

18 December 2014

Ms Christine McDonald
Secretary
Senate Standing Committee on Environment and Communications
References Committee
Inquiry into Electricity Network Companies
Parliament House
CANBERRA ACT 2600

Dear Ms McDonald

Submission to Senate Standing Committee Inquiry into Electricity Network Companies

The Australian Energy Regulator welcomes the opportunity to provide the attached submission to the Senate Standing Committee's inquiry into electricity network companies.

Our submission focuses on the terms of reference relevant to our role as economic regulator of electricity network businesses in the National Electricity Market. The submission highlights that proposals from network businesses are subject to a significant amount of scrutiny to ensure that customers are paying no more than necessary for a safe and reliable electricity supply. The submission also emphasises that it is the AER who determines the rate of return for network businesses and that a range of recent reforms have provided the AER with greater ability to promote efficient outcomes for electricity consumers.

Should you have any questions, please feel free to contact the AER's Chief Executive Officer, Michelle Groves, on (03) 9290 1423 or me on (03) 9290 1419.

Yours sincerely

Paula W Conboy
Chair



**Senate Standing Committee on Environment and
Communications**

Inquiry into electricity network companies

Submission

November 2014

1 Introduction

The Australian Energy Regulator (AER) welcomes the opportunity to provide a submission to the Senate Standing Committee on Environment and Communications Inquiry into electricity network companies.

The AER is Australia's national energy market regulator and an independent decision making body. Our responsibilities are set out in national energy market legislation and rules, and mostly relate to energy markets in eastern and southern Australia. One of our key roles is to determine the amount of revenue that network businesses can recover from customers.

Many of the Inquiry's terms of reference are concerned with the process of how electricity network companies are regulated and the impacts on electricity consumers. This submission focuses on the terms of reference related to the AER's regulatory role.

Our approach to addressing the terms of reference is to firstly outline how network regulation works and our role in this process. This discussion addresses a broad range of the issues raised by the Inquiry's terms of reference.

The submission then highlights recent developments surrounding the rate of return, capital expenditure and the regulatory asset base, as well as the merits review of AER decisions. This discussion further addresses a range of the Inquiry's terms of reference.

This discussion highlights that proposals from network businesses are subject to a significant amount of scrutiny to ensure that customers are paying no more than necessary for a safe and reliable electricity supply. The discussion also emphasises that it is the AER who determines the rate of return for network businesses and that a range of recent reforms have provided the AER with greater ability to promote efficient outcomes for electricity consumers.

While our submission focuses on network regulation issues, we note that there are a range of other network reforms that are currently being progressed to address issues highlighted in the terms of reference. Notably, the Australian Energy Market Commission (AEMC) has recently introduced new rules for distribution network pricing. These rules require network prices to reflect the efficient cost of providing network services to individual consumers, so that customers can make more informed decisions about their electricity usage. Other important reforms being progressed by policy makers and the AEMC include the review of the national framework for reliability, and metering and demand management reforms. It is important that this Inquiry is cognisant of these reforms that are being progressed.

2 Electricity networks and the regulatory process

In this part of the submission, we discuss how network regulation works and the AER's role in this process. This discussion addresses terms of reference (a) how network companies present information to the AER, (e) the arrangements for the regulation of the weighted average cost of

capital (WACC), (f) whether the AER has pursued lowest cost outcomes for consumers, and (j) whether the current system provides adequate oversight of electricity network companies.

Electricity transmission and distribution networks are widely considered to be natural monopolies, meaning that network services in a particular geographic area can be most efficiently provided by a single supplier. Natural monopolies arise from strong economies of scale – the average per-customer cost of supply tends to fall as output increases. Where these economies of scale exist, it generally will be more efficient for a single business to supply the whole market – it would be extremely costly and inefficient to duplicate an electricity network.

