.2 Benchmarking

In deciding whether the AER is satisfied that the total of the forecast opex for the regulatory control period reasonably reflects each of the opex criteria, the Rules require

[13] Base opex, assumed to be mid-year nominal dollars, has been indexed to June 2019 dollars as per input requirements of the post-tax revenue model using a CPI of 2 per cent.

[14] AER 2013, Expenditure Forecasting Assessment Guideline for Electricity Distribution, November, p. 22.

[15] The AER's 2015 final decision was overturned following appeals to the Australian Competition Tribunal and the Federal Court on matters including opex. This decision is now in the process of being remade by the AER.

[16] Excluding anticipated cost pass through amounts, debt-raising costs and DMIA.

the AER to have regard to the most recent annual benchmarking report that has been published under section 6.27 of the Rules and the benchmark opex that would be incurred by an efficient Distribution Network Service Provider (DNSP) over the relevant regulatory control period.[17]

The AER's 2017 benchmarking report is the most recent annual benchmarking report published under section 6.27 of the Rules. Evoenergy has reviewed this report and has a number of concerns with the analysis and results presented, which are set out in Evoenergy's response to the AER 2017 draft benchmarking report.[18] Given these concerns, it is Evoenergy's view that the AER's 2017 benchmarking report can only be afforded limited weight in assessing Evoenergy's opex forecasts. To the extent that the AER places weight on these results, Evoenergy notes that the opex multilateral partial factor productivity (MPFP) results would appear to be the most relevant for consideration. The AER's MPFP results rank Evoenergy as the fifth highest performer with an index of 1.267, only slightly below TasNetworks which ranks fourth with an index of 1.288 and SAPN which ranks third with an index of 1.317.

Given that the AER has provided limited guidance on how it intends to use benchmarking in assessing Evoenergy's opex forecasts and to date has not addressed the deficiencies associated with its benchmarking approach which were identified by the Australian Competition Tribunal, it is difficult to present benchmarking results which can be relied on in demonstrating the efficiency of Evoenergy's base year. In the absence of any guidance from the AER, Evoenergy has sought to update Economic Insights' econometric benchmarking work, recognising that this approach has significant shortcomings that limit the usefulness of the results. In addition to the single Cobb-Douglas (CD) stochastic frontier analysis (SFA) used by Economic Insights, Evoenergy has also derived estimates based on a number of different model specifications and data variations.

This analysis demonstrates that estimated efficiency scores are very sensitive to the model specification (CD versus translog and least squares estimation versus SFA) and data choices (such as excluding outlier firms and excluding selected international data), resulting in a range of efficiency scores from 35 per cent to 57 per cent for Evoenergy. The efficiency scores are used to determine a range for the target roll-forward opex by applying the same methodology as the AER applied in its 2015 final decision to identify the comparison point, adjust for operating environment factors (excluding the adjustment for capitalisation policies which has been addressed by backcasting opex using the current CAM), calculating the midpoint efficient opex and trending the midpoint efficient opex to 2017/18. The resulting range for the target opex is between $37 million and $58 million. Evoenergy's 2017/18 base year opex of $53 million falls within this range. Therefore, to the extent that weight can be placed on the AER's top-down benchmarking approach, the results suggest that Evoenergy's base year opex reasonably reflects the opex criteria.

Evoenergy has also sought to compare its opex to other DNSPs on a bottom-up basis using category analysis regulatory information notice data for 2015/16. However, data quality issues (such as missing data, inconsistencies in reporting and allocation issues) significantly limit the usefulness of these comparisons. For cost categories where comparisons could be made, Evoenergy performs relatively well against other DNSPs, particularly when the extra cost of backyard reticulation is taken into consideration.

[17] Rules, clause 6.5.6(e)(4).

[18] ActewAGL Distribution 2017, Response to AER 2017 Draft Benchmarking Report, October.

