



Issues paper
NSW electricity distribution regulatory
proposals
2014–15 to 2018–19

11 July 2014

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AER reference: 52294/54420/52219 D14/70246

Amendment record

Version	Date	Pages
1.01	11 July 2014	Figure 13 on page 16

Request for submissions

Interested parties are invited to make written submissions regarding the distributors' regulatory proposals to us, the Australian Energy Regulator (AER), by the close of business, **1 August 2014**.

We prefer that all submissions sent in an electronic format are in Microsoft Word or other text readable document form. Submissions should be sent electronically to:

- NSWACTelectricity@aer.gov.au for any or all of Ausgrid, Endeavour Energy and Essential Energy.

Alternatively, submissions can be sent to:

Mr Warwick Anderson
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We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on our website at www.aer.gov.au. For further information regarding our use and disclosure of information provided to us, see the ACCC/AER Information Policy, October 2008 available on our website.

Enquires about this paper, or about lodging submissions, should be directed to our Network Finance and Reporting branch on (02) 6243 4933.

Next steps

We will consider and respond to submissions on this issues paper in the context of our regulatory determinations. We expect to publish our draft decision in November 2014.

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Shortened forms

Shortened form	Extended form
ACCC	Australian Competition & Consumer Commission
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CCP	consumer challenge panel
CPI	consumer price index
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
NEL	National Electricity Law
NEM	National Electricity Market
NEO	national electricity objective
NER	National Electricity Rules
opex	operating expenditure
RAB	regulatory asset base
RIN	regulatory information notice
WACC, rate of return	weighted average cost of capital

The key terms and their shortened forms, listed above, are largely derived from the National Electricity Rules (the rules). The shortened forms used here are commonly used by us, industry participants and other stakeholders.

Introduction

Ausgrid, Endeavour Energy and Essential Energy (the distributors) are electricity network supply businesses. They are wholly owned by the NSW State Government. The distributors have submitted to us for assessment their revenue proposals for the next five year period (2014–19). These proposals will have a significant bearing on the price of electricity in NSW until July 2019. If we, the Australian Energy Regulator (AER), were to accept these proposals without change, consumers could expect electricity prices to remain around current levels. Whether or not the proposals should be accepted or revised is our responsibility. However, we are keen to hear the views of electricity consumers and other stakeholder as these views will form a critical part of our assessment.

We encourage consumers and stakeholders to tell us what you think about these proposals. This paper aims to draw to your attention some of the issues we think are likely to be important. However, we will consider your submissions on any aspect of the proposals. In the first part of this paper, we provide a high level perspective on the distributors' proposals and our initial observations. We have identified several aspects we consider should be examined more closely.

The distributors' proposals should take account of the circumstances in which they are operating. Those circumstances are very different to when we last reviewed revenue proposals from the distributors, five years ago. At that time the global financial crisis created an uncertain environment for the operation of capital intensive businesses, like electricity distribution networks. And demand was forecast to grow strongly. Since then we have seen high levels of network investment and resulting improvements in network reliability. We have also seen a significant downturn in electricity consumption and slowing growth in peak demand.

The new proposals have been submitted at a time when financial markets are more certain and the costs of finance have come down. Less onerous network planning standards mean there are reduced imperatives for network investment. The owner of these businesses (the NSW Government) is also actively seeking tighter controls on network investment and operating efficiencies. And it is also clear that demand has been weakening in the face of consumer reaction to sharp increases in electricity prices. We seek guidance from consumers and stakeholders as to whether the distributors' expenditure proposals reflect these changed circumstances in which they operate.

There have also been significant changes to the regulatory framework we administer. The Australian Energy Market Commission (AEMC) finalised significant changes to the rules in November 2012. These changes resulted in a renewed emphasis on the long term interests of consumers. The appeal process relating to our network determinations was also amended so that any appeals by the distributors must demonstrate that the changes sought would leave consumers better off. And the revised rules lead us to develop new guidelines that set out how we propose to approach important aspects of our review.¹

The distributors' regulatory proposals are available on our website (www.aer.gov.au). The attachments to this paper provide more detailed discussion of the distributors' regulatory proposals. This detailed material examines the main components of the distributors' total revenue proposals—capital expenditure (capex), operating expenditure (opex) and the rate of return. See section 3 below for more details on what to include in your submission and key dates in our assessment process.

¹ Our new guidelines are available on our website (www.aer.gov.au) under the 'Better Regulation' tab.

1 Our initial observations

The following sections set out our initial observations on the proposals. We have included this material to guide stakeholders to the key issues that have initially caught our attention.

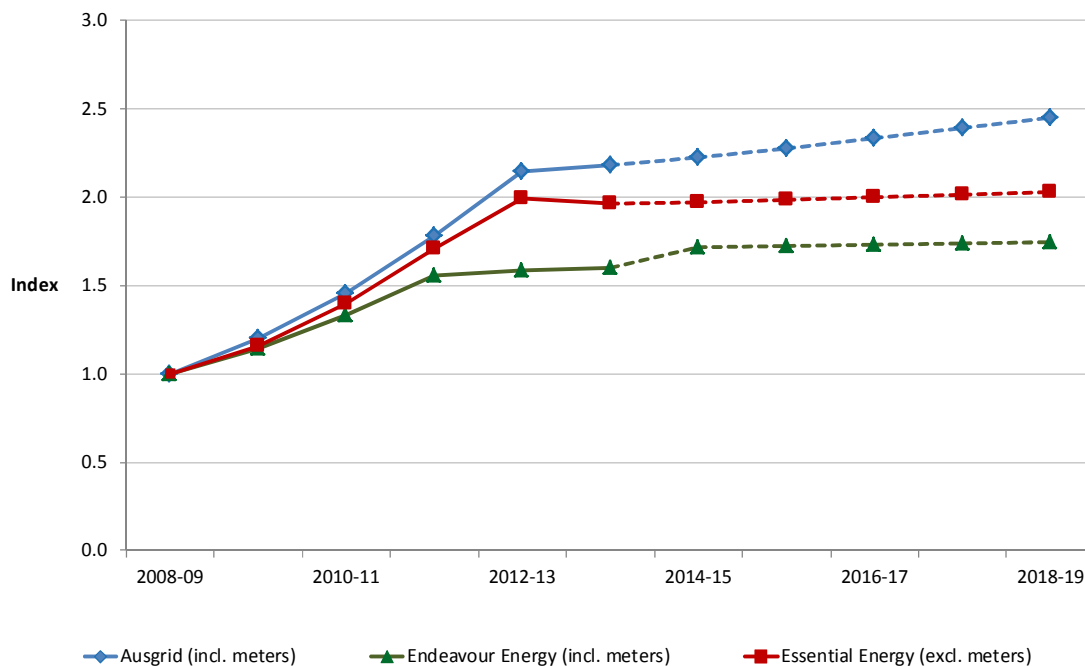
Why are the networks proposing to increase prices?

Each of the distributors has proposed to increase their proposed revenues compared to the revenues they are currently allowed to earn. The effect is proposed average annual price increases of around 2 per cent.²

We will examine whether the distributors' proposed prices adequately reflect current circumstances. The distributors' asset bases are larger than they were five years ago. Clearly this investment base needs to be funded and this is adding to the cost of running the networks. However, other factors could be reducing pressure on the distributors' required revenues and therefore on prices. These include having spent less capital expenditure (capex) than expected in the 2009–14 period, reduced demand for electricity, amended planning standards, opportunities for more efficient supply of services and lower costs of finance. We are interested to hear consumers' views on the balance among these factors.

Figure 1 shows the price paths expected from the distributors' regulatory proposals, presented as an index. The solid lines represent actual price changes. The dashed lines represent the distributors' proposed price changes for the 2014–19 period.

Figure 1 The distributors' proposed price paths (\$nominal)³



Source: AER analysis.⁴

² \$nominal. Calculated on a per MWh basis.

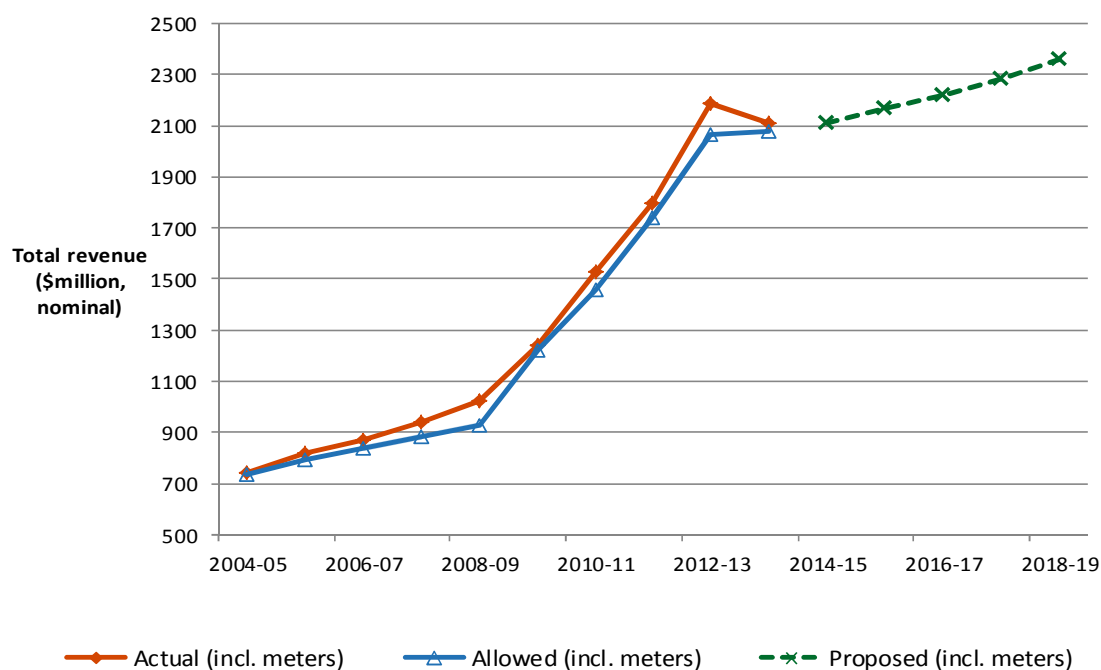
³ The price index shown here is a high level indicator of price movements. It reflects average prices, weighted by volume. The forecast price paths are those submitted by the distributors with their regulatory proposals. The forecast prices underlying the index are weighted according to the distributors' volume (total demand) forecasts. The index is based on \$nominal.

Figure 2 to Figure 4 show the distributors' current and proposed annual revenues. The solid lines represent the revenues we have previously approved and the revenues actually collected by the distributors. The dashed lines represent the distributors' proposed revenues for the 2014–19 period. These figures show that the distributors sometimes earn total revenues that are higher than what we have approved. This is not unusual under a price cap form of control, under which the distributors have operated.

In the case of Ausgrid, figure 2 shows it has consistently earned revenues in excess of its approved revenue. One potential explanation for this would be that total demand for electricity exceeded expectations. However, total electricity demanded has been declining and has been lower than expected. Rather, we consider Ausgrid has, within the limits allowed, been increasing some of its tariffs, meaning its total revenues have ended up being larger than we had approved. This approach is permitted under price cap regulation, because restraints on prices operate at the tariff class level, rather than individual tariffs.⁵ Under a price cap control mechanism, we are also unable to return to customers any over recovery of revenues earned by the distributors. In comparison to these drawbacks, the expected benefits from price cap regulation, more efficient pricing structures, have not been realised

Including for the reasons set out above, we have decided to apply revenue caps to the distributors for the 2014–19 period. This will allow us to balance actual revenues against the revenues we approve, so that customers are no worse off over time.

Figure 2 Ausgrid – total revenue⁶



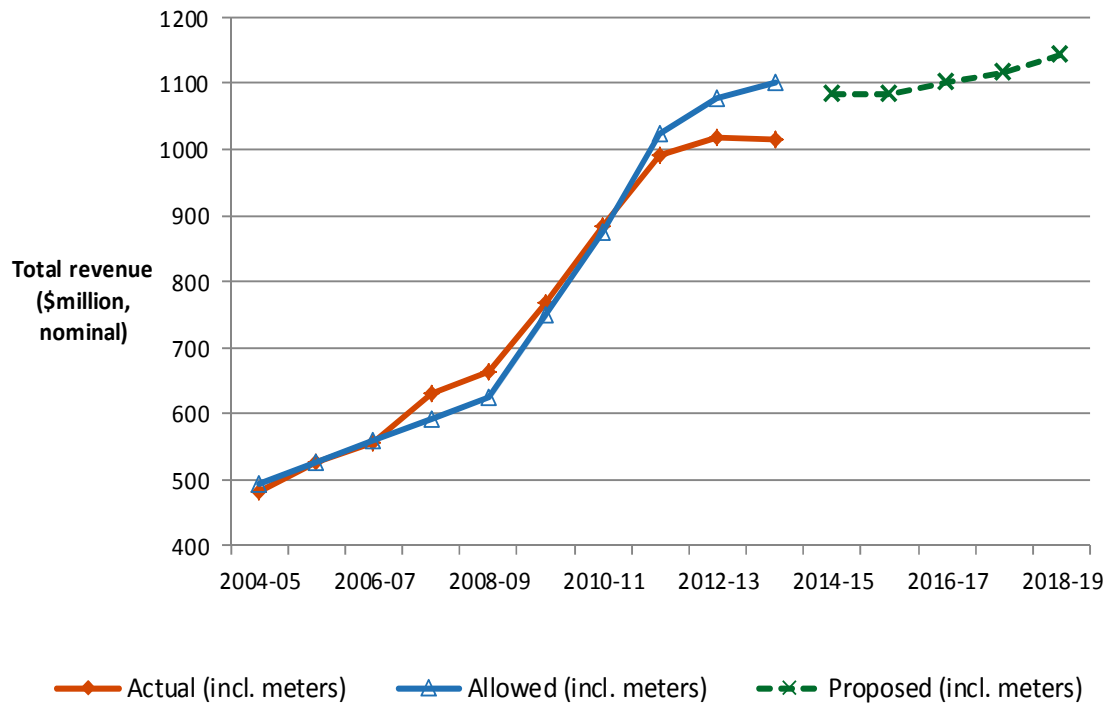
Source: AER analysis.

⁴ The proposed price path shown for Essential Energy does not include type 5 and 6 meter related revenues, because Essential Energy did not submit that price path. However, we note that meter related revenues for Essential Energy are smaller in proportion to its proposed total revenues than is the case for Ausgrid and Endeavour Energy.

⁵ For a detailed discussion of price caps and revenue caps, see: AER, *Discussion paper – Matters relevant to the framework and approach, ACT and NSW DNSPs 2014–19 – control mechanisms for standard control electricity distribution services in the ACT and NSW*, April 2012.