In absence of competition or the threat that a customer will move to another supplier, the incentive for the monopoly firm is to charge more than what it costs to supply that customers. It is for this reason that governments establish economic regulation – to help ensure that the companies face similar incentives to a competitive firm and keep costs at an efficient level. This economic regulation limits the revenues that businesses can earn and/or the prices they can charge for the services they provide. This is designed to manage the risk of monopoly pricing and encourage efficient investment in infrastructure.

Electricity transmission and distribution networks in Australia are subject to economic regulation. The AER is the economic regulator for electricity networks in the National Electricity Market (NEM). The Economic Regulation Authority regulates networks in Western Australia, and the Utilities Commission regulates electricity networks in the Northern Territory.

The foundation for the regulatory framework governing electricity networks in the NEM is outlined in the National Electricity Law (NEL). In particular, section 7 of the NEL sets out the National Electricity Objective (NEO):

The objective of this Law is 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.

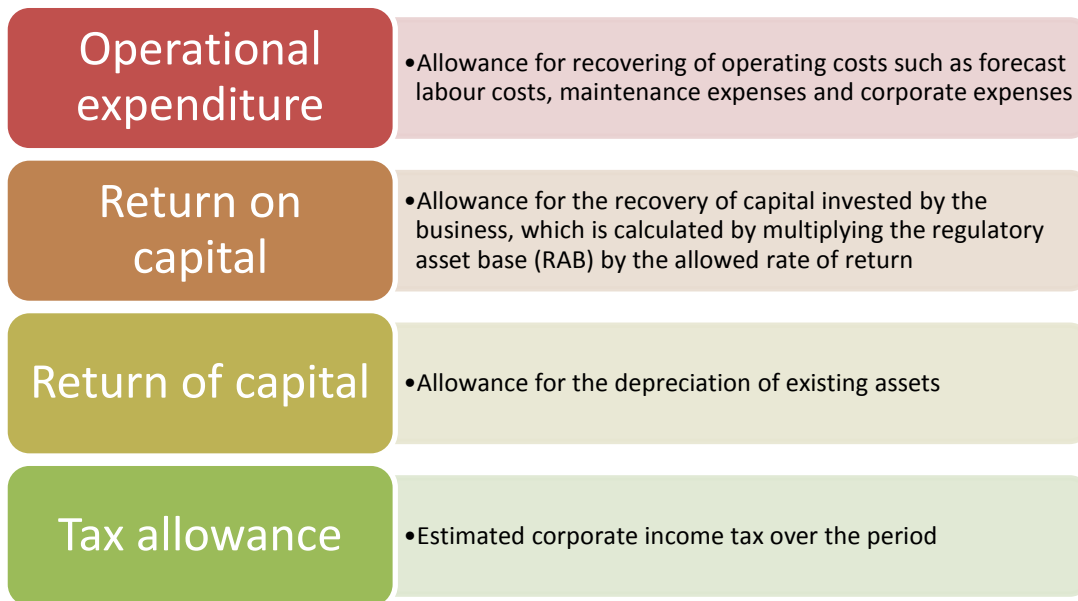
The NEO, therefore, is not only concerned with cost outcomes for electricity consumers, but also in the safety, reliability and security of energy supplies. The AER must exercise its economic regulatory powers and functions in a manner that will or is likely to contribute to the achievement of the NEO.

Section 7A of the NEL also sets out revenue and pricing principles, which requires that a network business should have a reasonable opportunity to recover at least efficient costs and should be provided with incentives to promote efficiency.

The detailed regulatory framework that the AER must apply in determining the revenues for network businesses is set out in Chapters 6 and 6A of the National Electricity Rules for distribution and transmission networks respectively.

Regulated electricity network businesses must periodically apply to the AER to assess their forecast expenditure and revenue requirements (typically, every five years).

The National Electricity Rules outline a ‘building blocks’ approach to setting the revenue that networks are allowed to recover from customers . These ‘building blocks’, shown in the figure below, are estimates of the various costs the network business needs to incur in efficiently providing network services to customers over the regulatory period. These building blocks are added together to determine the maximum amount of revenue that the network business is allowed to recover from its customers over the regulatory period.