Overall, this analysis did not identify any anomalies and supports Evoenergy's position on the efficiency of its opex and hence consistency with the opex criteria.

6.6.3.3 Bottom-up maintenance opex assessment

As detailed in Attachment 1 (Asset management and governance), under Evoenergy's asset management framework, asset-specific plans are developed and maintained, which set out expenditure and maintenance requirements in accordance with best practice asset management to optimise life-cycle costs. These plans include maintenance opex expectations at an asset level and are optimised through a top-down challenge discussed in Attachment 5 (Capital expenditure).

In assessing the efficiency and sustainability of base year maintenance opex, Evoenergy checks the average annual aggregated maintenance opex (bottom-up) forecast included in asset-specific plans against maintenance opex in the base year. The result of this check confirm that maintenance opex in the base year is in line with Evoenergy's bottom up forecast and supports the sustainability of opex in this year.

6.6.3.4 Robust and prudent internal asset management and governance practices

Evoenergy's base year opex is prudent because it has robust asset management and governance frameworks, internal policies and procedures, and procurement and contractor management practices in place. These ensure opex is incurred only where it is prudent to do so.

Evoenergy has adopted the international ISO 55001 standard to achieve effective asset management outcomes. During the 2014–19 regulatory period, Evoenergy achieved full alignment with ISO 55001 and, subsequently, compliance with the standard. In November 2017, following completion of the 2017 audit process, Evoenergy was awarded certification to the International Organization for Standardization (ISO) 55000 series of international standards for asset management.

Evoenergy's commercial risk framework underpins sound financial management within the business. The financial governance policy and procedure formulate objectives and requirements with respect to the following:

- financial planning and forecasting;
- budgeting; and
- project and program approvals.

Evoenergy ensures prudent procurement of goods and services by applying a risk-based approach. This approach applies increasing threshold values for managing commercial risks of contracting for external goods and services, and incorporates market testing in determining value for money. In addition, using evaluation criteria enables procurement of goods and services to be consistent with value-for-money principles. A value-for-money judgement balances the relative importance of the criterion against the costs and risks involved.

Further details of Evoenergy's asset management governance practices are provided in Attachment 1 (Asset management and governance).

6.6.4 Trending base opex

Evoenergy has adopted an approach consistent with the AER's rate of change formula[19] to trend forward efficient opex in the base year to account for efficient changes in opex over time and ensure total opex over the period reflects the opex criteria. This includes consideration of real price change, output growth and productivity growth. Proposed rates for each component are provided in Table 6.4.

Table 6.4 Rate of change forecast

	FY19	FY20	FY21	FY22	FY23	FY24
Real price change	0.34%	0.67%	0.95%	0.93%	0.79%	0.34%
Output growth	1.57%	1.49%	1.41%	1.28%	1.19%	1.57%
Productivity growth	-	-	-	-	-	-
Rate of change	**1.92%**	**2.16%**	**2.36%**	**2.21%**	**1.98%**	**1.92%**

6.6.4.1 Real price change

Evoenergy's costs are affected by changes in labour cost inputs. Evoenergy engaged BIS Oxford Economics to provide an expert report on the outlook for relevant labour cost escalators in the ACT, expressed in terms of a wage price index for electricity, gas, water and waste services industries. Annual real labour escalation rates are provided in Table 6.5 below. BIS Oxford Economics' forecast is provided at Appendix 5.6.

Table 6.5 Real EGWWS labour cost escalators (%)

	FY19	FY20	FY21	FY22	FY23	FY24
EGWWS labour	0.74	0.57	1.11	1.55	1.49	1.25

In applying these labour cost escalators, Evoenergy has adopted the approach used by the AER of applying benchmark weights for labour and non-labour costs in its previous decisions for electricity distribution businesses,[20] but Evoenergy has used the updated weights, as applied by Economic Insights in its report for the AER's 2017 annual benchmarking report,[21] of 59.7 per cent labour and 40.3 per cent non-labour.