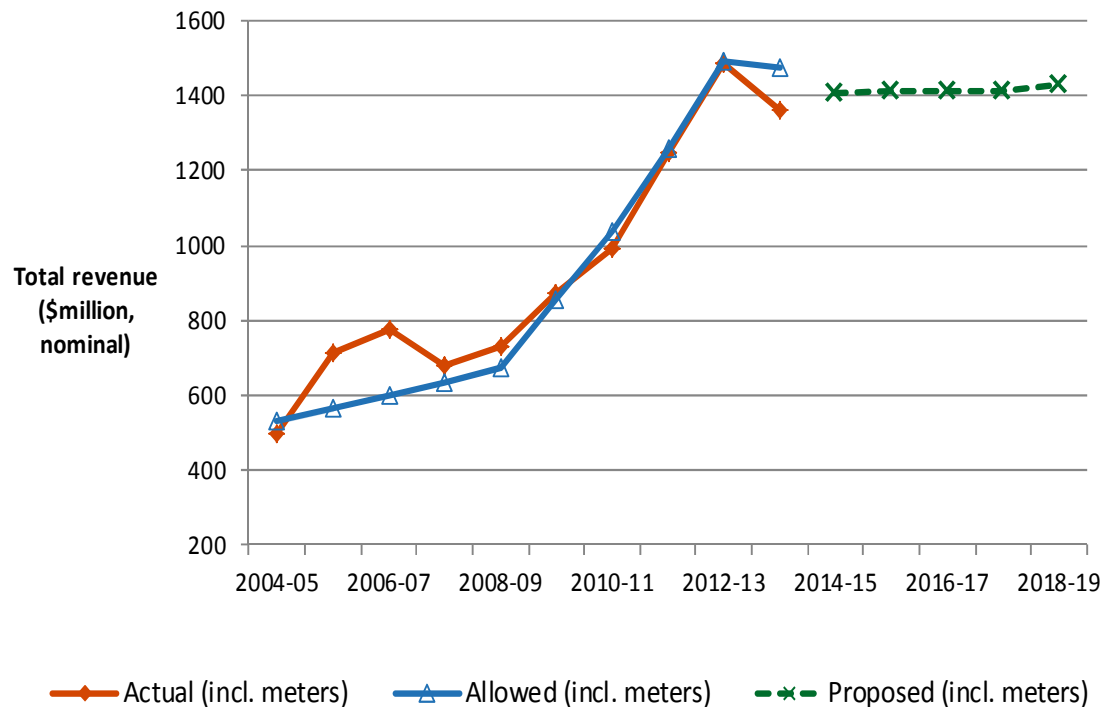
⁶ Distribution network revenue only. Does not include Ausgrid's transmission network revenue.

Figure 3 Endeavour Energy – total revenue



Source: AER analysis.

Figure 4 Essential Energy – total revenue



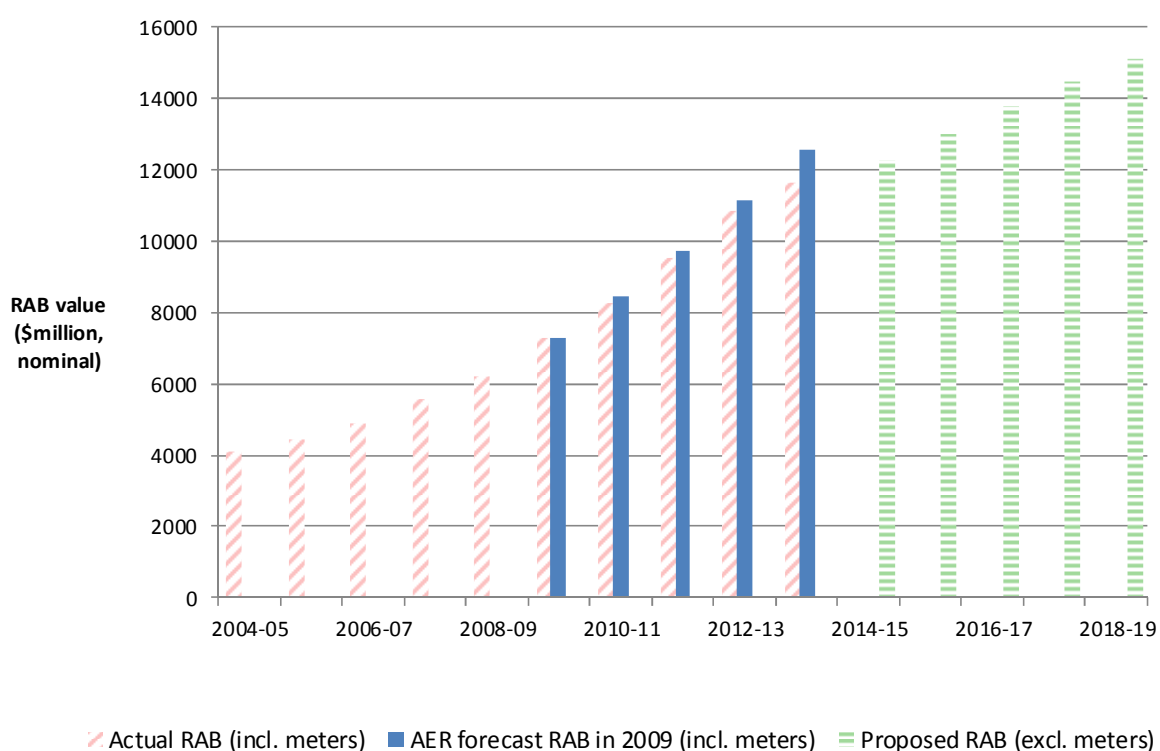
Source: AER analysis.

Capital expenditure in 2009–14 has been lower than expected

The distributors have under spent their capex allowances in the 2009–14 period. This means that their opening regulatory asset bases (RABs) for the 2014–19 period are lower than anticipated, which means future revenues will not increase as much as had been expected. It also suggests that the previous allowances may have been higher than necessary to meet necessary investment. This lower actual spending compared to the allowances we approved in part reflects that, for the first time in many years, demand for electricity carriage has diminished. We have seen falls in total electricity consumption and slower growth in peak demand. The distributors themselves expect the current declines in electricity consumption to continue into the 2014–19 period.⁷

Figure 5 to Figure 7 below show the growth in the value of the distributors' asset bases over the last 10 years and their proposed further growth for the 2014–19 period.

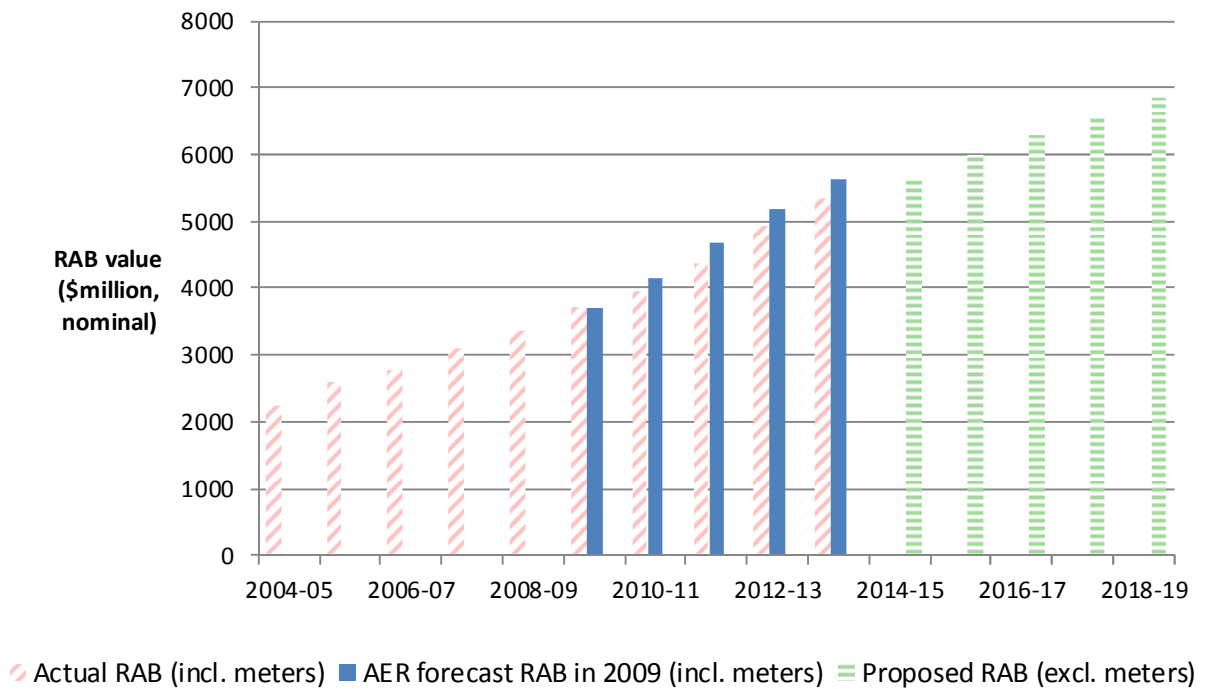
Figure 5 Ausgrid – regulatory asset base (RAB) values



Source: AER analysis.

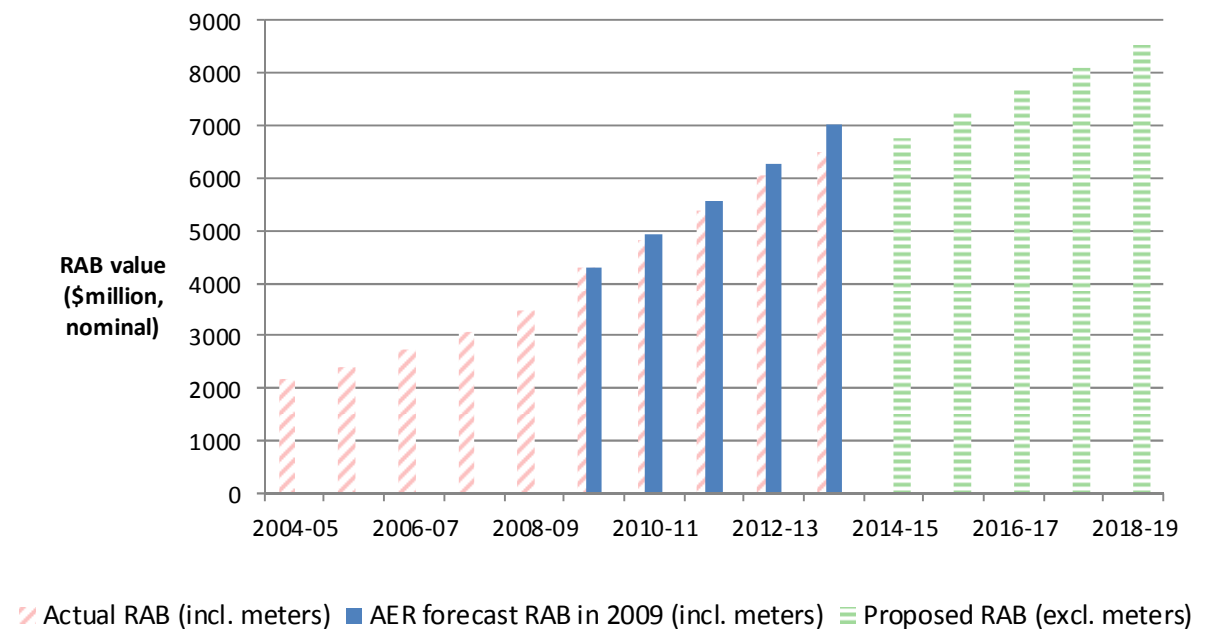
⁷ The distributors' regulatory information notices.

Figure 6 Endeavour Energy – regulatory asset base (RAB) values



Source: AER analysis.

Figure 7 Essential Energy – regulatory asset base (RAB) values



Source: AER analysis.

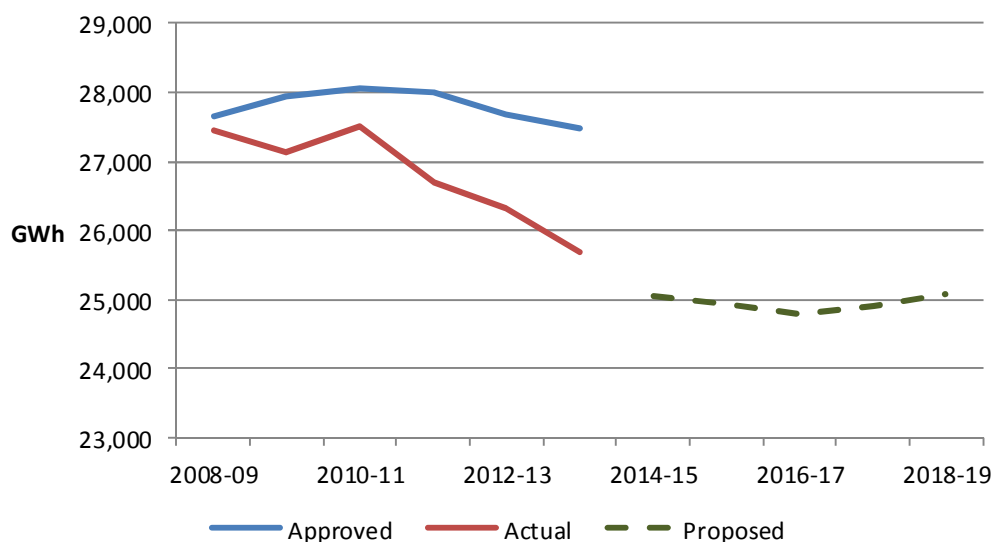
Demand has been falling

Ongoing falls in consumption and slow or negative growth in peak demand should require lower capex. The distributors are under less pressure to expand their networks to meet the needs of additional consumers. There is also lesser need for investment to augment the network to maintain existing service levels.⁸

Actual demand has fallen significantly since 2010–11 and each of the distributors' forecasts total electricity volumes to continue to fall over the first years of the 2014–19 period. They then expect to see modest year on year growth toward the end of the period. The distributors' forecasts for peak demand are somewhat different, with Ausgrid and Endeavour Energy expecting a return to growth in the 2013–14 year. Essential Energy expects a return to growth in peak demand in 2014–15.

Figure 8 to Figure 10 show total annual electricity volumes supplied by each distributor. The blue lines represent the distributors' volume forecasts for the 2009–14 period. The red lines represent the actual volumes supplied by the distributors. The dashed green lines represent the distributors' forecasts for the 2014–19 period. The distributors' peak demand forecasts are shown in figure 18 to figure 21 in attachment 2.

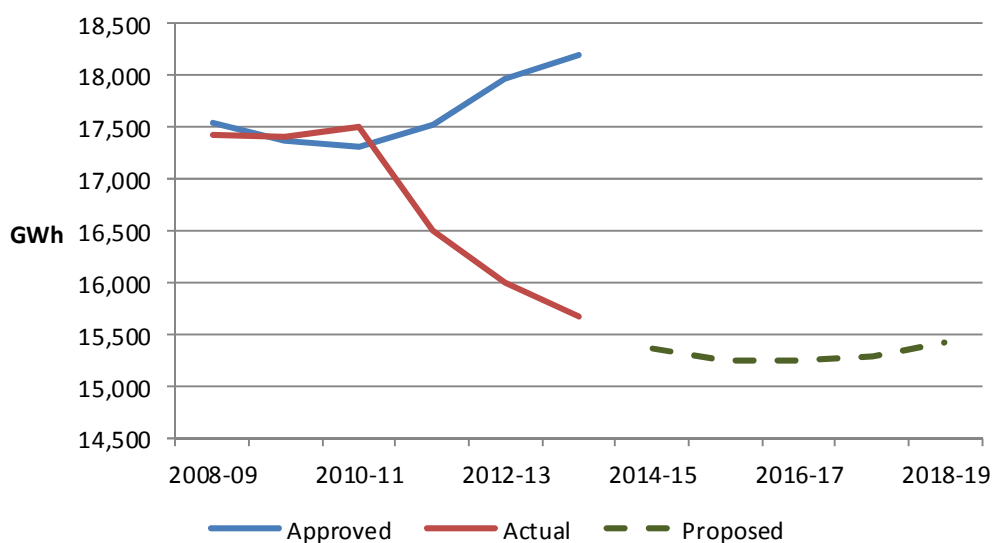
Figure 8 Ausgrid – electricity volumes



Source: AER analysis.