The largest component is the return on capital, which may account for up to two-thirds of the revenue allowance. The size of a network’s regulatory asset base (RAB) (and projected investment) and its weighted average cost of capital (the rate of return necessary to cover a commercial return on equity and efficient debt costs) affect the return on capital. An allowance for operating expenditure typically accounts for a further 30 per cent of the revenue allowance.

The National Electricity Rules set out an ex ante ‘incentive-based’ approach to regulation. This means that the amount of regulated revenue that network businesses are allowed to recover from customers over the regulatory period is set up front. If a network business can provide the required services at an actual cost below the efficient costs assessed in our building blocks, the business can ‘keep the difference’ for a period of time. Conversely, if the network business incurs higher actual costs than assessed in our building blocks, it will bear the difference for a period of time. This attribute – known as ‘benefit-sharing’ – is designed to encourage network businesses to minimise their costs while continuing to meet or exceed stipulated reliability or performance targets.

This differs from a cost of service approach to regulation. Under a cost of service approach, the revenue allowance is based on the costs that the individual business requires to provide services.

However, cost of service regulation does not provide strong incentives for regulated firms to operate efficiently and minimise costs.

Under Chapters 6 and 6A of the National Electricity Rules, the AER is also required to put out a series of regulatory guidelines outlining its approach to regulation. These guidelines were finalised in 2013 under the AER's Better Regulation reform package.¹ These guidelines are:

- Expenditure Forecast Assessment Guidelines – describe the process, techniques and associated data requirements for the AER's approach to setting efficient expenditure allowances for network businesses. These were prepared separately for electricity transmission and distribution businesses.
- Expenditure Incentives Guidelines – seek to create the right incentives to encourage efficient spending by businesses and share the benefits of efficiencies with consumers. These were prepared separately for capital expenditures (CESS) and operating expenditures (EBSS).
- Rate of Return Guideline – sets out how the AER determines the return that electricity and gas network businesses can earn on their investments.
- Consumer Engagement Guideline – sets out a framework for electricity and gas network businesses to better engage with consumers. It aims to help network businesses develop strategies to engage systematically, consistently and strategically with consumers on issues that are significant to both parties.
- Shared Assets Guideline – outlines how consumers will benefit from the other services electricity network businesses may provide using the assets for which consumers pay.
- Confidentiality Guideline – sets out how energy network businesses must make confidentiality claims over information they submit to the AER. This guideline balances protecting genuinely confidential information with ensuring that stakeholders can access sufficient information on issues affecting their interests.

Chapters 6 and 6A also set out very detailed processes that the AER must follow in regulating networks' revenues. The major steps of the regulatory process involve:

1. The AER is required to publish a 'framework and approach' paper 23 months before the end of the network business's current regulatory control period (RCP) setting out the AER's proposed approach to the business's next regulatory determination.
2. The network business must submit a detailed regulatory proposal to the AER at least 17 months prior to the end of its current RCP. The regulatory proposal must set out the

¹ More information on these guidelines is available at <http://www.aer.gov.au/Better-regulation-reform-program>. This information includes the guideline documents, accompanying explanatory statement and guideline factsheets.

business's proposed regulated revenues for the following RCP, based on the various building block cost components.

3. The AER must publish:
 - the network business's regulatory proposal and related documents
 - an issues paper the AER has prepared seeking written submissions from stakeholders, allowing at least 30 or 45 business days for stakeholders to respond
 - an invitation to stakeholders to attend a public forum on its issues paper, well before stakeholder submissions are due to be submitted.
4. The AER must then publish, 9 months before the RCP ends:
 - a draft determination setting out where it refuses to approve any aspect of the network business's regulatory proposal
 - notice of a predetermination conference
 - an invitation for stakeholders to make written submissions.
5. The AER must ultimately publish, at least 2 months before the RCP ends, a final determination setting out:
 - where it has not accepted elements of a network business's regulatory proposal,
 - reasons why it has not accepted those elements of the proposal
 - its decision in substitution of those elements of the regulatory proposal it has not accepted

This process ensures that the applications we receive from the network businesses go through significant amount of public and transparent scrutiny to ensure that customers are paying no more than necessary for a safe and reliable electricity supply.