Evoenergy has applied the forecast Consumer Price Index (CPI) for non-labour costs.

These assumptions result in a forecast that reasonably reflects a realistic expectation of cost inputs required to achieve the opex objectives.

Evoenergy's labour cost forecast does not account for productivity factors beyond those discussed in BIS Oxford Economics' report as these are considered as part of the productivity growth forecast assessment under the approach taken.

[19] AER 2013, Forecast Expenditure Forecast Assessment Guideline for Electricity Distribution, November, p. 23.

[20] For example, AER 2015, Final decision, ActewAGL distribution determination 2015–19 (Attachment 7 Operating expenditure) April, pp. 7-265–7-266.

[21] Economic Insights 2017, Economic Benchmarking Results for the AER's 2017 DNSP Benchmarking Report, 31 October, p. 2.

6.6.4.2 **Output growth**

The AER has demonstrated a preference for using econometric cost function model outputs for identifying key growth drivers and estimating weights to apply to those drivers to derive an output growth rate to trend base opex.

This approach was used by the AER in the previous round of distribution determinations, including decisions for ActewAGL Distribution, the New South Wales DNSPs, Victorian DNSPs, Queensland DNSPs and South Australia Power Networks.

Notwithstanding Evoenergy's concerns with the AER's approach to benchmarking as detailed in section 6.6.3.2, Evoenergy has adopted the AER's approach to estimate output growth for its opex forecast. In deriving the weights, the same model relied upon by the AER (CD SFA) has been used, but the dataset has been updated with 2015/16 Regulatory Information Notice data. The output growth drivers and their respective updated weights are:

- customer numbers (74.55 per cent);
- circuit length (9.31 per cent); and
- ratcheted maximum demand (16.14 per cent).

These have been applied to Evoenergy's forecast growth rates for each of the three drivers to derive the output growth rate to apply to base opex. The inputs for this forecast calculation are provided in Evoenergy's forecast opex model.

Evoenergy has not made adjustments for economies of scale factors as these are considered to be part of the productivity growth forecast assessment under the approach taken.

6.6.4.3 **Productivity growth**

Evoenergy has applied a zero per cent productivity rate in estimating its rate of change. In doing so, Evoenergy has taken a similar view to the AER in its previous decisions for DNSPs.

The 2014 Economic Insights report[22] relied on by the AER in determining the productivity rate in its 2015 final decision showed that the distribution industry experienced negative productivity change over the analysis period, implying opex growth. However, Economic Insights recommended that a productivity forecast of zero be included in the rate of change as it considered there to be a reasonable prospect of opex productivity growth moving towards zero in the few years following the analysis period.[23] In adopting this recommendation, the AER stated that it did not expect declining productivity observed in the past to continue and that productivity had been positive in both the electricity transmission and gas distribution industries.[24]

[22] Economic Insights 2014, Economic benchmarking assessment of operating expenditure for NSW and ACT electricity DNSPs, 20 October, pp. 20, 40.

[23] Economic Insights 2014, Economic benchmarking assessment of operating expenditure for NSW and ACT electricity DNSPs, 20 October, p. vii.

[24] AER 2014 Draft decision, ActewAGL distribution determination 2015–19 (Attachment 7 – Operating expenditure), November, pp. 7–140.

Economic Insights' report for the AER's 2017 annual benchmarking report[25] similarly showed negative opex partial factor productivity growth over the 2006–16 analysis period. However, it noted a turnaround from 2012. The AER notes that the likely drivers of the turnaround in opex performance are a pullback in network spending on increased reliability standards in NSW and Queensland, and the AER's determinations which reduced network forecast opex.[26] It was noted that Evoenergy (then ActewAGL Distribution) has made large opex partial productivity gains since 2013/14, which has driven its strong multilateral total factor productivity performance.[27]

Based on this evidence and Evoenergy's expectations of industry productivity performance, a productivity growth rate of zero is the most realistic assumption for the purpose of preparing an opex forecast that reasonably reflects the opex criteria. Evoenergy's reasons for this are outlined below.