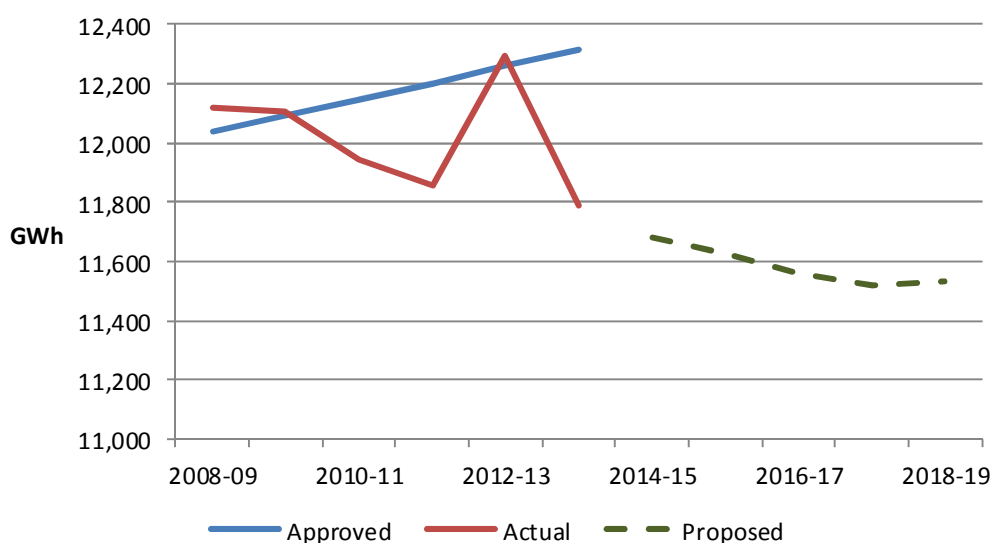
⁸ Augmentation capex relates to work to enlarge the system or increase its capacity to distribute electricity.

Figure 9 Endeavour Energy – electricity volumes



Source: AER analysis.

Figure 10 Essential Energy – electricity volumes



Source: AER analysis.

Regulated rate of return

The distributors' regulated rate of return is what we calculate they need to adequately fund their investments. After extensive consultation, we have developed a guideline that sets out our intended approach for determining the rate of return.⁹ The distributors have proposed methods other than those set out by our guideline. While the rate of return of 8.83% proposed by the distributors is lower than what they received in the 2009–14 period (10.02%), if we applied the approach set out in our guideline it may lead to a lower rate of return than that now being proposed by the distributors. We

⁹ AER, *Rate of return guideline*, December 2013.

are interested in your views about what approach would best achieve the rate of return objective—to provide a rate of return commensurate with a benchmark efficient entity with a similar risk profile to a distributor.¹⁰ While we consider our guideline sets out an appropriate approach, we do not wish to preclude submissions proposing alternative approaches to both our guideline and the distributors' proposals.

The investment environment has improved since our last reset decision, made during 2008 and early 2009. That decision was made during the height of uncertainty surrounding the global financial crisis. The result was historically high rates of return set for the distributors for the 2009–14 period. These allowed rates of return reflected the risks perceived across the broader economy in the wake of significant turmoil in global financial markets. Since the last reset, interest rates and perceptions of economy wide risk have eased. As a consequence, lower rates of return may now be more appropriate.

Is the distributors' proposed operating expenditure appropriate?

Our initial impression is that the distributors' opex proposals largely match the opex levels seen at the end of the 2009–14 period and may not reflect their investment in efficiency programs over the last five years. According to the distributors, these levels of opex reflect, at least in part, a movement of labour from capex to opex.¹¹ This implies the overall size of the workforce has not changed significantly. A key question though is, if the workforce is larger than necessary for an efficient and prudent distribution business, given the size of the capital program, then who should bear those additional costs,—electricity consumers or the owner of the business (in this case the NSW Government)? Also incorporated in the distributors' opex proposals are 'loss of synergy' costs associated with the sale of their retail businesses.¹² Again, who should bear these costs? We consider these proposals require further examination and we are interested in your views.

Figure 11 to figure 13 show the distributors' annual total opex. Shown are the distributors' actual opex for each year of the 2009–14 period,¹³ the annual opex allowance we determined for that period and the distributors' proposed annual opex. We show the distributors' proposed opex for services we propose to reclassify as alternative control, from standard control, for the 2014–19 period. An alternative control service is one for which a specific customer is charged the full cost. Therefore, the costs of alternative control services are not included in standard electricity network charges—for standard control services.

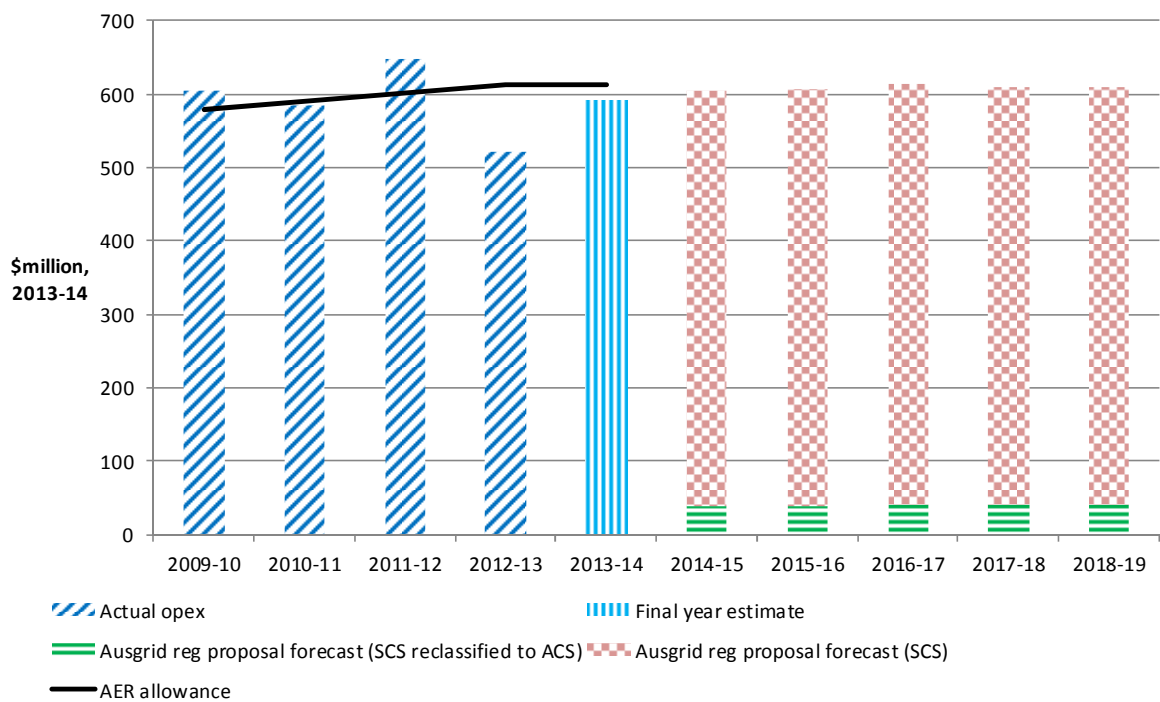
¹⁰ NER, cl. 6.5.2(c).

¹¹ Ausgrid, *Regulatory proposal*, May 2014, p. 59; Endeavour Energy, *Regulatory proposal*, May 2014, p. 88; Essential Energy, *Regulatory proposal*, May 2014, p. 78.

¹² Ausgrid, *Regulatory proposal*, May 2014, p. 56; Endeavour Energy, *Regulatory proposal*, May 2014, p. 91; Essential Energy, *Regulatory proposal*, May 2014, p. 76.

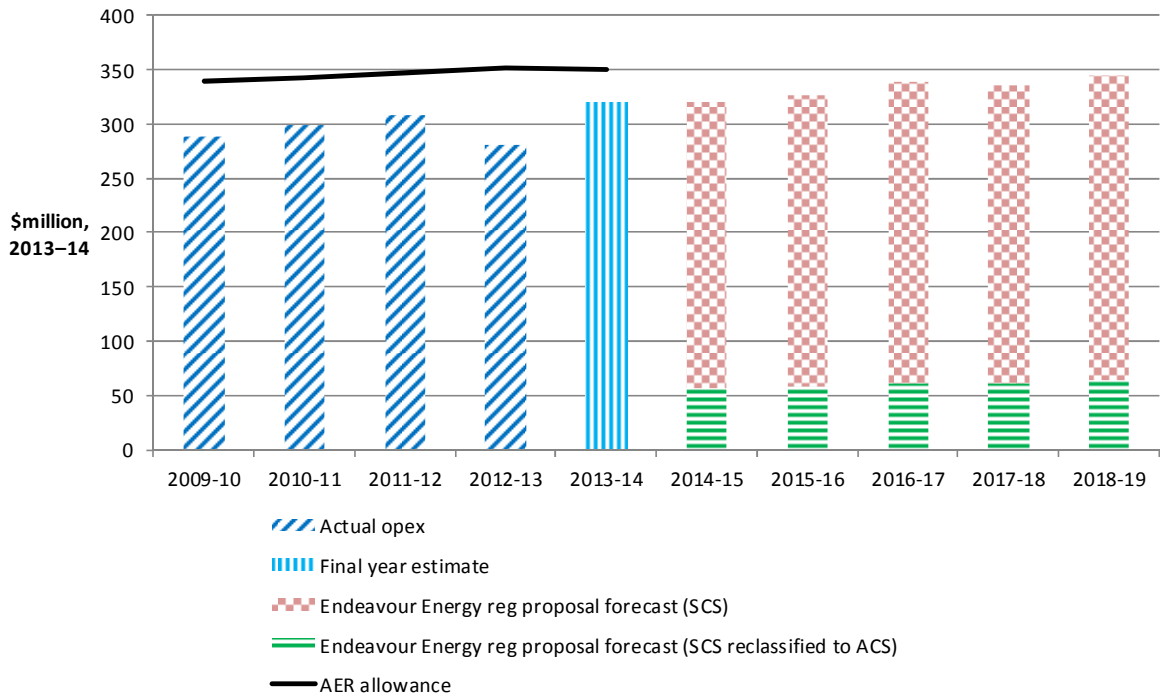
¹³ The light blue column represents the distributors' estimate of their opex expenditure in the final year of the 2009–14 regulatory control period. Actual results are not yet available for the full year.

Figure 11 Ausgrid – operating expenditure



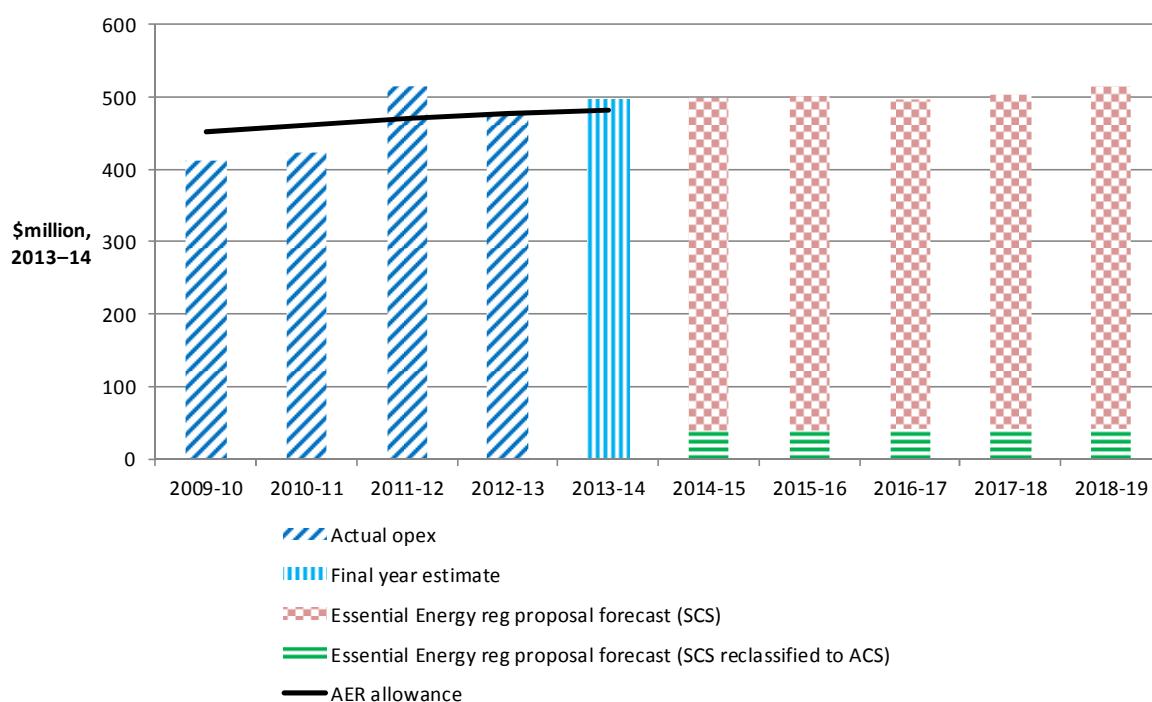
Source: AER analysis.

Figure 12 Endeavour Energy – operating expenditure



Source: AER analysis.

Figure 13 Essential Energy – operating expenditure



Source: AER analysis.

More flexible requirements for planning and reliability

One of the drivers of expenditure in the last review was improved system security and reliability. The NSW Government has now acted to remove various planning standards and make some of its reliability standards more flexible. We are interested to hear your views about whether the changes to the reliability standards are satisfactorily incorporated in the distributors' proposals.

The distributors have been pursuing efficiencies

The NSW Government has, over the final years of the 2009–14 period, been taking an active role in the governance and operation of its network businesses. It has undertaken a review process and initiated reforms to improve business efficiency. As a result of this work, the distributors have identified capex projects that may be deferred or even cancelled where possible. These efficiency initiatives will reduce the businesses' revenue requirements now and into the future.

In line with the focus of the NSW Government's review, our benchmarking and detailed analysis will consider whether the networks are operating efficiently. More efficient operating practices would require less opex and capex than in the past and, perhaps, less than the distributors have requested. The distributors themselves have been pursuing efficiency improvements. We would like to hear views on whether these are fully reflected in their proposals.

How do the different components of revenue interrelate?