Following a final determination by the AER, affected parties can apply to the Australian Competition Tribunal for a review of the merits of our determination. Following recent changes to these merits review arrangements, There is a new threshold for an affected party to seek merits review. First, they must identify an error in one of our determination decisions. Second, they must establish that correcting that error will result in a decision that overall is materially preferable in terms of the long-term interests of consumers. That is, it contributes to the achievement of NEO to the greatest extent. If the Tribunal finds the AER erred, it can substitute its own decision or remit the matter back to the AER for consideration.

Our decisions are also subject to judicial review by a court. Judicial review, however, is limited to considering whether the decision contains an error of law. It does not involve an examination of the merits of the decision.

The regulatory process approves the overall revenue allowance that a network business is able to recover from customers. Additionally, where appropriate, separate consultation and assessment may occur for large individual projects to determine whether they are the most efficient way of meeting an identified need, or whether an alternative (such as demand side response) would be more efficient.

For example, the regulatory investment test for transmission (RIT-T), introduced in August 2010, assesses transmission proposals against a market based cost–benefit analysis. A network business must identify the purpose of a proposed investment and assess it against all credible options for achieving that purpose. These credible options include demand side response measures as well as network options and local generation options. The business must publicly consult on its proposal; affected parties can lodge a dispute.

A new regulatory investment test for distribution (RIT-D) commenced on 1 January 2014. The RIT-D is similar to the RIT-T, but requires network businesses to assess investment proposals against a different set of market benefits. It applies to investment projects over \$5 million and includes a dispute resolution process. The National Electricity Rules also require distribution businesses to release annual planning reports and maintain a demand side engagement strategy under which demand side proponents are provided an opportunity to respond to identified network needs or gaps through non-network alternatives.

The AER monitors the compliance of network businesses with these requirements and reports on outcomes, including in quarterly compliance reports.

The regulatory framework recognises that we need access to reliable and accurate information on which to base our decisions. The NEL includes provisions that allow us to obtain such information on regulated businesses' expenditures, revenues and service performance as we consider necessary to determine the revenue allowance and service performance requirements for each business. The business must comply with our information requests, as set out in regulatory information instruments.

The information provided by regulated businesses must also meet the assurance standards specified by us, including:

- consistency with a cost allocation method approved by us
- meeting a reasonable assurance level audit undertaken by an independent auditor
- the accuracy and completeness of actual data must be endorsed by a company officer
- the forecasts underlying the businesses proposal must be endorsed by the Company board.

We review the information submitted to us for anomalies and inconsistencies with our requirements and against previously submitted information. We also use our benchmarking techniques to identify issues or elements of the business's proposal that need to be analysed in detail.

We publish the information provided to us by the regulated businesses. That enables all stakeholders to review and assess the proposals of the regulated business, and understand the data that supports the proposals and is used by us to assess proposals.

3 Key recent developments

The new rules, merits review process and Better Regulation program all put the focus squarely on outcomes for energy consumers. In addition to these developments, there have also been changes in energy market conditions, especially lower demand, and in financial market conditions.

In this part of the submission, we will discuss these changes to the regulatory structure and in market conditions. These developments have significant implications for a number of the terms of reference for this inquiry, in particular (b) how the WACC is calculated and how this has changed over time, (g) whether network companies should have the right to recover overspending, and (h) how the regulatory structure and system could be improved. The discussion in this section highlights that it is the AER who sets the rate of return for network businesses, there are now arrangements in place to deal with any inefficient overspending by network businesses, and significant reforms have been already put in place to reform the regulatory structure and system. These reforms have provided us with new tools that give us better insight than before on efficient costs.

3.1 Rate of return

As highlighted above, setting the rate of return is a key feature of all regulatory decisions we make. While businesses can propose any rate of return, it is the AER who determines the rate of return for the business in question.