First, although the Economic Insights report showed negative productivity growth, Evoenergy does not think applying a negative productivity rate (i.e. resulting in opex growth) best reflects Evoenergy's expectations of the future performance of the industry. Evoenergy notes that while some of the industry changes occurring impose additional administrative costs on the DNSPs, these should be offset by adoption of technology and other industry changes which will enable smarter networks.

Second, given the period of significant opex reductions across much of the industry following the AER's recent decisions, many DNSPs, and notably Evoenergy, have considerably improved their productivity performance over recent years. As explained in section 6.4.1, Evoenergy underwent a significant business transformation process to move to much lower opex levels at the speed necessitated by the AER's 2015 final decision and it would be unreasonable to expect the recent turnaround in productivity growth to continue at a similar rate.

6.6.5 Step changes

Evoenergy has included two step changes in its opex forecast for efficient changes in costs as set out in Table 6.6. One step change is due to changes in legislated responsibilities for vegetation clearance on unleased land in the ACT and private pole inspections to manage bushfire risk. The other step change is for an efficient opex/capex trade-off to procure demand management solutions from the market in the new urban development of Strathnairn that will postpone the requirement to construct a new zone substation to meet demand growth in the area. These costs reflect forecast expenditure not captured by base year opex or output and real price growth that would be incurred by a prudent service provider acting efficiently to meet the opex objectives and achieve lowest sustainable costs over the long term.

[25] Economic Insights 2017, Economic Benchmarking Results for the AER's 2017 DNSP Benchmarking Report, October, pp. 3–4.

[26] AER 2017, Annual Benchmarking Report – Electricity Distribution Network Service Providers, November, p. 22.

[27] AER 2017, Annual Benchmarking Report – Electricity Distribution Network Service Providers, November, p. 37.

Table 6.6 Step changes included in 2019–24 opex forecast

$ million, 2018/19	FY19	FY20	FY21	FY22	FY23	FY24	FY20–24 total
Vegetation management and private electrical infrastructure inspection responsibilities	3.76	3.75	3.77	3.78	3.78	3.77	**18.85**
Strathnairn demand management capex/opex trade-off[28]	0.00	0.36	0.36	0.36	0.36	0.36	**1.80**
Total	3.76	4.11	4.13	4.14	4.14	4.13	**20.65**

6.6.5.1 Vegetation management and private electrical infrastructure inspections

Evoenergy's vegetation management costs will increase by $3.8 million per annum compared to the base year from 1 July 2018, following amendments to the *Utilities (Technical Regulation) Act 2014* (ACT) via the Utilities (Technical Regulation) Amendment Bill 2017 (the Amendment Bill), which was passed by the ACT Legislative Assembly on 8 November 2017.

The changes involve the transfer of responsibility for vegetation clearing on unleased land in urban areas of the ACT from the ACT Government to Evoenergy, as well as giving Evoenergy responsibility for inspection of private poles on rural leased properties. This change will reduce the risk of bushfires caused by electricity network assets in the ACT by ensuring appropriate clearance zones are maintained. In the lead-up to these changes being proposed, Evoenergy undertook considerable engagement with the community and interest groups to ensure a balance between safety risk, amenity and environmental considerations was reached. This step change is detailed in Appendix 6.1.

6.6.5.2 Strathnairn demand management capex/opex trade-off

Evoenergy has assessed its options for servicing demand in a new urban development planned for West Belconnen. Through this process, Evoenergy has evaluated network and non-network solutions and has identified an opportunity to postpone the need for the construction of a new zone substation by meeting demand in this area with an efficient combination of lower initial capex investment and opex.

