

The Senate

Environment and Communications
References Committee

Performance and management of electricity
network companies

Interim report

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Acronyms and Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMA	Australian Energy Market Agreement
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
capex	capital expenditure
COAG	Council of Australian Governments
CPI	consumer price index
DMEGCIS	Demand Management and Embedded Generation Connection Incentive Scheme
DORC	depreciated optimized replacement cost
ECA	Energy Consumers Australia
ENA	Energy Networks Association
ERA	Economic Regulation Authority
ESAA	Energy Supply Association of Australia
EUAA	Energy Users Association of Australia
GDP	gross domestic product
kV	kilovolt
LNG	liquefied natural gas
MAR	maximum allowable revenue
MW	megawatt
NECF	National Energy Customer Framework
NEL	National Electricity Law—a schedule to the <i>National Electricity (South Australia) Act 1996</i> (SA)
NEM	National Electricity Market
NEMLA	National Electricity Market Legislation Agreement

NEO	National Electricity Objective—section 7 of the NEL
NER	National Electricity Rules
NSP	network service provider
NSWIC	New South Wales Irrigators' Council
opex	operating expenditure
PC	Productivity Commission
PV	photovoltaic
QCA	Queensland Competition Authority
RAB	regulatory asset base
RCP	regulatory control period
RIT	regulatory investment test
SAPN	SA Power Networks
SCER	Standing Council on Energy and Resources
Tribunal	Australian Competition Tribunal
US	United States of America
WACC	weighted average cost of capital

Executive summary

Electricity prices in Australia have increased considerably over the past five years. A key contributor to the price rises has been the significant increases in network costs—that is, the costs associated with building, maintaining and operating the networks that transport electricity from the generator to the consumer. The average household in Australia pays significantly higher network service charges than those imposed on consumers in the electricity markets of other advanced economies, such as Great Britain and the United States of America.

Some of the increases in network costs have been due to past under-investment and a need to meet higher peak demand, particularly with the increased use of air conditioning. However, the sustained increases have led to allegations that network businesses have undertaken excessive investment in the networks, an activity referred to as 'gold plating'. While the regulatory rules are intended to address the risk of economically inefficient outcomes arising from electricity network natural monopolies, many experts identified institutional arrangements and regulatory design as the culprits for over-investment and high network costs.

Over-investment and high prices caused by inadequacies in institutional arrangements and regulatory methods is an even worse outcome if the subsequent network investment is underutilised or, in the future, becomes a stranded asset. In this regard, it is important to note that the increased investment in electricity networks has come at a time when demand for electricity has fallen and is forecast to be flat in upcoming years. A large number of consumers are already involved in their own generation; for example, there are over one million solar power systems on the roofs of homes and businesses in Australia. High network costs may continue to encourage consumers to reduce their energy consumption and/or to generate their own electricity, leaving a smaller customer base available to support expensive, underutilised assets.

The committee acknowledges the numerous reviews of the electricity sector, recent changes to the regulatory rules for determining network revenues and positive signs that the Australian Energy Regulator (AER) intends to reduce the maximum allowed revenue network businesses may recover in the future. However, the committee considers that fundamental problems with the regulatory framework remain. The principal flaw is that network service providers are protected from certain risks that businesses in competitive markets face. In particular, network businesses do not appear to bear the risk of inefficient investments and do not face risks associated with changing demand in a timely manner.

The committee examined many aspects of the regulatory system that is applied to most network businesses in Australia. While there are several areas of the framework that may warrant attention, the committee considers the treatment of the regulatory asset bases (the capital expenditure investments of each network business) is the

fundamental cause of high network costs and will continue to be a major driver of revenue for network businesses in the future. Although a recent rule change now enables the AER to review capital expenditure that exceeds the forecast it approves as part of a determination, the AER is unable to challenge past expenditure or expenditure where the forecast is not exceeded. Network businesses are allowed to earn a return on all of these investments.

The committee considers that the AER requires the discretion to review the efficiency of all future investments and the need for their inclusion in the RAB. However, to avoid sovereign risk concerns, the AER's power to review assets should continue to apply only on a prospective basis. The committee considers an expert review charged with considering these issues would be an appropriate starting point for change in this area.

Another feature of the revenue determination process is the use of hypothetical benchmarks, rather than actual costs. For example, when considering the allowed rate of return, the financing costs of individual network businesses are intended to be compared to the efficient financing costs of a benchmark efficient entity with an apparently similar degree of risk. This process may provide incentives for efficiencies; however, many informed stakeholders that participated in this inquiry are concerned about the assumptions and outcomes related to the weighted average cost of capital calculation and the methodology for estimating the cost of corporate income tax. The committee considers that following the AER's latest round of revenue determinations, a performance assessment of the benchmarking process should be undertaken.