There has been significant recent change to the rate of return framework. The AER's 2011 rule change proposal highlighted significant problems with the approach to setting the rate of return that existed at that time. The rules mandated inconsistent approaches to setting rates of return for transmission and distribution businesses, and constrained the AER from setting rates of return that reflected commercial practices. The AER was locked into a parameter-by-parameter assessment of the rate of return, with limited scope to consider the appropriateness of the overall allowance.

The 2012 changes to the rules set out a new approach to setting rates of return for network businesses. A common approach now applies for setting the cost of capital across all electricity and gas network businesses, based on the efficient financing cost of a benchmarking efficient entity providing regulated network services. The rule changes also emphasised that the AER should be focusing on the appropriateness of the overall rate of return, rather than looking at the individual parameters that make up the rate of return in isolation.

To supplement the AER’s assessment at each determination, the new rate of return framework requires us to develop rate of return guidelines that set out the approach we intend to take in setting the rate of return. These guidelines were released in December 2013 following extensive consultation. The AER must undertake a full public review of these guidelines at least every three years, which will allow any new evidence or techniques to be incorporated.

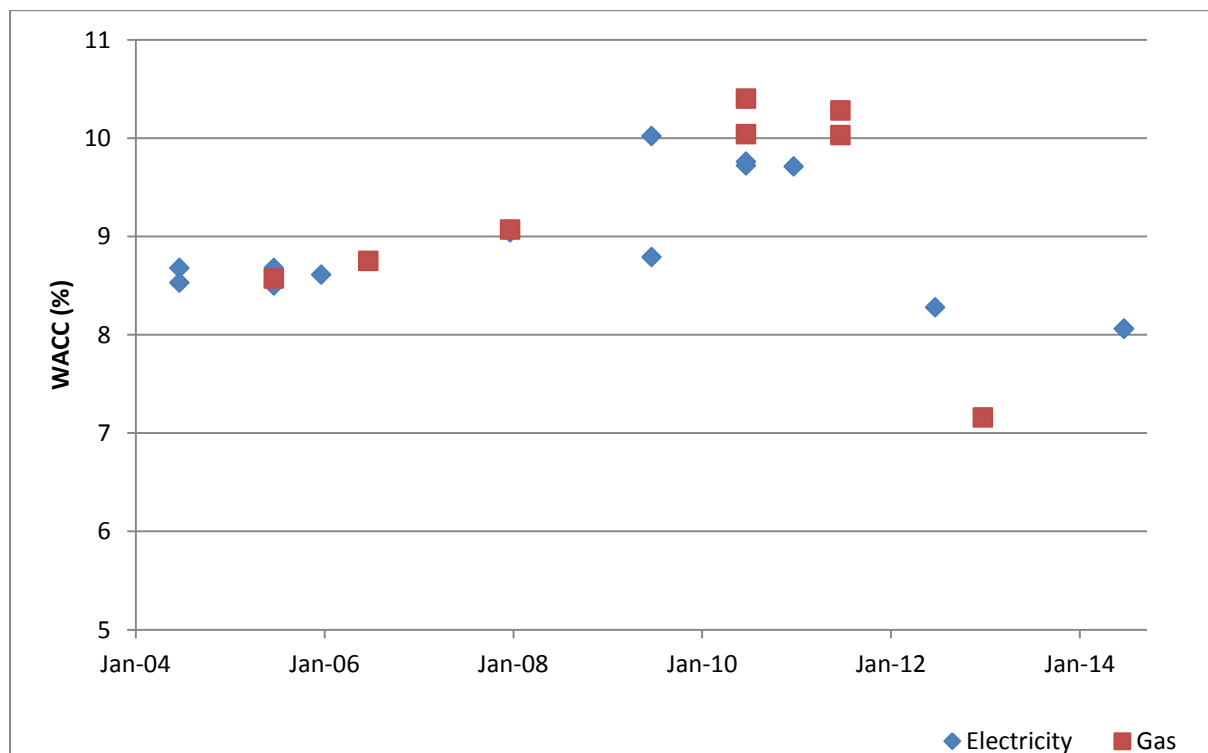
These guidelines, however, are not binding. When the network businesses submit their proposals to us they can propose a rate of return they consider necessary to provide their services. They are able to propose departures from the guideline, but must justify why they have departed why from the guideline. We will assess the material submitted by the businesses in an open, transparent and consultative process.