This solution involves extending feeders from existing zone substations together with leveraging developer-mandated rooftop solar photovoltaic investment in the suburb by providing residents with subsidies for the deployment of demand management technology, such as battery storage, to meet load growth. This step change is detailed in Appendix 6.2.

[28] The cost profile of Strathnairn demand management capex/opex trade-off step change shown in Table 6.6 and Evoenergy's opex model assumes a smooth distribution across the regulatory period for the purpose of including estimate opex related to this initiative in Evoenergy's revenue modelling. Appendix 6.2 provides a more detailed cost profile based on the latest available information at the time of submitting this proposal.

6.7 Interactions between capex and opex

6.7.1 Capex/opex trade-offs

Evoenergy is increasingly focusing on efficient trade-offs between capex and opex, particularly potential non-network demand management solutions, as an alternative to augmenting the network with long-lived assets to supply growth in the region.

Over the 2019–24 regulatory control period, Evoenergy has identified efficient trade-offs between capex and opex in two areas: demand management in the new urban development area of Strathnairn, and ICT services.

For Strathnairn demand management, Evoenergy has included a capex/opex trade-off step change to meet efficient opex required as a result of deferring construction of a new zone substation, as detailed in section 6.6.5.2 and Appendix 6.2.

For ICT services, Evoenergy is implementing a strategy which involves moving from replacement of internally managed assets as they approach the end of their useful life to outsourced cloud-based services. As a consequence, Evoenergy will incur additional opex for these licenced services, rather than capex to replace ageing assets. To contribute to predictability and certainty for consumers through opex stability, Evoenergy has not included a step change for this trade-off, and will instead seek to absorb these costs through targeted future opex efficiencies.

6.7.2 Asset life-cycle cost optimisation

Opex included in the forecast enables delivery of Evoenergy's maintenance program which has been developed in accordance with the asset-specific plans. These plans set out a best practice approach for each asset class, including both capex and opex requirements, which optimises asset lives and life-cycle costs to deliver defined levels of service and safety that are in the long-term interests of consumers.

6.7.3 Application of incentive schemes

The incentive schemes in the regulatory framework, including the Efficiency Benefit Sharing Scheme (EBSS), the Capital Expenditure Sharing Scheme (CESS), and the Demand Management Incentive Scheme (DMIS) provide mechanisms to encourage DNSPs to optimise opex and capex to lower total expenditure. Together these schemes are designed to ensure businesses do not inefficiently replace opex with capex and vice-versa.

As detailed in Attachment 10 (Incentive schemes), Evoenergy proposes that these schemes operate during the 2019–24 regulatory control period. This will support efficient interactions between capex and opex.

6.8 Proposed opex forecast

Evoenergy's SCS opex forecast based on the inputs and assumptions detailed in section 6.6 is $308.9 million. Table 6.7 and Table 6.8 provide the annual breakdown of this forecast at a category view and base-step-trend view for each year of the 2019–24 regulatory control period, as well as the base year and final year of the current period. These amounts exclude debt-raising costs, which are addressed in Attachment 8 (Rate

of return, imputation credits and forecast inflation) and DMIA which is addressed in Attachment 10 (Incentive schemes).

Table 6.7 Evoenergy's base-step-trend SCS opex forecast 2019–24

$ million, 2018/19	FY18 Base year	FY19	FY20	FY21	FY22	FY23	FY24	FY20–24 total
Base opex	53.0	53.0	53.0	53.0	53.0	53.0	53.0	**264.9**
Real price growth	-	0.2	0.4	0.8	1.3	1.8	2.3	**6.6**
Output growth	-	0.9	1.8	2.6	3.4	4.1	4.9	**16.7**
Productivity growth	-	-	-	-	-	-	-	**-**
Step changes	-	3.8	4.1	4.1	4.1	4.1	4.1	**20.6**
Total opex	**53.0**	**57.9**	**59.3**	**60.5**	**61.8**	**63.1**	**64.2**	**308.9**
Distribution opex	45.2	49.9	51.2	52.2	53.4	54.4	55.4	266.7
Transmission opex	7.8	7.9	8.1	8.2	8.4	8.6	8.8	42.2