The building block components of the distributors' total revenue proposals, compared to their approved revenues for the 2009–14 period, are shown in figure 14 below. Shown are:

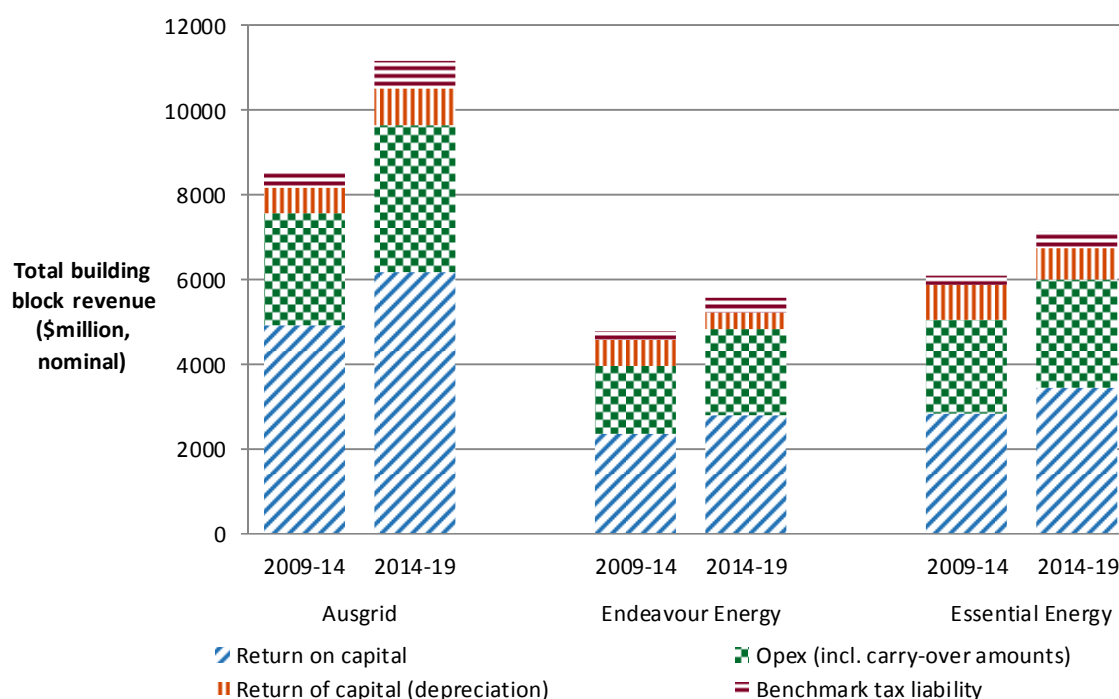
- the return on capital—determined by the size/value of a distributors' asset base, multiplied by its rate of return. The asset base is influenced by capital expenditure (capex)

- the return of capital (depreciation)—an allowance for asset value depreciation
- operating expenditure (opex)—an allowance for the costs of operating the network
- tax—an allowance to cover the distributors' tax liability.

Our assessment of the distributors' proposals will consider each of the building blocks. However, we must decide the distributors' revenues as a whole. This leads us to consider the interrelationships between the components.¹⁴ The NEL requires us to describe how the components of our decision relate to each other. We must also describe how we have taken those interrelationships into account.

We are interested in your views on how the building block components, including capex, opex and the rate of return, relate to each other. What trade-offs do you consider are possible. What dependencies are there. We discuss this further in attachment 5 to this paper.

Figure 14 Building block comparison of approved and proposed revenues



Source: Distributors, *Regulatory proposals*, May 2014; AER analysis.

Revenue impact by building block component

We have broken down the distributors' proposed revenue changes into the various building block elements. Our analysis shows how each of the elements contribute to the change in prices between the final year of the 2009–14 period and the 2014–19 period. The largest single impact for each of the distributors is the reduced rate of return. This is putting significant downwards pressure on prices. However, this has been more than offset by the combined impact of the distributors' proposed capex, opex and forecast demand, which is putting upwards pressure on prices. For Ausgrid and Endeavour Energy, the carry-over of efficiency gains from the 2009–14 period is also putting upwards pressure on prices, though we note that this impact will be short-lived.

¹⁴ NEL, s. 16(1)(c).

Our next steps

We expect to publish our draft decision in November 2014. Your submission on the NSW distributors' proposals will assist us in preparing our draft decision.

2 Consumer engagement

Consumer engagement is a key issue for our distribution determination. When assessing regulatory proposals we will have regard to how a distributor engaged with its consumers and accounted for their long term interests.

Questions

1. Please provide your comments on the consumer engagement conducted by the distributors in preparing their regulatory proposals, particularly with respect to:
 - accessibility of information provided
 - clarity about your role and the objectives of the engagement activity or activities
 - how much time was provided between the engagement activity and submission to us of the distributors' regulatory proposal?
2. If you were part of the distributors' consumer engagement, were you given options for expenditure? If yes, for each option were you asked to give preferences? For each option were you given cost and price information? Did the options cover operating expenditure and capital expenditure?
3. Please provide your comments on how effective you believe the consumer engagement conducted by the business was in responding to consumer concerns, with examples where possible.

2.1 Consumer engagement in the rules

Under the rules, consumer engagement is a factor we can consider when making our revenue determinations.¹⁵ We will examine whether and how well a distributor considered and responded to consumer views, equipped consumers to participate in consultation, made issues tangible and obtained a cross-section of views. We will make our assessment on a case-by-case basis, considering whether it would have been reasonable to engage on a particular issue. We will monitor consumer engagement activities through our consumer challenge panel (CCP) and by our ongoing engagement with stakeholders. We may publicly comment on any shortcomings in a distributors' consumer engagement that we identify from a regulatory proposal.

2.2 Our consumer engagement guideline

Our consumer engagement guideline for network service providers sets out a framework for electricity and gas network service providers to better engage with consumers.¹⁶ It aims to help the businesses develop strategies to engage systematically, consistently and strategically with consumers on issues that are significant to both parties. The guideline sets out our expectations when considering service provider consumer engagement activities:

¹⁵ NER, cl. 6.8.2(c1).

¹⁶ AER, *Consumer engagement guideline for network service providers*, November 2013; www.aer.gov.au/Better-regulation-reform-program

- **Priorities**—we expect service providers to identify consumer cohorts, and the current views of those cohorts and their service provider; outline their engagement objectives; and discuss the processes to best achieve those objectives.
- **Delivery**—we expect service providers to address the identified priorities via robust and thorough consumer engagement.
- **Results**—we expect service providers to articulate the outcomes of their consumer engagement processes and how they measure the success of those processes reporting back to us, their business and consumers
- **Evaluation and review**—we expect service providers to periodically evaluate and review the effectiveness of their consumer engagement processes.

Below, we summarise the distributors' submitted approach to consumer engagement. For details, we encourage readers to review the distributors' regulatory proposals and supporting documentation. As a guide, we have referenced below where each distributor has included consumer engagement content in their regulatory proposal package of materials.

Ausgrid

Ausgrid submitted that it has developed a customer engagement plan¹⁷ and undertaken a range of consumer engagement activities.¹⁸ These include a Facebook campaign, presentations to its own customer council, meetings with local government councils (on public lighting), letters to stakeholders and analysis of traditional media in addition to social media. Further details are available in Ausgrid's regulatory proposal.

Endeavour Energy

Endeavour Energy submitted that it has also developed a customer engagement plan.¹⁹ Under that plan, it has held two consumer engagement workshops,²⁰ conducted surveys and established feedback tabs on its website for customers' use. Endeavour Energy further submitted that it undertook focus group discussions and intensive stakeholder interviews.²¹ Endeavour Energy's regulatory proposal describes a range of other stakeholder engagement activities.

Essential Energy

Essential Energy submitted that it has developed a stakeholder engagement framework describing its consumer engagement activities.²² These include a customer survey, meetings with its rural advisory group and customer council, letters to stakeholders and social media analysis.²³ It also met with local government councils on public lighting. Essential Energy's regulatory proposal provides further details of its consumer engagement activities.

2.3 Consumer engagement to date

Since early 2012, we have been engaging with consumers and other stakeholder groups about the forthcoming electricity determination. We have heard strong views about the adverse impact on

¹⁷ Ausgrid, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment 2.01.

¹⁸ Ausgrid, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment 2.02.

¹⁹ Endeavour Energy, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment 2.01.

²⁰ Endeavour Energy, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment 2.06.

²¹ Endeavour Energy, *Regulatory proposal – 1 July 2014 to 30 June 2019* May 2014, attachment 2.03.

²² Essential Energy, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment E.2.

²³ Essential Energy, *Regulatory proposal – 1 July 2014 to 30 June 2019*, May 2014, attachment 2.2.

consumers of electricity price increases during the 2009–14 period. Concerns have also been expressed about the complexity and lack of transparency when it comes to electricity pricing. These views have been put to us at consumer forums we have attended across NSW. Every few months, we have convened a consumer forum in Sydney where participants have been able to directly speak to us about issues specific to them. The provision of public lighting and the imminent changes to residential metering arrangements are issues that have been canvassed in these forums.

More recently, our CCP has been advising us on issues relevant to consumers. The purpose of the CCP is to challenge both the AER and the distributors in terms of whether the National Electricity Objective (NEO) is being achieved. Specific issues raised by the consumer challenge panel are included in the attachment to this issues paper.

3 Your submission and key dates

We are keen to hear your opinions and experiences. But it is important that your submission is, as much as possible, supported by reasons and analysis. General statements made about a regulatory proposal are not particularly useful for our assessment. If you consider a certain aspect of the distributors' regulatory proposal is not justified, you should state why you consider it is not justified, with reference to reasons that support your views. You should also state what further information you consider the distributor should provide to justify that aspect of its proposal.

When considering the questions on which we would like feedback, it is useful to keep in mind that we must comply with the National Electricity Law (NEL) and rules. The capital expenditure (capex) and operating expenditure (opex) forecasts of a distribution business must be aimed at meeting expected demand and all regulatory obligations as well as maintaining the safety of the system. If there are no regulatory obligations in relation to quality, reliability and security of supply, a business is to maintain existing levels.²⁴

We are primarily interested in receiving submissions on the distributors' proposed approaches to customer engagement, opex, capex and the expected rate of return. However, we will consider submissions on any aspect of the distributors' proposals. Key dates for our assessment process are set out in Table 1 below.

Table 1 Key dates for the NSW distribution determination process

Task	Date
Distributor regulatory proposal submitted to AER	2 June 2014
Publish regulatory proposal and supporting documents	20 June 2014
AER public forum	10 July 2014
Stakeholder submissions on regulatory proposals close	1 August 2014
AER issues draft decision	30 November 2014
Distributors submit revised regulatory proposals	16 January 2015*
Stakeholder submissions on revised regulatory proposals close	27 February 2015*
AER issues final decision	30 April 2015

*Note: Dates are indicative only and will be confirmed as process progresses.

AER annual benchmarking report

The rules require us to publish our first benchmarking report for transmission and distribution network service providers by 30 September 2014. The purpose of this report is to describe, in plain language, the relative efficiency of each network service provider over a 12 month period. We will consult on the

²⁴ NER, clauses 6.5.6(a)(3) and 6.5.7(a)(3).

annual benchmarking report in a separate process. We will take into account the results and analysis in this report as part of our draft and final decisions on the distributors' regulatory proposals for 2014–19.

Attachments

1 Background to our assessment

This attachment provides information about us, the distributors and the regulatory framework that we administer.

1.1 The Australian Energy Regulator

We are Australia's national energy market regulator and an independent statutory authority. Our functions, set out in the NEL and NER, mostly relate to energy markets in eastern and southern Australia. Specific to this review, we are responsible for the economic regulation of all electricity distribution networks in eastern and southern Australia.

We are required to exercise our functions in a manner that will advance the National Electricity Objective (NEO). The NEO in turn is supported through the revenue and pricing principles and the various objectives, criteria and elements within the rules. The NEO is:²⁵

...to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

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

We consider that the NEO is most likely to be advanced where consumers are offered a reasonable level of service at the lowest sustainable price. In most industries, this outcome is achieved through the operation of competition. However, in the electricity network industry the usual competitive disciplines do not operate. The electricity network businesses are natural monopolies and the products they offer are essential services for most consumers. Consequently, consumers have little choice but to accept the service quality and price offered by the distributors.

The NEL and NER aim to reflect the competitive process by empowering us, as regulator, to make determinations that are in the long term interests of consumers. In short, we may require the distributors to offer their services at a higher quality and lower price than they would choose themselves. This requires the exercise of careful judgement. We must form a view after considering the interests of all parties. Further, there is no single precise answer.

There are potentially a range of outcomes that might advance the NEO. However, there are also a range of outcomes that are unlikely to advance the NEO to a satisfactory extent. For example, we do not consider that the NEO would be advanced if prices are so high that large numbers of consumers are unable to afford the service, nor if prices are so low that investors are unwilling to supply the service. We are also mindful that electricity supply is an important input for downstream economic activity. We would like to hear views on how the NEO is best reflected in our decision.

1.2 Who are the distributors?

The electricity supply chain begins with a wholesale market in which generators produce electricity and sell it through a central dispatch process. The high voltage transmission network transfers electricity over long distances from where it is generated to where consumers need it. The distributors' networks connect the high voltage transmission network to customers. Distribution networks criss-cross urban and regional areas to provide electricity to every electricity consumer..

²⁵ NEL, s.7.

Ausgrid

Ausgrid is a NSW government owned corporation that owns, operates and manages the electricity distribution network in Sydney's CBD, north Sydney, Chatswood, Newcastle, Hunter Valley and central coast.²⁶ Ausgrid supplies electricity to around 1.65 million customers, or just under half of the electricity customers in NSW. Its network covers around 22,300 square kilometres. In addition to its low voltage distribution assets, Ausgrid operates high voltage assets that would normally be operated by a transmission network service provider. These assets will be priced under transmission pricing rules, set out in chapter 6A of the rules, as they were for the 2009–14 period.²⁷ We will determine the revenues Ausgrid may earn from its high voltage assets as part of our distribution revenue determination.

Endeavour Energy

Endeavour Energy is a NSW government owned corporation that owns, operates and manages the electricity distribution network in Sydney's greater west, the Blue Mountains, southern highlands, Illawarra and south coast of NSW. Endeavour Energy supplies around 2.2 million people.²⁸ Its network includes 22 sub-transmission and 155 zone substations. The zone substations transform electricity to mid voltage levels (11kV). Before being provided to customers, 30,000 distribution substations transform electricity to 415V or 240V. Endeavour Energy's network comprises around 413,000 power poles and 35,000 km of power lines.

Essential Energy

Essential Energy is a NSW government owned corporation that owns, operates and manages the electricity distribution network in much of rural and regional NSW. Because Essential Energy services more remote areas, its customer density is lower than the other NSW distributors. Essential Energy's network covers around 95 per cent of the NSW landmass, servicing around 24 per cent of the state's electricity customers—around 815,000 customers.

Networks NSW (overseeing Ausgrid, Endeavour Energy and Essential Energy)

In March 2012 the NSW Government announced a restructure of the three NSW distributors, Ausgrid, Endeavour Energy and Essential Energy. As a result of those changes, they now share a single chief executive officer under the joint title of Networks NSW. They also cooperate to jointly procure some inputs to their businesses. However, at a functional level the three distributors have largely retained separate organisational structures, workforces and corporate identities. From a practical perspective, we engage with the three distributors on most issues as separate entities. On some high level issues we may seek to engage with Networks NSW officers rather than, or in conjunction with, officers of the individual distributors.

1.3 The regulatory framework

We must assess the distributors' regulatory proposals under version 58 the rules as modified. This version is available at the Australian Energy Market Commission (AEMC) website.²⁹ This version of the rules is the result of significant changes made by the AEMC in November 2012. Under our Better Regulation program, during 2013 we developed, through an extensive process, a number of

²⁶ Ausgrid, *Regulatory proposal*, May 2014, p. 6.

²⁷ AER, *Stage 1 Framework and approach paper – Ausgrid, Endeavour Energy and Essential Energy*, March 2013, p. 63.