While the businesses can propose a rate of return they believe is appropriate, ultimately it is the role of the AER to set the rate of return for the business in question, consistent with the requirements of the National Electricity Law and the National Electricity Rules after considering all the material before us. To the extent businesses propose a rate of return that is excessive, this framework gives the AER the ability to reject the forecast and determine the rate of return for the business.

Recent rate of return trends

Electricity network businesses are capital intensive, so even small changes to the return earned on those assets can have a significant impact on overall revenue. As an example, a 1 per cent increase in the cost of capital allowed for ElectraNet in the AER determination for 1 July 2013 to 30 June 2018 would have increased revenues by 8 per cent.

Figure 1 – Weighted average cost of capital – Electricity and gas distribution



For AER determinations made from 2009 to 2011, the forecast cost of capital used to set revenue allowances was generally higher than in previous regulatory periods (Figure 1). The primary factor underpinning the increases was a higher debt risk premium, which reflects the cost of borrowing for a business based on its risk of default. Issues in global financial markets following the GFC reduced liquidity in debt markets and increased perceptions of risk from late 2008, pushing up the cost of borrowing.

AER determinations made since 2012 reflect that reductions in the risk free rate and market and debt risk premiums have lowered the cost of capital. The range of cost of capital allowances in electricity determinations made since 2012 was 7.5–8.3 per cent, compared with up to 10 per cent in 2010.

The range of cost of capital allowances set out in draft AER decisions in November 2014 for businesses in New South Wales, the ACT and Tasmania was lower again, at 6.9–7.2 per cent. These rates of return were significantly below those proposed by the New South Wales and ACT businesses. The New South Wales businesses proposed a rate of return of 8.83 per cent and ActewAGL proposed a rate of return of 8.99 per cent. The revised framework noted above applied for the first time in these decisions. Under this framework, the cost of capital will be revised annually to reflect changes in debt costs.

3.2 Capital expenditure and the regulatory asset base

The AER's 2011 rule change highlighted concerns with the expenditure assessment process. We argued that the rules at the time restricted the way in which the AER could make an overall assessment of how much expenditure proposed by network businesses was efficient or necessary. We argued that this framework resulted in capital expenditure for network businesses being higher than what was required to deliver a safe and reliable service.

We also argued that the rules at the time created incentives for overinvestment by allowing businesses to receive a rate of return on investment regardless of whether that investment was efficient or necessary. Given that the rules provided for this capital expenditure to be automatically rolled in to the regulatory asset base, energy consumers would pay for any overinvestment.

The 2012 changes to the rules provided the AER with a number of tools to ensure that network businesses have adequate incentives to spend capital expenditure efficiently. The tools are:

- applying capital expenditure sharing schemes to provide incentives to incur efficient capital expenditure
- undertaking reviews of efficiency of past capital expenditure, including the ability to preclude inefficiently incurred expenditure, which is in excess of the regulatory allowance, from being rolled into the regulatory asset base.

These measures provide the AER with the ability to deal with inefficient investment by businesses in the future.

We also note that the investment environment going forward is different to what we have seen in the past. With more uncertain demand conditions and ongoing technology, networks will play a different role in the future than they have in the past. These developments will need to be reflected in the network investment decisions that the businesses make.