Table 6.8 Evoenergy's category forecast SCS opex 2019–24

$ million, 2018/19	FY18 Base year	FY19	FY20	FY21	FY22	FY23	FY24	FY20–24 total
Vegetation management	2.3	6.1	6.2	6.3	6.3	6.4	6.4	**31.5**
Maintenance	8.8	9.0	9.2	9.4	9.6	9.8	10.0	**48.1**
Emergency response	2.1	2.1	2.2	2.2	2.3	2.3	2.4	**11.4**
Non-network	5.9	6.0	6.1	6.2	6.4	6.5	6.7	**31.9**
Network overheads	21.9	22.4	23.2	23.7	24.2	24.7	25.2	**121.0**
Corporate overheads	11.9	12.2	12.4	12.7	13.0	13.3	13.5	**65.0**
Total	**53.0**	**57.9**	**59.3**	**60.5**	**61.8**	**63.1**	**64.2**	**308.9**
Distribution opex	45.2	49.9	51.2	52.2	53.4	54.4	55.4	266.7
Transmission opex	7.8	7.9	8.1	8.2	8.4	8.6	8.8	42.2

6.8.1 Allocation between distribution and transmission

Evoenergy allocates its total opex between distribution and transmission services each year on the following basis:

- direct maintenance costs are directly allocated to distribution and transmission services; and
- shared costs are allocated between distribution and transmission based on the average of each services' direct costs as a percentage of total direct costs over the period between the base year (2017/18) and the end of the regulatory control period.

6.9 Compliance with the Rules

Evoenergy has prepared its opex forecast based on what is required to achieve the opex objectives in accordance with the Rules. This has been explained throughout this attachment and is summarised in Table 6.9.

Table 6.9 Evoenergy's compliance with the opex objectives

Opex objective	Rule	Compliance
Meet or manage the expected demand for SCS	**6.5.6(a)(1)**	In preparing its opex forecast, Evoenergy has had regard to the demand forecast detailed in Attachment 3 and has trended base year opex to account for expected changes in output growth drivers including customer numbers and system capacity.
Comply with all applicable regulatory obligations or requirements associated with the provision of SCS	**6.5.6(a)(2)**	Evoenergy's base year opex allows it to meet existing obligations. New obligations relating to urban tree management responsibilities have been identified that will be in place over the 2019–24 regulatory control period and a step change for these costs has been included (see section 6.6.5).
Maintain the quality, reliability and security of supply of SCS	**6.5.6(a)(3)**	Safety performance will continue to be Evoenergy's number one priority and opex will be prioritised accordingly over the 2019–24 regulatory control period. Evoenergy's reliability performance has declined over the current regulatory period as a result of the significant opex reductions. Evoenergy has implemented efficient capex actions to maintain reliability targets without the need to increase opex to provide cost stability for customers. It is noted that the exact extent of the impact of reduced inspection and maintenance regimes over the medium to long-term is not yet clear. Evoenergy will continue to monitor the impact of these changes to ensure performance can be maintained.
Maintain the reliability, safety and security of a distribution system through the SCS	**6.5.6(a)(4)**	

In determining whether the AER is satisfied with Evoenergy's forecast, it must have regard to the opex factors set out in the Rules. Table 6.10 summarises Evoenergy's consideration of these factors.