²⁸ Endeavour Energy, *Regulatory proposal*, p. 7.

²⁹ www.aemc.gov.au/Australias-Energy-Market/Market-Legislation/Relevant-Legislation-Electricity

guidelines.³⁰ The objective of this program was to refine our approach to regulation and to accommodate changes to the NEL and the rules. The result was a suite of guidelines that set out approaches we consider are most likely to advance the NEO:

- **Expenditure forecast assessment guideline**
Assessing expenditure proposals from businesses.
- **Rate of return guideline**
Determining the allowed rate of return businesses earn on their investments.
- **Expenditure incentives guideline**
Creating the right incentives to encourage efficient spending by businesses.
- **Consumer engagement guideline for network service providers**
Implementing consumer engagement strategies that are effective for all stakeholders.
- **Shared asset guideline**
Sharing the revenue networks earn from shared assets with consumers.
- **Confidentiality guideline**
Managing confidential information for an effective regulatory determination process.

We consulted extensively in developing the guidelines. This was very important for testing our views and hearing from a range of interested parties. In particular, we made a special effort to engage consumers in the process through our Consumer Reference Group.³¹ We consider the guidelines provide a solid foundation for our decision making.

One of the themes that emerged from our consultation was a desire from stakeholders for clarity about the approach we would take in our decisions. In particular, many stakeholders observed that greater clarity would aid investment in the sector. To address this issue we set out our intended approaches in detail in the guidelines.

In the process established by the rules, the distributors have the first opportunity to propose a price/service offering. The distributors' application, or regulatory proposal, starts a process often referred to as a revenue reset, or simply a 'reset'. We will assess that proposal against the NEO and the rules to form a view on whether a distributor's proposal is in the long term interests of consumers. Where it is not, we will not accept the proposal, and instead impose our own decision.

Because this is an intrusive process we exercise our role with care and diligence. We consult widely and test our views, employing approaches that are widely accepted and carefully considered, such as those articulated in our guidelines.

³⁰ See our website: www.aer.gov.au/Better-regulation-reform-program

³¹ See our website for our assessment of the Consumer Reference Group: www.aer.gov.au/node/19166

1.3.1 The transitional regulatory year

Our revenue determination process for the NSW distributors was due to be completed in 2014. However, the process was delayed so the new network rules could be applied and we could focus on developing and applying the Better Regulation guidelines. Consequently, the AEMC separated the NSW regulatory control period into:

- the transitional regulatory control period (1 July 2014 to 30 June 2015)
- the subsequent regulatory control period (1 July 2015 to 30 June 2019).

Our transitional decisions set out the placeholder revenue allowances and application of the regulatory framework for the distributors for the transitional period.

1.3.2 Our transitional determination

On 16 April 2014, we issued transitional determinations for Ausgrid, Endeavour Energy and Essential Energy for the 2014–15 transitional period. These decisions will determine distribution prices for NSW consumers in this one year period. Ultimately, these placeholder revenue allowances will be replaced by the revenue allowances we approve in our full determinations to be published by 30 April 2015. Any discrepancies between our transitional determinations and our full determinations will be balanced up over the remaining four years of the 2014–19 period.

Our transitional decision provides, for the 2014–15 period:³²

- Ausgrid will be able to recover \$1,958 million (\$nominal), which is 5.8 per cent lower than it proposed.
- Endeavour Energy will be able to recover \$949 million (\$nominal), which is 5.8 per cent lower than it proposed.
- Essential Energy will be able to recover \$1,292 million (\$nominal), which is 5.2 per cent lower than it proposed.

In addition, Ausgrid will be able to recover \$252 million (\$nominal) for its transmission network, which is 6.5 per cent lower than it proposed.

1.3.3 Our framework and approach

We released our Stage 1 Framework and Approach (F&A) in March 2013.³³ This set out our intended approach to parts of the regulatory framework, such as service classification. In terms of our classification decisions, in summary we may:

- classify a service so that the distributor may recover related costs from all customers (standard control)
- classify a service so that the user benefiting from the service pays (alternative control)
- allow customers and distributors to negotiate the provision and price of some services—we will arbitrate should negotiations stall (negotiated distribution service)

³² AER, *Stage 1 Framework and approach paper – Ausgrid, Endeavour Energy and Essential Energy*, March 2013; www.aer.gov.au/node/11482

³³ www.aer.gov.au/node/11482; www.aer.gov.au/node/11483

- not classify a service—we have no regulatory control over this service or the prices charged by the distributor (unclassified service).

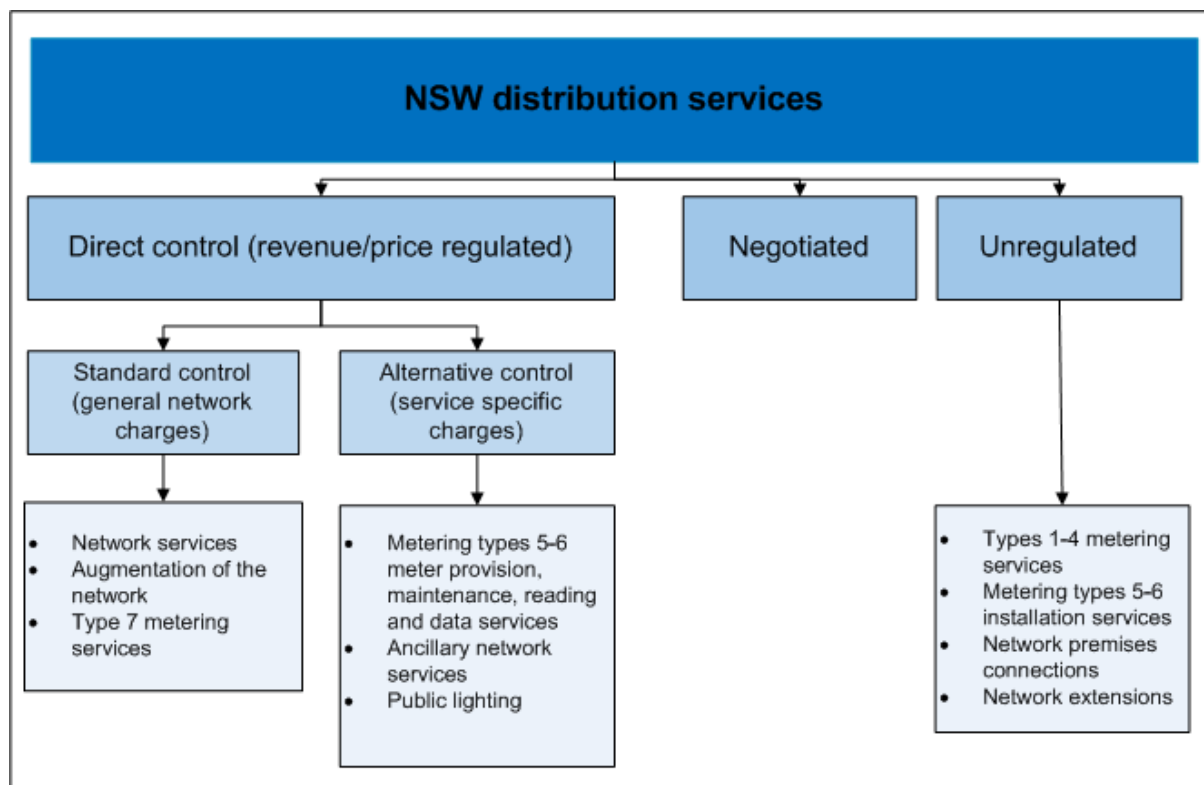
Standard control services represent the large majority of a distributor's revenue, reflecting the integrated nature of an electricity supply network. The distributors recover the cost of providing standard control services from all electricity customers through standard network charges—known as Distribution Use of System (DUoS) charges. It is the total cost of providing standard control services that this issues paper predominantly relates to. Services classified as alternative control are separately billed to individual electricity customers.

Figure 15 (over page) shows our proposed service classifications for the 2014–19 period. We may only change our proposed classifications if we consider unforeseen circumstances arise.³⁴ Our classifications are consistent with those for the 2009–14 period, with two important exceptions:

- type 5 and 6 metering services (simple accumulation and basic time of use meters) are reclassified as alternative control, from standard control
- ancillary network services have also been reclassified as alternative control, from standard control.

These changes mean the costs of providing these services will now be excluded from the distributors' DUoS charges. In future they will be recovered from specific customers requiring those services, rather than from all customers.

Figure 15 AER proposed 2014–19 service classifications for the NSW distributors



³⁴ NER, cl. 6.21.3(b).

Metering reclassification

Our reclassification of type 5 and 6 metering services is intended to facilitate the competitive provision of metering services, including new smart meters. This is one component of a broader range of reforms to the way metering services are provided, currently being considered under a rule change proposal, initiated by the COAG Energy Council, by the AEMC. The goal of these reforms is to remove the existing monopoly on metering services enjoyed by the distributors and to enable a range of new services, both inside the consumer's home or business and for the distributors themselves. New meters will also allow for more cost reflective pricing than the traditional type 5 and 6 meters.

We consider a valuable outcome of more efficient pricing structures enabled by smart meters will be reduced pressure on the distributors to build additional infrastructure to meet high demand periods. Instead, consumers and distributors will be better able to manage electricity demand to optimise existing network assets, reducing the costs that consumers would otherwise be asked to pay for.

2 Capital expenditure

Capital expenditure (capex) is added to the regulatory asset base and so forms part of the capital costs of the building blocks used to determine a distributor's total revenue requirement. We must accept the distributor's proposed forecasts of total capex if we are satisfied they reasonably reflect the capex criteria.³⁵ We must have regard to the capex factors in the rules when making that decision.³⁶

If we are not satisfied a distributors' capex proposal reasonably reflects the capex criteria, we must not accept the forecast. In that case, we must estimate the total required capex that, in our view, does reasonably reflect the capex criteria taking into account the capex factors. The approach we will adopt to assess the services providers' forecasts of total capex is outlined in our expenditure forecast assessment guideline.³⁷

Question

4. Do you think that the distributors' capital expenditure proposals are appropriate?

2.1 Distributors' capital expenditure proposals

Table 2 summarises forecast standard control services capex proposed by each of the distributors. The distributors have proposed capex levels significantly lower than their capex allowances for the 2009–14 period.

Table 2 NSW distributor capital expenditure proposals

Distributor	2014–19 total capex proposal (\$million, 2013–14)	Change from 2009–14 total capex allowance (per cent)
Ausgrid ³⁸	4,421	41
Endeavour Energy ³⁹	1,746	36
Essential Energy ⁴⁰	2,574	33

The distributors' capex proposals, compared to their historical actuals and capex allowances, are shown in Figure 16 to Figure 18 below. Each of the distributors significantly underspent its capex allowance for the 2009–14 period.

³⁵ NER, cl. 6.5.7(c).

³⁶ NER, cl. 6.5.7(e).

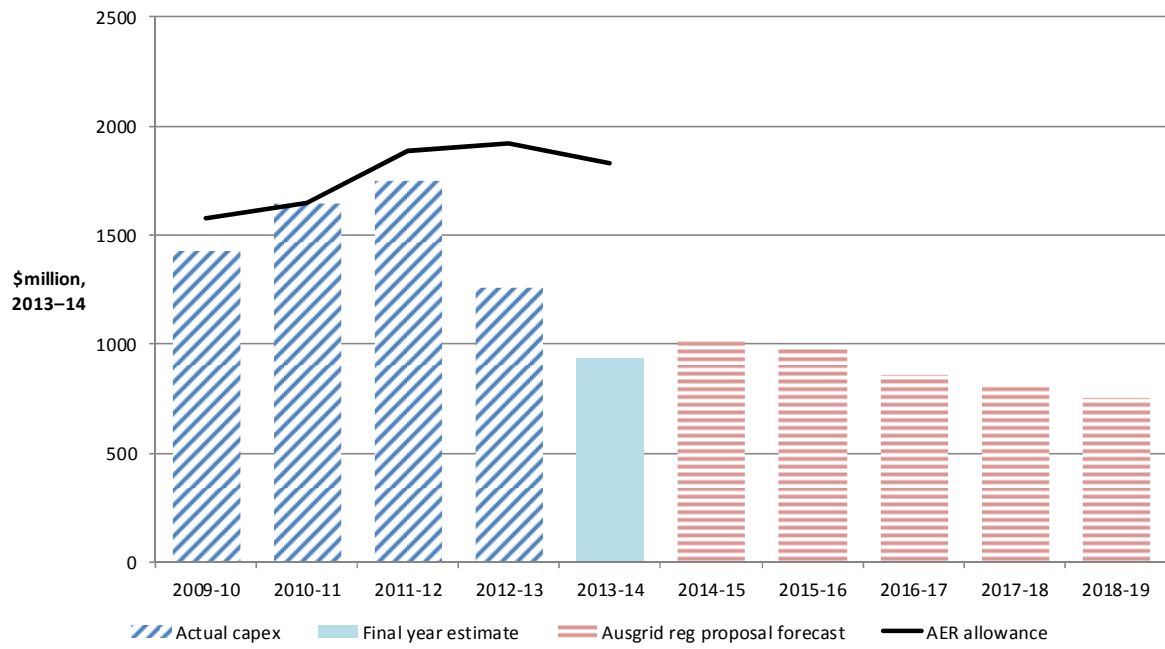
³⁷ AER, *Expenditure forecast assessment guideline*, November 2013.

³⁸ Ausgrid, *Regulatory proposal*, May 2014, p. 5.

³⁹ Endeavour Energy, *Regulatory proposal*, May 2014, p. 3.

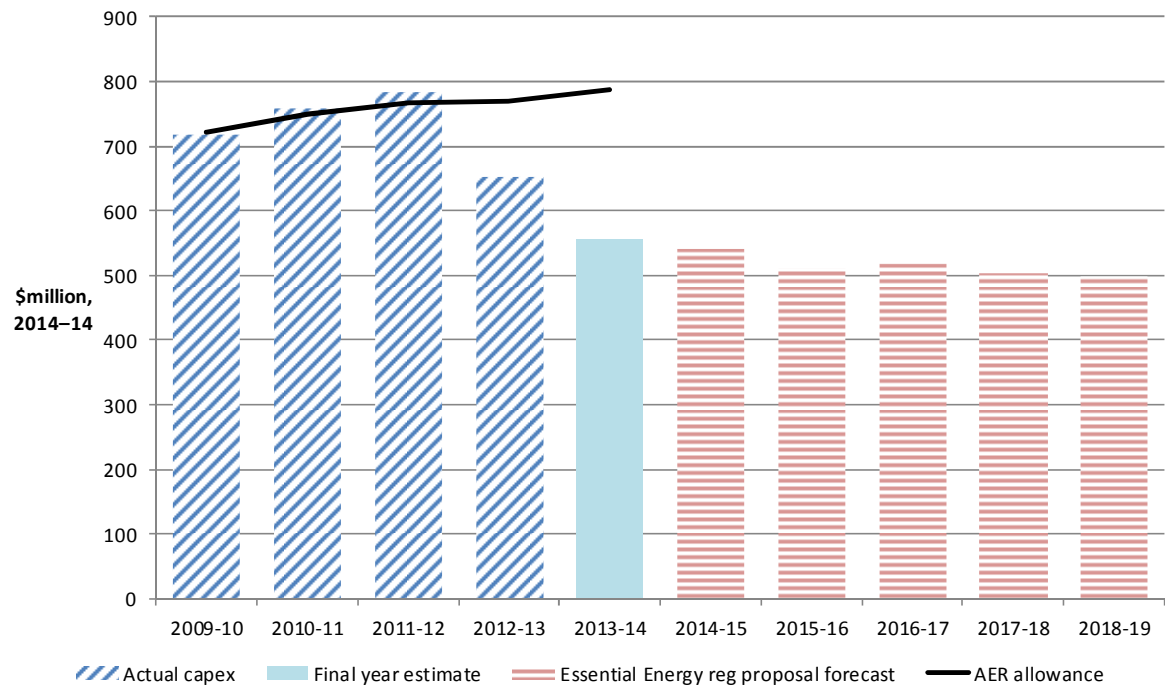
⁴⁰ Essential Energy, *Regulatory proposal*, May 2014, p. 6.