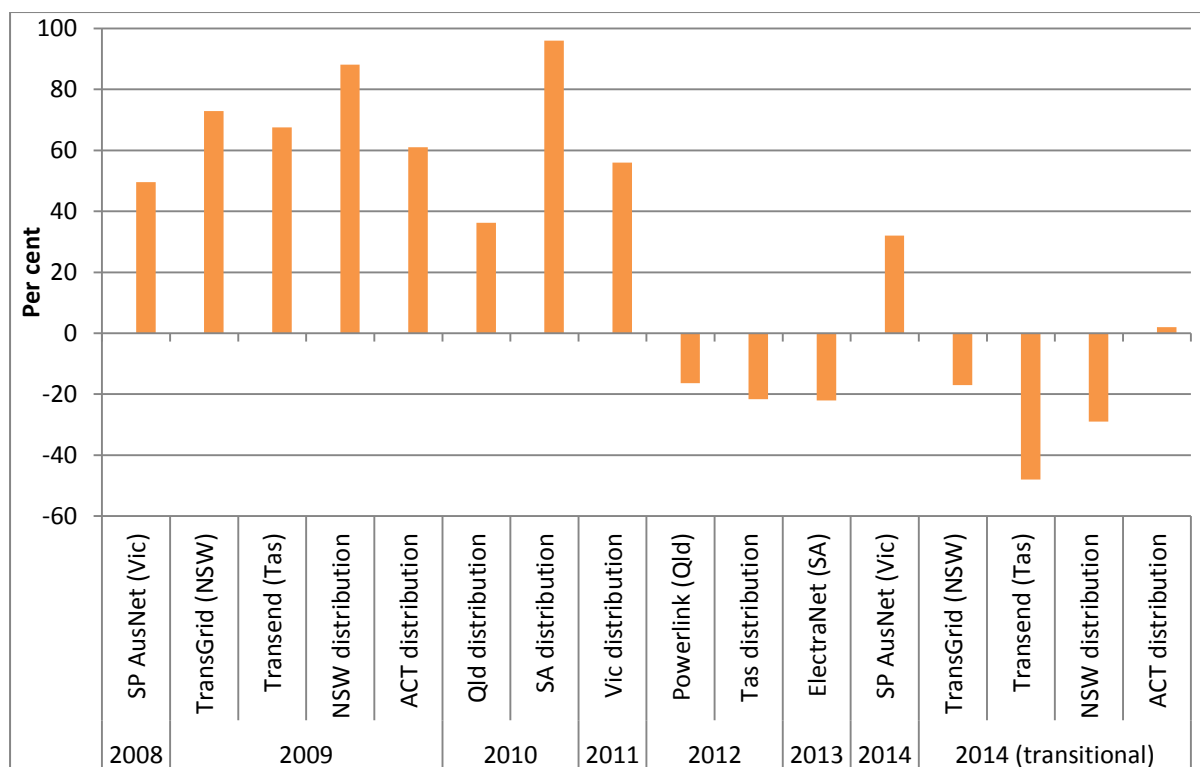
The terms of reference suggest that the Committee is also considering whether past inefficient investment should be excluded from the business’s regulatory asset base. We would caution against an asset write down policy. Electricity network assets have long economic lives, in some cases of 30 – 40 years. Changing the regulatory treatment of these investments after a few years may create significant sovereign risk issues for network businesses and creates disincentives for future efficient investment. It also increases the complexity, costs and resourcing of the regulatory process, by requiring the regulator to take a very detailed role in approving service providers’ projects and plans.

Electricity Network Investment

Figure 2 highlights investment allowances in the current five year regulatory periods compared with previous previous regulatory periods.

Network investment over the current regulatory cycle is forecast at \$6 billion for transmission networks and \$30 billion for distribution networks. AER determinations made from 2009 to 2011 reflected increased capital needs to replace ageing assets, meet higher reliability standards, and respond to forecasts made at the time of rising peak demand. The determinations provided for real investment to increase on average by 46 per cent, compared with the previous regulatory period.

Figure 2 – Electricity network investment



Determinations made since 2012 reflect significantly different trends, with AER decisions on investment forecasts being 24 per cent lower, on average, than levels in previous periods. Weakening industrial and residential energy use, along with less stringent reliability obligations on the network businesses, are reducing the number of planned network investments, deferring projects that had already passed a regulatory investment test, and encouraging the adoption of cheaper non-network alternatives.