Table 6.10 How Evoenergy has had regard to opex factors

Opex factors	Rule	How Evoenergy has had regard to factors
The most recent annual benchmarking report that has been published under Rule 6.27 and the benchmark operating expenditure by an efficient DNSP over the regulatory control period	6.5.6(e)(4)	As discussed in section 6.6.3, while Evoenergy has some concerns regarding the most recent annual benchmarking report, it has reviewed the report and considered its findings in assessing the efficiency of base year opex. It has also carried out some benchmarking of its

Opex factors	Rule	How Evoenergy has had regard to factors
		own as a cross check of the efficiency of base year opex.
The actual and expected operating expenditure of the DNSP during any preceding regulatory control periods	6.5.6(e)(5)	Evoenergy has presented its opex performance over the current regulatory period in section 6.5. In using a base-step-trend approach to forecasting, revealed costs in the nominated base year have been used as the basis for Evoenergy's opex forecast for 2019–24.
The extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the DNSP in the course of its engagement with electricity consumers	6.5.6(e)(5A)	Evoenergy has proactively engaged with consumers in the preparation of its regulatory proposal, including ensuring its opex forecast is adequate to address the customer priorities identified through the course of engagement. This is summarised in Table 6.1 and detailed in Attachment 2.
The relative prices of operating and capital inputs	6.5.6(e)(6)	Evoenergy manages assets in accordance with best practice asset management to deliver the lowest sustainable costs over the life of the asset. This considers both capital and operating costs which are balanced with risk in terms of safety and reliability.
The substitution possibilities between operating and capital expenditure	6.5.6(e)(7)	Evoenergy's consideration of substitution possibilities between capex and opex are explained in section 6.7.
Whether the operating expenditure forecast is consistent with any incentive schemes or schemes that apply to the DNSP under clauses 6.5.8 or 6.6.2 to 6.6.4	6.5.6(e)(8)	Evoenergy has proposed that incentive schemes apply during the 2019–24 regulatory control period, including the EBSS, CESS, DMIA and DMIS, and its opex forecast has been prepared in the context of these schemes applying.
The extent the operating expenditure forecast is referable to arrangements with a person other than the DNSP that, in the opinion of the AER, do not reflect arm's length terms	6.5.6(e)(9)	Evoenergy has established commercially prudent outsourcing and procurement practices. This ensures the opex forecast is based on arrangements that reflect arm's length terms.
Whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6.6A.1(b)	6.5.6(e)(9A)	Evoenergy's forecast does not include any such amounts.
The extent the DNSP has considered and made provision for,	6.5.6(e)(10)	Evoenergy has considered non-network options extensively in the development of its capital program and has included an

Opex factors	Rule	How Evoenergy has had regard to factors
efficient and prudent non-network alternatives		opex step change for an efficient and prudent non-network solution to meet demand growth in West Belconnen as detailed in section 6.7.1 and Appendix 6.2.
Any relevant final project assessment report (as defined in clause 5.10.2) published under clause 5.17.4(o), (p) or (s)	6.5.6(e)(11)	Evoenergy does not consider there to be any reports under this requirement relevant to opex.
Any other factor the AER considers relevant and which the AER has notified the DNSP in writing, prior to the submission of its revised regulatory proposal under clause 6.10.3 is an operating expenditure factor	6.5.6(e)(12)	Evoenergy has not been notified by the AER of any such factors.

Shortened forms

Term	Meaning
ACT	Australian Capital Territory
ADMS	Advanced Distribution Management System
AER	Australian Energy Regulator
CAM	cost allocation methodology
capex	capital expenditure
CD	Cobb-Douglas
CESS	capital expenditure sharing scheme
CPI	Consumer Price Index
DMIA	Demand Management Innovation Allowance
DMIS	Demand Management Incentive Scheme
DNSP	Distribution Network Service Provider
EBSS	Efficiency Benefit Sharing Scheme
EGWWS	electricity gas, water and waste services
ISO	International Organization for Standardization
IT/ICT	information technology/ information and communication technology
LIDAR	light detection and ranging
MPFP	multilateral partial factor productivity
NSW	New South Wales
opex	operating expenditure
Rules	National Electricity Rules
SAIDI	System Average Interruption Duration Index
SAIFI	Supply Average Interruption Frequency Index
SCS	Standard Control Services
SFA	stochastic frontier analysis