Figure 16 Ausgrid – capital expenditure



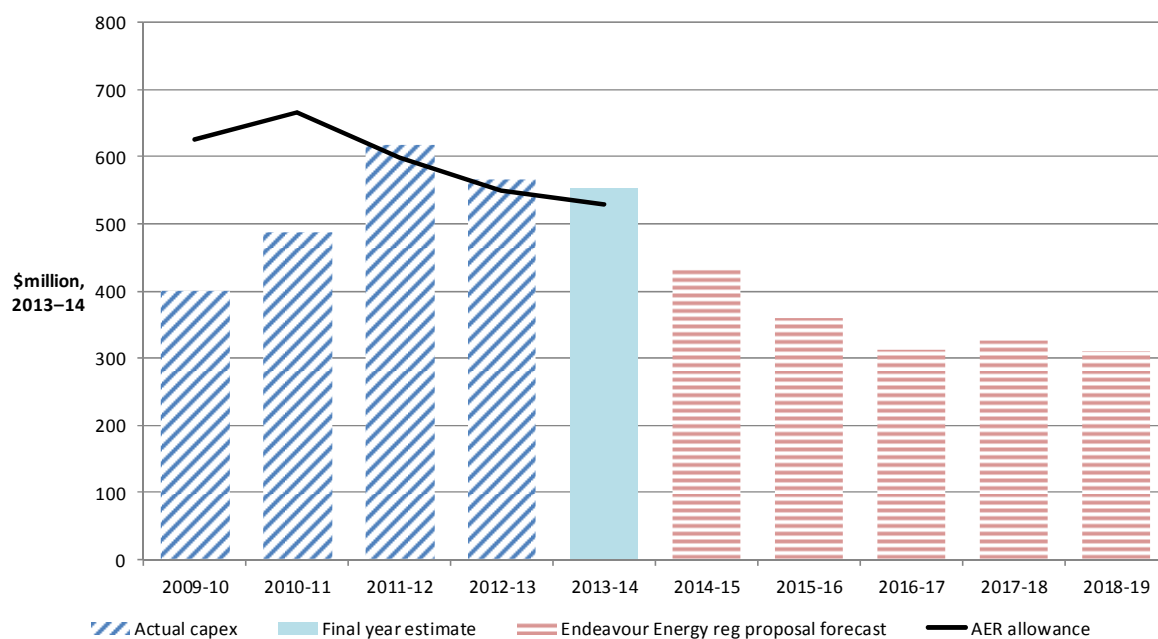
Source: AER analysis.

Figure 17 Essential Energy – capital expenditure



Source: AER analysis.

Figure 18 Endeavour Energy – capital expenditure



Source: AER analysis.

2.2 Key drivers of the distributors' capital expenditure proposals

The distributors proposed that their capex requirements are substantially influenced by the need to maintain high levels of network reliability and to replace ageing assets. They also proposed that some capex will be required to respond to demand growth across their networks.

Reliability

The distributors submitted that feedback from their consumer engagement activities supports maintaining current levels of reliability if achieved without additional price increases. The distributors have also suggested that, for most customers, a reduction in prices would not compensate for reduced reliability. Accordingly, the distributors' proposals include levels of capex (and opex) which, they have submitted, are intended to maintain current levels of reliability and security of supply.⁴¹

Network performance reports prepared by the distributors indicate that they are significantly outperforming the key reliability targets mandated in their licence conditions.⁴²

Asset renewal/replacement

Table 3 summarises the total replacement capex forecast proposed by each of the distributors for the 2014–19 period.

⁴¹ Ausgrid, *Regulatory proposal*, May 2014, pp. 12, 46 & 66; Endeavour Energy, *Regulatory proposal*, May 2014, pp. 21, 59, 63 & 70; Essential Energy, *Regulatory proposal*, May 2014, pp. 16, 17, 42 & 57.

⁴² Ausgrid, *Electricity Network Performance Report 2012–13*, November 2013, p. 23; Endeavour Energy, *Electricity Network Performance Report*, November 2013, p. 49; Essential Energy, *Electricity Network Performance Report 2012–13*, November 2013, p. 25.

Table 3 NSW distributor proposed replacement capital expenditure⁴³

Distributor	2014–19 regulatory control period (\$million, 2013–14)	Proportion of distributors' total 2014–19 capex proposal
Ausgrid	3,106.6	70 per cent
Endeavour Energy	739.7	42 per cent
Essential Energy	856.9	33 per cent

Source: The distributors, Regulatory information notices, May 2014; AER analysis

Despite undertaking substantial replacement programs in the 2009–14 period, the distributors have submitted that the average age of network assets continues to increase. They argue that their proposed replacement capex is required to maintain the average age of the network within an acceptable range, consistent with their reliability and safety obligations.⁴⁴

Responding to growth

Although there has been a decline in growth in electricity demand across each of the networks during the 2009–14 period, the distributors have proposed material amounts of growth related capex in the 2014–19 period. Table 4 shows the total augmentation expenditure forecast by the distributors for the 2014–19 period.

Table 4 NSW distributor proposed capital expenditure⁴⁵

	2014–19 period (\$million, 2013–14)	Proportion of distributors' total 2014–19 capex proposal
Ausgrid	489.5	11 per cent
Endeavour Energy	314.8	18 per cent
Essential Energy	744.6	28 per cent

Source: The distributors, Regulatory information notices, May 2014; AER analysis.

The distributors have indicated that their proposed augmentation investment is driven by pockets of growth on their respective networks, rather than system wide demand. They submitted that their proposed augmentation capex is focussed on providing sufficient capacity to meet the demands of new and existing customers in these areas.⁴⁶

We note the distributors' rationale for their augmentation capex relates to areas of growth, rather than system wide growth. They have also submitted forecasts for growth in aggregate peak demand. The distributors' peak demand forecasts are shown in Figure 19 to figure 21 below. In the figures, to the left of the vertical line are actual outcomes. To the right are the distributors' forecasts.

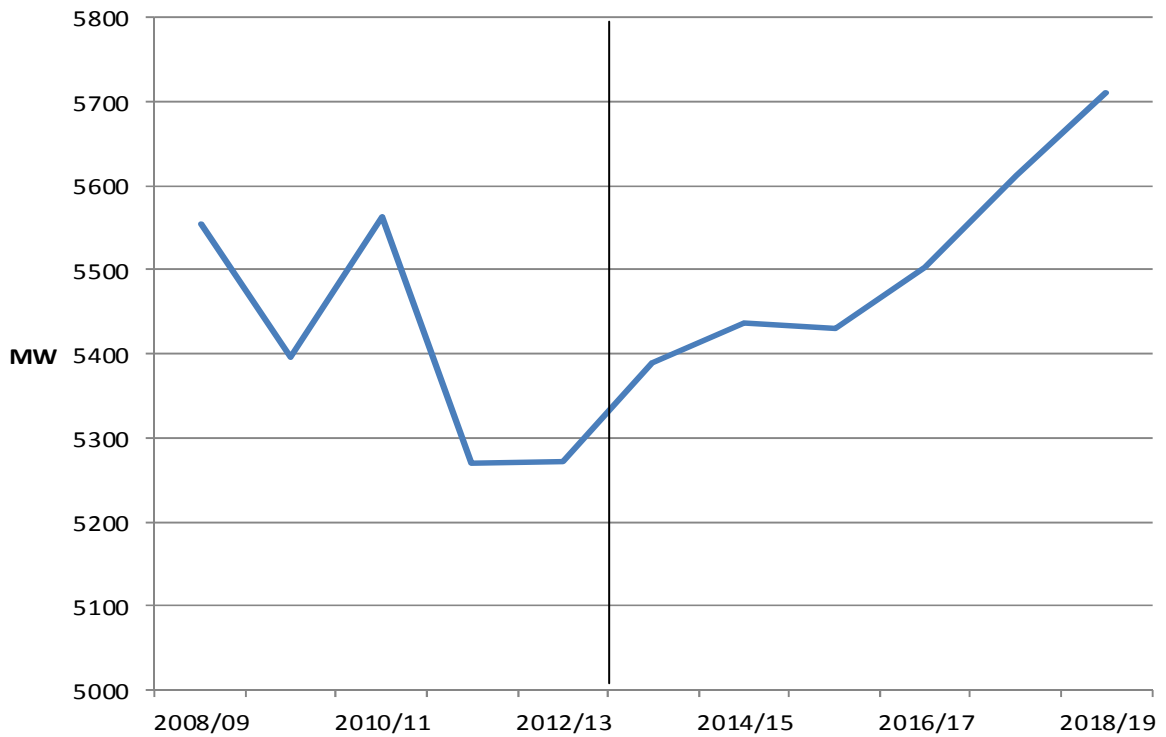
⁴³ Excludes overheads.

⁴⁴ Ausgrid, *Regulatory proposal*, May 2014, pp. 35–36; Endeavour Energy, *Regulatory proposal*, May 2014, p. 63; Essential Energy, *Regulatory proposal*, May 2014, p. 44.

⁴⁵ Excludes overheads.

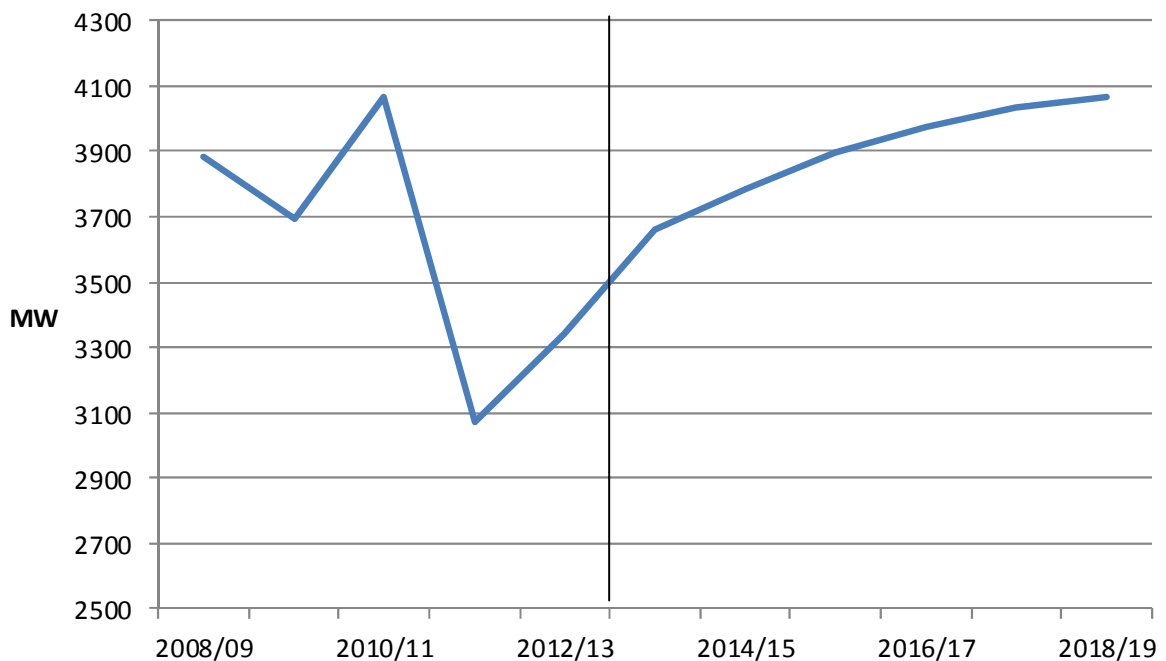
⁴⁶ Ausgrid, *Regulatory proposal*, May 2014, pp. 37–38; Endeavour Energy, *Regulatory proposal*, May 2014, pp. 56–67; Essential Energy, *Regulatory proposal*, May 2014, p. 56.

Figure 19 Ausgrid – proposed peak demand⁴⁷



Source: Ausgrid, Regulatory information notice, table 5.3, May 2014.

Figure 20 Endeavour Energy – proposed peak demand⁴⁸

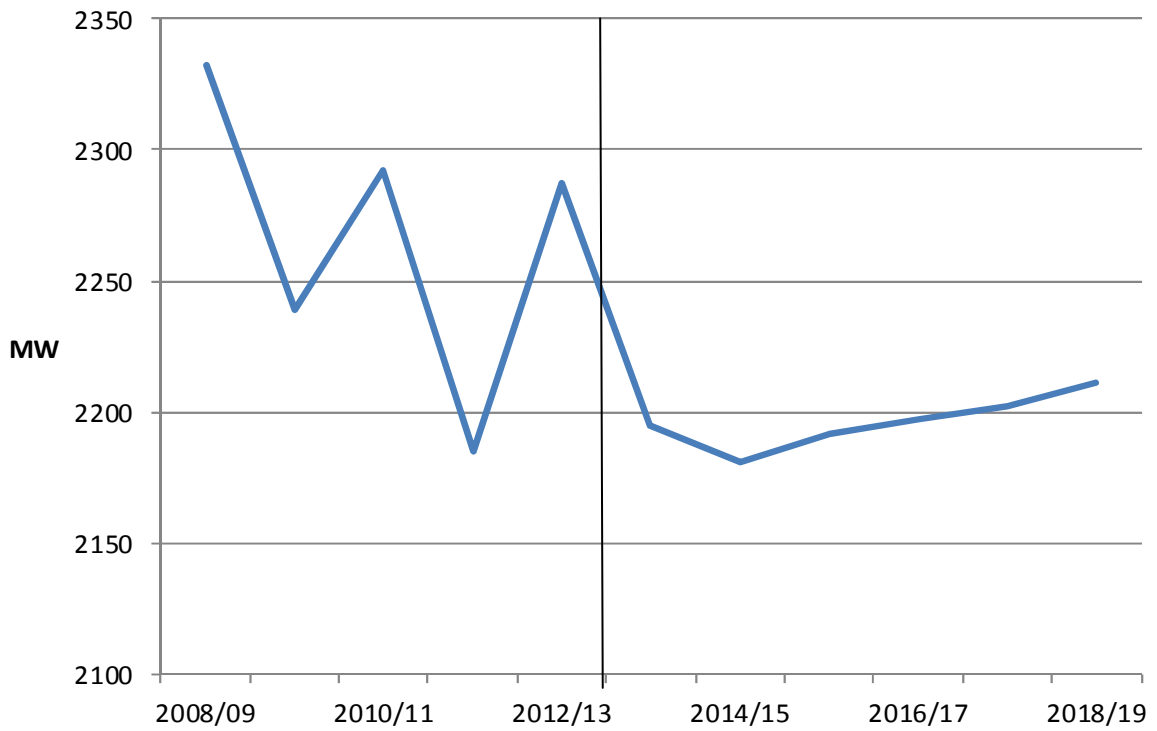


Source: Endeavour Energy, Regulatory information notice, table 5.3, May 2014.