This inquiry has also considered evidence that the network businesses have an incentive to inundate the regulator with information and documents during the regulatory process. While information asymmetry is a common problem in regulation, the ability of a regulator with limited resources to assess revenue proposals would be negatively affected if it is overwhelmed by information. Similarly, a mass of supporting documentation is also likely to make it more difficult for businesses, industry associations, consumer groups and other interested parties to understand and provide feedback on the regulatory proposals. The committee considers an improvement can be made by capping the expenditure linked to a regulatory proposal that network businesses can recover from their customers. A cap could rationalise the number of supporting reports and other documents provided to the regulator, while still ensuring the regulator receives all of the information relevant to its decision-making.

While the major focus of this inquiry was the revenue determination process, the committee also considered other matters related to the performance of electricity network businesses and the regulatory framework under which they operate.

Consumer consultation was one such area examined in detail. Fundamentally, the committee considers that, for economic regulation to be effective with outcomes accepted as legitimate by the community, the processes underpinning it need to be

transparent and accessible to external stakeholders. In this regard, the interactions network businesses have with both their customers and the regulator are important. The consumer consultation that network businesses engage in about their regulatory proposals and network projects must be meaningful. The recent revenue determination processes provide an opportunity to assess the progress of efforts to enhance consumer input. Consumer engagement in rule-making and regulatory processes may also be assisted if clear, consolidated guidance about electricity regulation was developed and published.

Another area canvassed was the process for making changes to the regulatory rules. The timeliness of the Australian Energy Market Commission (AEMC) in considering proposed changes to the National Electricity Rules is of significant concern to the committee. Even rule change requests lodged by the COAG Energy Council do not appear to be dealt with expeditiously. Accordingly, the committee has recommended that the rule change process is made more responsive.

The committee has also considered evidence about the future requirements for Australia's electricity networks. This country has a large and expensive electricity network built as a result of decades of centralised generation. The evidence taken during this inquiry revealed that stakeholders are increasingly starting to consider whether the current system of networks, and the regulatory rules governing it, can be sustained. In the coming years, this arrangement may no longer effectively deal with how a significant amount of electricity is supplied. Sustained high network costs and improvements in technology, such as more cost-effective battery storage, may result in a market that demands a smaller, more local, network rather than the expansive networks based on centralised generation.

Given the concern that electricity networks are entering a 'death spiral', policymakers and regulators need to closely monitor developments in the electricity market to ensure network businesses do not discriminate against customers who seek to generate their own electricity. The likely changes in the energy market also mean it is important that the regulatory framework is flexible, so it can respond quickly in a way that ensures networks operate in the long-term interests of consumers. It is also important that the customers who continue to be supplied with electricity in the conventional manner, particularly customers who cannot afford to invest in their own electricity generation system, are not forced to pay an increasing share of network costs as a result of other customers going 'off-grid'.

Finally, the committee has noted with concern the allegations about data manipulation and other inefficient practices at a particular network company. The committee will address this issue in its final report, which will be presented by 5 May 2015.

In recent years, there have been some welcome changes to how electricity network businesses are regulated in Australia. However, the committee concludes that more work needs to be done. The committee hopes this report and the evidence collected during this inquiry inform and support efforts to ensure the electricity networks provide services in a way that is in the long-term interests of consumers.

List of recommendations

Recommendation 1

4.75 The committee recommends that the Council of Australian Governments (COAG) Energy Council commission an independent expert review of options for excluding future imprudent capital expenditure and surplus network assets from a network service provider's regulatory asset base (RAB). This review should consider the provisions of the Western Australian Electricity Networks Access Code and its decision-making criteria.

4.76 The review should have the freedom to suggest any necessary changes to intergovernmental agreements, the National Electricity Law or the National Electricity Rules.

Recommendation 2

4.77 The committee recommends that, following the outcomes of the current round of network pricing decisions, the COAG Energy Council commission an independent expert review of the efficacy of recent changes to the National Electricity Rules and the benchmarking process in promoting the long-term interests of consumers. This assessment should focus on the appropriateness of current methodologies for calculating the weighted average cost of capital (WACC) and the manner in which the estimated cost of corporate income tax is calculated.

Recommendation 3

4.78 The committee recommends that the National Electricity Rules be amended to provide that the Australian Energy Regulator may set a regulatory control period that is less than five regulatory years.

Recommendation 4

5.44 The committee recommends that state governments seeking to privatise their electricity network assets examine whether those assets are overvalued and if the regulatory asset base should be written down prior to privatisation.