Investment trends for the Ausgrid distribution network (NSW) illustrate that the effects of falling energy demand can be complex. The network's regulatory determination for 2009–14 provided for investment to meet an expected increase in maximum demand from 5500 to 6700 megawatts over the period.¹ But these forecasts proved optimistic; maximum demand peaked at around 6000 megawatts. This outcome allowed the business to defer significant investment, leading it to underspend its allowance by \$1.5 billion (around 20 per cent). While customers will benefit from the deferral of investment, they still bear costs during the current period, which are based on the higher expenditure forecasts. This trend of underspending occurred across all networks in recent years. Distribution businesses, for example, underspent their approved forecasts from 2011 to 2013 by an average 17 per cent.

This trend of weakening investment forecasts is particularly reflected in a decline in network augmentation expenditure. Draft AER decisions for the NSW and ACT distribution networks in November 2014, for example, provided for \$1.2 billion of augmentation expenditure (16 per cent of total capital expenditure), which is a quarter of the amount approved in the previous regulatory period (\$5 billion, or 35 per cent of total capital expenditure). The revised capital expenditure framework noted above applied for the first time in these decisions.

3.3 Benchmarking

The 2012 changes to the rules provided the AER with additional tools to drive greater efficiency. In particular, the changes to the rules give the AER clear authority to benchmark network business practices and costs and use the results to inform its decision on efficient levels of forecast costs. Since this time, we have undertaken significant work to develop our techniques to be able to benchmark network businesses

The product of our benchmarking work consists of two main outputs

- the annual benchmarking report
- the application of our benchmarking techniques in our revenue determination processes

The purpose of the benchmarking report is to compare the relative efficiency of network businesses, taking into account different operating conditions facing the networks. This means that we, and stakeholders, can see how the network businesses compare to each other, providing more transparency about the performance of the businesses than ever before. The first benchmarking report was released on 27 November 2014. Our benchmarking analysis concluded that the efficiency

of the New South Wales and ACT electricity distribution businesses was low when compared to their peers in Victoria and South Australia.

Benchmarking has also informed our assessment of an efficient level of operating expenditure that businesses would require. We used benchmarking to assess whether the proposals of the businesses reflected efficient costs. We concluded that the New South Wales and ACT electricity distribution businesses' operating expenditure proposals were in excess of that required to efficiently operate their businesses. The adjustments to base year opex (\$2013/14) proposed in our draft determinations for ActewAGL are – \$26.6 million (38.6%), Ausgrid – \$163.7 million (33.3%), Endeavour Energy – \$23.0 million (10.3%) and Essential Energy – \$144.1 million (34.7%).

3.4 Merits review of AER decisions

Finally, as noted earlier, affected parties can apply to the Australian Competition Tribunal for a review of the merits of our regulatory determinations. Between June 2008 and June 2013 network businesses sought Australian Competition Tribunal review of 25 AER determinations on energy networks—18 reviews were for electricity networks. The Tribunal's decisions increased allowable revenues by around \$3.3 billion, with substantial impacts on energy prices. Tribunal decisions which increased the rate of return were the primary driver of these revenue increases.

An independent review in 2012 of the limited merits review regime found the regime did not operate as intended. In response, the Standing Council on Energy and Resources (SCER) agreed to amendments requiring:

- a network business to demonstrate that the AER erred and that addressing the grounds of appeal would lead to a materially preferable outcome in the long term interests of consumers
- the Tribunal to consider any matters interlinked with the grounds of the appeal, and to consult with relevant users and consumers.

The South Australian Parliament, as lead legislator, in November 2013 passed legislation to implement the reforms.

While these amendments are yet to be tested, they appear to raise the threshold for seeking review of the AER's decisions. Certainly, there would appear to be more limited scope for the Tribunal to review individual, discrete cost of capital issues than there was previously.