⁴⁷ Weather corrected, 50 per cent POE, network coincident maximum demand.

⁴⁸ Weather corrected, 50 per cent POE, network coincident maximum demand.

Figure 21 Essential Energy – proposed peak demand⁴⁹



Source: Essential Energy, Regulatory information notice, May 2014.

⁴⁹ Raw network coincident maximum demand. Essential Energy did not submit weather corrected maximum demand data.

3 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenditure incurred in the provision of network services. It is one of the building blocks used to determine the distributors' total revenue requirement. We must accept the distributors' forecasts of total opex if we are satisfied it reasonably reflects the opex criteria.⁵⁰ We must have regard to the opex factors when making that decision.⁵¹

If we are not satisfied a distributors' opex proposal reasonably reflects the opex criteria, we must not accept it.⁵² We must estimate the total required opex that, in our view, reasonably reflects the opex criteria taking into account the opex factors. The approach we will adopt to assess the distributors' forecasts of total opex is outlined in our expenditure forecast assessment guideline.⁵³

Question

5. Are the distributors' operating expenditure proposals appropriate?

3.1 Distributors' operating expenditure proposals

Table 5 summarises forecast standard control services opex proposed by each of the distributors.

Table 5 NSW distributors' forecast standard control services opex (\$million, 2013–14)

Distributor	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Ausgrid ⁵⁴	573.6	575.1	583.4	578.3	578.0	2,888.2
Endeavour Energy ⁵⁵	267.6	272.4	281.2	278.7	284.4	1384.3
Essential Energy ⁵⁶	463.7	465.1	461.2	467.4	477.0	2334.4

Source: The distributors' post tax revenue models.

On a like for like basis, each of the distributors has forecast increases in opex compared to its actual spending on standard control services during the 2009–14 period.⁵⁷

3.2 Key drivers of the distributors' operating expenditure proposals

The distributors identified a number of drivers affecting forecast opex. A summary of the main drivers each distributor has identified is outlined below in Table 6 to Table 8

⁵⁰ NER, cl. 6.5.6(c).

⁵¹ NER, cl. 6.5.6(e).

⁵² NER, cl. 6.5.6(d).

⁵³ AER, *Expenditure forecast assessment guideline*, November 2013.

⁵⁴ Note the total forecast of standard control services opex reported in Ausgrid, *Regulatory proposal*, May 2014, p. 5 is \$2842.9 (\$m, 2013-14) million. This does not include forecast debt raising costs.

⁵⁵ Endeavour Energy, *Regulatory proposal*, May 2014, p. 3.

⁵⁶ Essential Energy, *Regulatory proposal*, May 2014, pp. 6 and 65.

⁵⁷ Figures 12 to 14 include proposed opex amounts for the reclassified type 5 and 6 metering services and ancillary services (shown in green). The cost of these services will not be recovered through DUoS tariffs in the 2014–19 period, as they have been during the 2009–14 period, but are included in these figures to allow a fair comparison across periods.

Table 6 Ausgrid – Drivers of opex forecast

Cost driver	Description of driver
Labour cost escalation	Ausgrid forecast real increases in labour costs, or above the expected growth in inflation. This in part reflects labour cost increases consistent with its current Enterprise Bargaining Agreement (EBA). For the period subsequent to the expiry of the EBA it reflects advice provided by a consultant about likely forecast increases. ⁵⁸ It estimated that forecast real price changes will increase its opex by \$123 million over the 2014–19 period. ⁵⁹
Efficiency program	Ausgrid proposed to implement a forecast efficiency program designed to remove function duplication, streamline corporate and support services and create better and faster procurement and logistic processes. After taking into account the cost of implementing the efficiency program, Ausgrid forecast this will lead to savings of \$112 million over the 2014–19 period. ⁶⁰
Cost base restructure	Ausgrid forecast opex of \$40 million to implement efficiency initiatives to move to a more sustainable cost structure. ⁶¹
Impact of cessation of TSA	<p>Ausgrid previously owned a retail business which was sold in 2011 to TRUenergy. Under the terms of the sale, Ausgrid was contracted to continue to provide retail services under a Transitional Services Agreement (TSA). After the TSA ends, Ausgrid has proposed that it will incur increased costs in standard control services opex due to the loss of synergies that arise from being an integrated retail and network business.</p> <p>After taking into account efficiency initiatives to offset part of its proposed cost increase, Ausgrid has forecast an increase in opex of \$26 million over the 2014–19 period due to the cessation of the TSA.⁶²</p>
Demand management	This reflects forecast broad based demand management initiatives that cost \$22 million to reduce system peak demand across its network area. Ausgrid forecast these initiatives will produce net benefits for consumers through reductions in the transmission and generation sector. ⁶³
Inspection of private mains	Ausgrid considered it is at risk of breaching regulatory and statutory obligations regarding the inspection, testing and maintenance of private mains. It has forecast increased opex of \$17 million in relation to inspection of private mains. ⁶⁴
Leaseback of head office	Ausgrid has decided to sell its head office building. After the sale is finalised it expects to enter into a lease back arrangement for up to three years. The cost of the leaseback will be incorporated into forecast opex. The proceeds from the sale of the asset will be deducted from the RAB. It forecast this has an impact of \$16 million over the 2014-19 period on forecast opex. ⁶⁵

⁵⁸ Ausgrid, *Regulatory proposal*, May 2014, p. 61

⁵⁹ Ausgrid, *Regulatory information notice*, table 2.16.1

⁶⁰ Ausgrid, *Regulatory proposal*, May 2014, pp. 59–60.

⁶¹ Ausgrid, *Regulatory proposal*, May 2014, p. 59. Exclusive of TSA implementation costs of \$13.9 million.

⁶² Ausgrid, *Regulatory proposal*, May 2014, pp. 56–57.

⁶³ Ausgrid, *Regulatory proposal*, May 2014, p. 38.

⁶⁴ Ausgrid, *Regulatory proposal*, May 2014, p. 57.

⁶⁵ Ausgrid, *Regulatory proposal*, May 2014, pp. 57–58.

Table 7 Endeavour Energy – Drivers of opex forecast

Cost driver	Description of driver
Output growth	Endeavour Energy forecast increased workload as a result of its 2009–14 capital program and customer and demand growth. ⁶⁶ It has proposed additional opex of \$158 million when compared to its actual opex in 2012–13 for this driver.
Vegetation management	Endeavour Energy has forecast increases in vegetation management costs to improve compliance with relevant obligations, and to reflect an increase in the market cost of providing vegetation management services. ⁶⁷ It forecast an increase in opex of \$131 million when compared to its actual opex in 2012–13.
Real price escalation	Endeavour Energy has forecast real increases in labour costs above CPI. Endeavour Energy reports its internal labour cost increases are consistent with its current Enterprise Bargaining Agreement (EBA). For the period subsequent to the expiry of the EBA it reflects advice provided by a consultant about likely forecast increases. ⁶⁸ Endeavour Energy's forecast of real price escalation increases its opex by \$130 million when compared to its actual opex in 2012–13.
Savings	Endeavour Energy forecasts a reduction in opex of \$25 million when compared to its actual opex in 2012–13. It considered this reflects cost savings resulting from internal efficiency programs and from Networks NSW reform programs. ⁶⁹
Capex prioritisation costs	Endeavour Energy also forecast increased opex that reflects the cost of redundancies and additional maintenance expenditure arising from the reprioritisation of its capex program. This increases its proposed opex by \$12 million when compared to its actual opex in 2012–13. ⁷⁰

Table 8 Essential Energy – Drivers of opex forecast

Cost driver	Description of driver
Vegetation management efficiencies	Essential Energy forecasts a decrease in opex on vegetation management of \$150 million in the 2014–19 period compared to the opex it incurred in 2012–13. This follows a 69 per cent increase in annual vegetation management opex between 2010–11 and 2012–13. It attributes the savings to strategic reform initiatives.
Costs to implement network reform program	Essential Energy is forecasting an increase in opex of \$94 million which reflects its ongoing contribution of funds to support the operations of Networks NSW and associated implementation of operating models. ⁷¹
Impact of reduced capex program	Essential Energy has forecast a step up in opex compared to its base year to reflect the costs associated with a reduced capex program. This included costs of aligning its labour force, reallocating overheads and additional maintenance. In net terms, after taking into account cost saving initiatives to offset these increases it is forecasting an increase in opex of \$70 million. ⁷²

⁶⁶ Endeavour Energy, *Regulatory proposal*, May 2014, p. 86.

⁶⁷ Endeavour Energy, *Regulatory proposal*, May 2014, p. 86.

⁶⁸ Endeavour Energy, *Regulatory proposal*, May 2014, p. 54.

⁶⁹ Endeavour Energy, *Regulatory proposal*, May 2014, p. 86.

⁷⁰ Endeavour Energy, *Regulatory proposal*, May 2014, p. 86.

⁷¹ Essential Energy, *Regulatory proposal*, May 2014, pp. 72–73.

⁷² Essential Energy, *Regulatory proposal*, May 2014, pp. 72–73.

Cost driver	Description of driver
Real price changes	Essential Energy has proposed real increases in input labour, materials and contractors over the 2014–19 period above CPI. In total, Essential Energy forecast real price changes lead to a \$60 million increase in opex over the 2014–19 period. ⁷³
Accounting treatment changes	As a result of network reform processes, a program was undertaken to harmonise the accounting practices across the NSW distributors. This has resulted in some costs being allocated directly to opex rather than across opex and capex. Essential Energy forecast an increase in opex of \$53 million over the 2014–19 period relating to these changes. ⁷⁴
Asset growth escalation	Essential Energy has forecast that growth related capex will lead to a step up in opex of \$31 million of the 2014–19 period.

3.3 Forecast EBSS carryover amounts

To encourage a distributor to become more efficient we typically apply an Efficiency Benefit Sharing Scheme (EBSS). The EBSS rewards distributors for efficiency gains achieved during a regulatory control period and penalises them for efficiency losses. The distributors are allowed to retain their efficiency gains for a period of time but in the longer term their allowances are reduced, meaning lower prices for customers. In the 2009–14 period the distributors operated under a transitional EBSS released in February 2008. They will receive any rewards or penalties gained during 2009–14 in the 2014–19 period.

EBSS carryover amounts are based on the difference between a distributor's approved forecast opex and its reported actual opex in each year of a period. Under the EBSS, where a distributor makes efficiency gains, the difference between forecast and actual opex will increase over a regulatory control period. This leads to larger EBSS carryover amounts.

Each of the distributors has included in their revenue proposals carryover amounts that relate to the EBSS that applied during the 2009–14 period. The proposed carryover amounts are outlined in Table 9 below.

Table 9 Proposed EBSS carryover amounts (\$million, 2013–14)

Distributor	Forecast carryover amounts
Ausgrid	\$426.3
Endeavour Energy	\$197.0
Essential Energy	-\$74.2

Source: The distributors' post tax revenue models.

A major reason why Ausgrid and Endeavour Energy have proposed positive EBSS carryover amounts is because they have reported a decrease in their actual opex spending between 2011–12 and 2012–13. A major reason why Essential Energy has proposed a negative EBSS carryover amount is

⁷³ Essential Energy, *Regulatory proposal*, May 2014, pp. 72–73.

⁷⁴ Essential Energy, *Regulatory proposal*, May 2014, p. 72; Essential Energy RIN, p. 23.

because it reported a large increase in opex spending between 2010–11 and 2011–12. Efficiency gains we approve will in future benefit customers through lower power bills.

3.4 Cost pass throughs

The rules permit the distributors to apply to us, during a regulatory period, for their prices to be adjusted because an unexpected and material cost arises or, in some cases, if actual costs are materially different to the allowances included in our original determination

Pass throughs are only permitted if they are for events listed in the distributors' distribution determinations or defined in the rules. Once a distribution determination has been finalised, we are required to approve a cost pass through application from a distributor if it satisfies the relevant requirements in our determination and the rules. For the 2014–19 regulatory period, Ausgrid and Endeavour Energy have proposed pass throughs for:

- insurance cap event
- natural disaster event
- terrorism event
- insurer's credit risk event.

Essential Energy has proposed each of the above, plus:

- aviation hazards event.

We seek your views on the pass through events nominated by the distributors. In particular, should they be recovered as part of a cost pass through if such events occur, or is it more appropriate for these potential impacts to be reflected in the distributors' allowances.

4 Rate of return

The allowed rate of return is the forecast of the cost of funds a distributor requires to make investments in its network. To estimate this cost, we consider the cost of the two sources of funds for investments—equity and debt. The return on equity is the return shareholders of the business will require to attract new investment. The return on debt is the interest rate the distributor pays when it borrows money to invest in capex. We consider that efficient distributors would fund their investments by borrowing 60 per cent of the required funds, while raising the remaining 40 per cent from equity.

When a distributor spends money on an asset, for example a new substation, the value of that substation is added to its RAB. The value of the RAB is multiplied by the allowed rate of return to determine the total return on capital the distributor can charge customers. By setting a rate of return based on a benchmark, rather than the actual costs of individual businesses, distributors have incentives to finance its business as efficiently as possible.

We published our rate of return guideline in December 2013.⁷⁵ It sets out the method we propose to estimate the allowed rate of return for electricity and gas network businesses. The rate of return guideline is not binding, but if we or the businesses seek to depart from it the rules require that we must set out reasons for doing so.

Question

6. Do you consider that any departures from our rate of return guideline are justified?
7. In particular, do you have any comments on the departures proposed by the businesses?

4.1 Distributors' proposed overall rate of return

Table 10 summarises the distributors' rate of return proposals. The first row shows the overall rate of return, or weighted average cost of capital (WACC), proposed by each distributor. The following rows show the distributors' proposed values for the individual components that, when combined, make up the WACC. These are the return on equity, return on debt, gearing ratio and level of imputation credits.

⁷⁵ AER, *Rate of return guideline*, December 2013.

Table 10 NSW distributors' proposed rates of return (per cent)

	Ausgrid	Endeavour Energy	Essential Energy
Overall WACC	8.83	8.83	8.83
Return on equity	10.11	10.11	10.11
Return on debt	7.98	7.98	7.98
Gearing	60	60	60
Imputation credits	25%	25%	25%

Source: Distributors' regulatory proposals.

The return on debt numbers apply only for the first regulatory year (2014–15). Each of the distributors has proposed to annually update the return on debt.

4.2 Return on equity

Recognising there is not one perfect model to estimate the return on equity, our rate of return guideline approach draws on a variety of models and information which we have assessed as relevant. Our starting point is the standard capital asset pricing model (CAPM)—our 'foundation model.' We then use a range of models, methods, and information to inform our return on equity estimate. We use this information to either set the range of inputs into the CAPM foundation model or assist in determining a point estimate within the range of estimates of overall return on equity resulting from the CAPM foundation model.

We propose to use the Sharpe–Lintner capital asset pricing model (SLCAPM) as the foundation model, which runs as follows:

- The SLCAPM is estimated by adding to the risk free rate the product of the equity beta and market risk premium (MRP).
 - Our approach is to estimate the risk free rate based on market conditions that prevail as close as possible to the commencement of the regulatory control period.
 - Our point estimate for equity beta is 0.7.
 - As at December 2013, our point estimate for MRP is 6.5.
- The range and point estimate for the expected return on equity is calculated based on the range and point estimates from the corresponding input parameters. For example, the lower bound of the expected return on equity range is calculated by applying the point estimate for the risk free rate and the lower bound estimates of the equity beta and MRP. A probability will not be assigned to values within the range, but it will not be assumed that all values within the range are equally probable.

Each of the distributors has estimated a benchmark efficient cost of equity using a broader range of models.

Table 11 sets out the distributors' proposed return on equity and their proposed values for the risk free rate, equity beta and MRP. For the MRP, each of the distributors proposed a value consistent with our estimate made in December 2013. For the equity beta, each of the distributors proposed a higher estimate.

Table 11 NSW distributors' proposed return on equity

	Ausgrid	Endeavour Energy	Essential Energy
Overall return on equity	10.11	10.11	10.11
Risk free rate	4.78	4.78	4.78
Equity beta	0.82	0.82	0.82
MRP	6.50	6.50	6.50

Source: Distributors' regulatory proposals.

The distributors agree that the SLCAPM can be used as a base model to estimate the allowed return on equity.⁷⁶ However, they depart from our foundation model approach set out in the rate of return guideline in relation to the estimation methods, financial models, market data and other evidence taken into account.⁷⁷ Their departures from the approach in the guideline include using:⁷⁸

- an empirical cost of equity estimate from the Black capital asset pricing model (Black CAPM) to inform the overall allowed return on equity
- an empirical cost of equity estimate from the Black CAPM to inform the estimates of the beta to be used in the SLCAPM
- an empirical cost of equity estimates from the Fama French three-factor model (FFM) to determine if estimates from the base model are reasonable
- empirical estimates of the required return on equity from the dividend growth model (DGM) to inform the allowed return on equity.

The distributors departed from the guideline by proposing to estimate the risk free rate using data from 1883 to 2011.⁷⁹ They have submitted that they prefer historical averaging, but are open to using prevailing estimates of the risk free rate if we use 'short term' estimates of the MRP, such as those provided by dividend growth models.

⁷⁶ Ausgrid, *Regulatory proposal*, May 2014, p. 79; Endeavour Energy, *Regulatory proposal*, May 2014, p. 118; Essential Energy, *Regulatory proposal*, May 2014, p. 103.

⁷⁷ Ausgrid, *Regulatory proposal*, May 2014, p. 79; Endeavour Energy, *Regulatory proposal*, May 2014, p. 119; Essential Energy, *Regulatory proposal*, May 2014, p. 104.

⁷⁸ Ausgrid, *Regulatory proposal*, May 2014, p. 79; Endeavour Energy, *Regulatory proposal*, May 2014, p. 119; Essential Energy, *Regulatory proposal*, May 2014, p. 104.

⁷⁹ Ausgrid, *Regulatory proposal*, May 2014, p. 79; Endeavour Energy, *Regulatory proposal*, May 2014, p. 118; Essential Energy, *Regulatory proposal*, May 2014, p. 103.

The distributors depart from our guideline by proposing the MRP be estimated using historical excess returns, rather than with various sources of evidence.⁸⁰ They also consider historical excess returns should produce a MRP estimate of 6.5 per cent, using data from 1883 to 2011.⁸¹

The distributors disagree with our guideline approach to estimating the equity beta parameter within the SLCAPM framework. They have proposed an equity beta estimate of 0.82 by widening the sample firms beyond the Australian listed energy networks to include US comparator firms.⁸² They also submitted that their proposed equity beta is supported by the use of the Black CAPM framework to estimate the cost of equity.⁸³

4.3 Return on debt

Approach

To estimate the return on debt, our rate of return guideline proposes a ten year trailing average portfolio approach, with annual updates, after a period of transition. Our proposed transitional arrangement recognises the importance of transitioning from one benchmark approach to another benchmark approach. Under our proposed transitional arrangement, we would set 100 per cent of the allowed return on debt for the first year of the 2014–19 period based on current observed corporate bond yields. For the second year (2015–16), we would set 90 per cent of the allowed return on debt based on then-current corporate yields. For the third year we would set 80 per cent of the allowed return based on then-current corporate yields. And so on. After ten years (covering two regulatory control periods), then-current observed bond yields would no longer impact at all on the allowed return on debt. For each of those ten years, progressively more of the allowed return on debt would be based on our proposed ten year trailing average portfolio approach. After the ten year transition period, 100 per cent of the allowed return on debt would be based on the ten year trailing average portfolio.

The distributors' proposed return on debt approach is consistent with the approach in our guideline, except each distributor has proposed immediate transition. The implementation of transitional arrangements is therefore one of the key issues on return on debt.

Whether or not transitional arrangements are adopted is likely to have a substantial revenue impact. For example, the largest distributor—Ausgrid— estimated this could have a \$510 million (\$nominal) impact on its revenue over the regulatory control period.⁸⁴

Implementation

In our rate of return guideline we proposed to apply the published yields from an independent third party data service provider for estimating the prevailing return on debt for each service provider during the averaging period. Each of the distributors adopted a benchmark 10 year term of debt and then use published yields from an independent third party data service provider—the Reserve Bank of

⁸⁰ Ausgrid, *Regulatory proposal*, May 2014, p. 79; Endeavour Energy, *Regulatory proposal*, May 2014, p. 118; Essential Energy, *Regulatory proposal*, May 2014, p. 103.

⁸¹ Ausgrid, *Regulatory proposal*, May 2014, p. 80–1; Endeavour Energy, *Regulatory proposal*, May 2014, p. 120–121; Essential Energy, *Regulatory proposal*, May 2014, p. 106–107.

⁸² SFG, *Regression based estimates of risk parameters for the benchmark firm*, June 2013.

⁸³ Ausgrid, *Regulatory proposal*, May 2014, p.81–84. Endeavour energy, *Regulatory proposal*, May 2014, p. 121, 125. Essential energy, *Regulatory proposal*, May 2014, p. 107, 111.

⁸⁴ Ausgrid's proposed trailing average cost of debt, as calculated by CEG, includes several adjustments to the RBA data which have a material impact on the results. These include extrapolation for effective tenor, adjustments to achieve a varying target credit rating, and what appears to be additional annualisation where the RBA data has already been annualized. We will assess the appropriateness of these adjustments during the regulatory determination.

Australia (RBA). On 7 April 2014, we released an issues paper⁸⁵ seeking submissions on which third party data service provider distributors should use to estimate the return on debt. We will consider and respond to submissions on this separate issues paper in the context of our reset determinations.

Our guideline also sets a benchmark credit rating of BBB+, based on the median credit rating for a sample of Australian utilities from 2002 to 2012. Each of the distributors has departed from our guideline in regard to the benchmark credit rating. They have proposed to apply a combination of benchmark credit ratings of BBB and BBB+. It is not clear what impact (if any) the proposed change in credit rating would have; given the two possible data series' providers (the RBA and Bloomberg) both publish broad BBB rated data series.

4.4 Imputation credits

Under the Australian taxation system, investors can receive an 'imputation credit' for income tax paid at the company level. For investors that meet certain eligibility criteria, this credit can be used to offset their tax liabilities. Imputation credits are a benefit to investors in addition to any cash dividend or capital gains from owning shares.

The rules account for the value of imputation credits through an adjustment to the company income tax building block allowance. The lower the value of imputation credits, the larger the revenue allowance for the distributor. Our guideline proposes that the value of imputation credits would be estimated as a market-wide parameter, rather than estimating this on an industry or business specific basis. Under our guideline, it would be determined as the product of:

- a payout ratio, which represents the proportion of imputation credits generated by the benchmark entity that are distributed to investors
- a utilisation rate, which is the extent to which investors can use the imputation credits they receive to reduce their tax or to get a refund.

The payout ratio would be estimated using the cumulative payout ratio approach. This approach uses ATO tax statistics to calculate the proportion of imputation credits generated (via tax payments) that have been distributed by companies since the start of the imputation system. At the time of our guideline's publication, this approach produced an estimate of 0.7 for the payout ratio.

The utilisation rate would be estimated using the body of relevant evidence with regards to its strengths and limitations, checked against a range of supporting evidence.

In the guideline, our assessment of this evidence produced an estimate of 0.7 for the utilisation rate. Our guideline therefore proposed an estimate of 0.5 for the value of imputation credits, based on a payout ratio of 0.7 and a utilisation rate of 0.7.

Each of the distributors has supported a payout ratio of 0.7, but they have not supported our approach to interpreting and estimating the utilisation rate. They submitted that gamma is the product of a payout ratio and the value of distributed credits to investors per dollar of imputation credit received. They submitted also that the best estimate of this parameter comes from an implied market value study performed by SFG Consulting.⁸⁶ The distributors have therefore proposed an estimate of 0.25 for the value of imputation credits.

⁸⁵ AER, *Return on debt: Choice of third party data service provider – Issues paper*, April 2014.

⁸⁶ SFG, *Updated estimate of theta for the ENA*, June 2013.

The distributors' proposed estimate for the value of imputation credits is consistent with the findings of the Tribunal in 2011. However, since that Tribunal decision we have re-evaluated the conceptual task of estimating the value of imputation credits and this is reflected in the approach set out in our rate of return guideline. An important issue in determining the value of imputation credits for the 2014–19 period is the interpretation and estimation of this second parameter.

5 Interrelationships between components of our decision

In considering our overall decision on the distributors' regulatory proposals, we must take account of the interrelationships between the separate components such as capex, opex and the rate of return. In our decision, we must describe those interrelationships and how we have accounted for them. We consider your views on these interrelationships will be valuable to our assessment of the distributors' regulatory proposals.

To assist you in providing us with submissions on the interrelationships inherent in the distributors' regulatory proposals, this attachment describes the building block model and outlines some of the interrelationships we are likely to take into account.

Question

8. How should we balance the interrelationships between building block components when making our decision on the distributors' regulatory proposals?

5.1 The building block model

If we do not accept the distributors' revenue proposals, we must ourselves determine the efficient cost of providing distribution services, subject to the requirements of the rules. To do this, we assess the total revenue required to provide distribution services for each year of the period.⁸⁷ In accordance with the rules, we use the building block model to determine the annual revenue requirement. The underlying cost elements include:

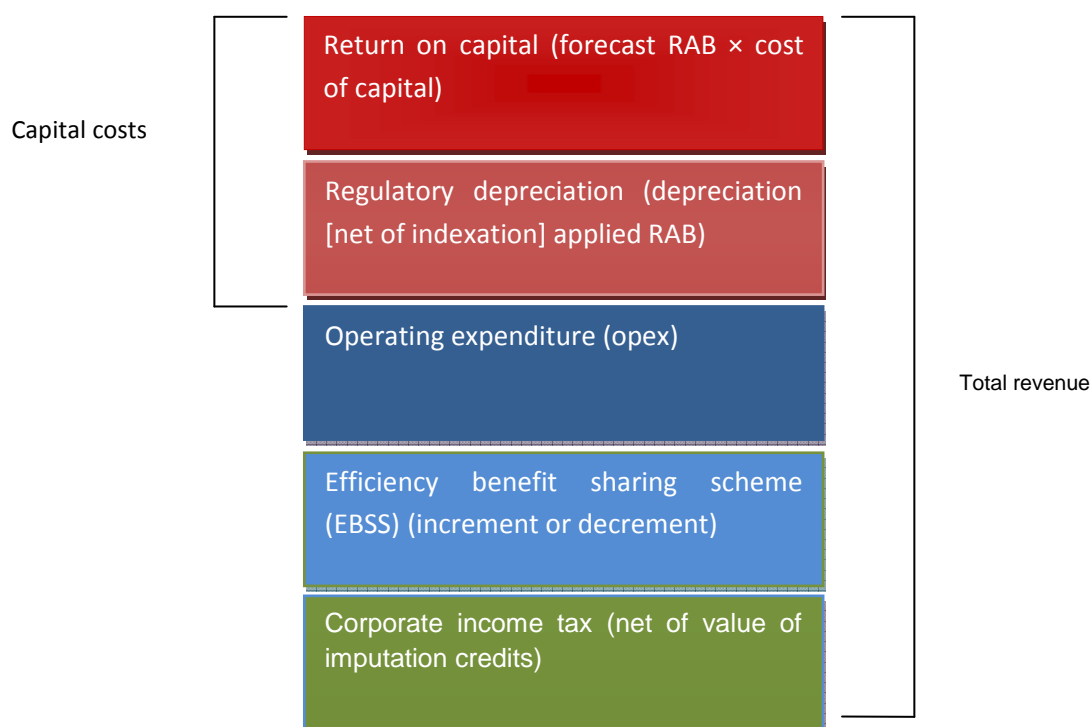
- a return on the regulatory asset base (return on capital)
- depreciation of the regulatory asset base (return of capital)
- opex
- increments or decrements resulting from the efficiency benefit sharing scheme (EBSS)
- the estimated cost of corporate income tax.

Our assessment of capex directly affects the size of a distributor's asset base and therefore the return on capital and return of capital building blocks.

Figure 22 below illustrates the building block model.

⁸⁷ We will also determine Ausgrid's transmission revenue.

Figure 22 The building block approach to determining total revenue



5.2 Interrelationships between building block components

In some cases, the separate building block components may be substitutes, so that increasing one may lead to decreasing another. In other cases, increasing one component will increase another. There may not be a single optimal combination. Rather, several combinations may provide an efficient level of revenue. Below, we describe some of the interrelationships we consider may be important to our assessment of the distributors' proposals.

Repair or replace assets

Maintaining existing assets incurs opex costs. However, if those assets are replaced instead of being maintained, the distributor incurs capex costs. The decision to repair or replace assets can affect ongoing opex costs, in that newer assets may require less maintenance than older assets.

Building assets increases the return on capital and depreciation

The more capex investment undertaken by a distributor, the larger its future return on capital and depreciation allowance. This is because capex contributes to the size (value) of a distributor's asset base. The return on capital is equal to the rate of return multiplied by the value of the distributor's asset base. So the larger the asset base, the larger the dollar amount return on capital and therefore how much revenue they are allowed to recover. In the same way, the distributor's depreciation allowance becomes larger in proportion to the size of the asset base being depreciated.

More assets require more maintenance

Depending on the type of capex investments made by a distributor, additional investment may create need for more opex spending. This is because, in principle, a large asset base requires more maintenance than a small asset base. This effect may be offset by capex investment that creates operational efficiencies, or avoids the increasing opex required to extend the operating life of ageing assets, as described above.

Incentive schemes and revenue allowances

Schemes to provide the distributors with incentives to become more efficient, such as the EBSS, affect the revenue allowances we determine for capex and opex. For example, by seeking to maximise its EBSS payment, a distributor may uncover efficiencies in its maintenance activities. In the short term, the distributor is allowed to retain the savings it achieved. But in the longer term, the savings reduce the distributors' opex allowance, reducing prices. Because capex spending can either increase or decrease the need for opex costs to be incurred, the EBSS incentive may also influence both short and long term capex allowances. Other incentive schemes, such as the service target performance incentive scheme, target capex more directly.

A range of further interrelationships exist within the building block elements, where our decision on technical variables influence one or more of the building blocks themselves. These include:

- the economic life of assets — affects return on capital, capex, opex
- step changes — affects capex, opex, incentive schemes, pass throughs
- base year adjustments — affects opex, capex, incentive schemes
- forecast inflation — affects all forecasts
- related party transactions — affects capex, opex.