Recommendation 5

6.67 The committee recommends that the National Electricity Rules be amended to cap the costs associated with the preparation of a regulatory proposal that a network service provider may recover from its customers.

Recommendation 6

6.68 The committee recommends that the COAG Energy Council request the Australian Energy Market Commission to review the consumer engagement activities of network service providers. As part of this review, proposals for

enhancing the effectiveness of consumer engagement efforts should be invited from consumer advocacy groups. Particular focus should be given to the effectiveness of consumer engagement in ensuring that network planning outcomes respond to the long-term interests of consumers.

Recommendation 7

The committee recommends that the Australian Energy Market Commission and the Australian Energy Regulator jointly develop and publish consolidated guidance on the regulatory determination process to better inform members of the public, consumer groups and other energy user stakeholders.

Recommendation 8

7.55 The committee recommends that the Australian Energy Market Commission is provided with the ability to initiate a rule change process without being required to receive a rule change request from an external party.

Recommendation 9

7.56 The committee recommends that the Australian Government pursue, through the COAG process, amendments to the National Electricity Law to require that the Australian Energy Market Commission must commence public consultation on a rule change request within a prescribed period of time if the rule change request has been lodged by the COAG Energy Council.

Recommendation 10

7.57 The committee recommends that the Australian Government pursue, through the COAG process, an agreement that any Commonwealth, state and territory energy policy schemes and measures that may have implications for the National Electricity Market or network efficiency must be referred to the Australian Energy Market Commission for formal advice regarding the likely effects on the long-term interests of consumers.

Recommendation 11

7.59 In light of the recommendation made by the Competition Policy Review (Harper Review) regarding a single national access and pricing regulator, the committee recommends that the Australian, state and territory governments consider:

- the potential efficiencies and other advantages of a single national access and pricing regulator; and
- whether such a proposal would be in the long-term interests of consumers of electricity, given the need for a regulator with sufficient expertise to challenge, when required, well-resourced electricity network service providers.

Recommendation 12

7.63 The committee recommends that the Australian Government commission an external review of the capability of the Australian Energy Regulator (AER). The review should consider:

- the adequacy of the AER's financial resources;
- the effects of the 2014–15 budget cuts; and
- whether the AER has the skills and powers needed to perform its functions effectively.

Recommendation 13

7.64 The committee recommends that the Australian Energy Regulator should facilitate public consultation on the statement of intent it develops in response to the COAG Energy Council's statement of expectations.

Recommendation 14

7.65 The committee recommends that the board of the Australian Energy Regulator should be reformed so that:

- the number of board members is increased from three to five;
- the requirement for a Commonwealth member and two state and territory members is abolished with future appointments based solely on merit;
- all appointments to the board are to be made by the Commonwealth;
- at least one board member is required to have knowledge of, or experience in, consumer affairs in energy matters; and
- at least one board member has expertise in decentralized energy systems and demand management.

Recommendation 15

8.73 The committee recommends that the Australian, state and territory governments increase and prioritise efforts to ensure that networks are prepared to efficiently respond to changes in the energy market, in light of:

- the increased uptake of small-scale solar generation;
- emerging energy storage technologies;
- the anticipation of customers going 'off-grid';
- the anticipation of further disruptive technologies; and
- the certainty of value destruction as a result of current business models.

Recommendation 16

8.74 The committee recommends that, as cost-reflective network pricing is introduced, the COAG Energy Council ensure appropriate steps are taken so network companies' tariff and non-tariff based demand management programs are strengthened to assist consumers to transition to cost-reflective tariffs.

Recommendation 17

8.75 The committee recommends that the Australian Energy Regulator expedite its implementation of the current demand management incentive scheme rule change in all open network revenue determinations.

Recommendation 18

8.76 The committee recommends that the COAG Energy Council remove any barriers to networks implementing cost-reflective network prices to ensure efficient use of demand management and embedded generation is rewarded.

Chapter 1

Introduction

1.1 On 2 October 2014, the Senate referred an inquiry into the performance and management of electricity network companies to the Environment and Communications References Committee for report by the first sitting day in March 2015. The terms of reference for the inquiry are as follows:

- (a) the manner in which electricity network companies have presented information to the Australian Energy Regulator (AER), and whether they have misled the AER in relation to:
 - (i) their weighted average costs of capital,
 - (ii) the necessity for the infrastructure proposed,
 - (iii) their regulated asset valuations, and
 - (iv) actual interests rates claimed against actual borrowing costs;
- (b) how electricity companies, including state government owned electricity companies such as Energex, have calculated the weighted average cost of capital and how this measure has changed over time;
- (c) where anomalies are identified in relation to price structuring or allegations of price rorting by electricity companies, such as Energex, are raised, the possibility of these matters being investigated by a national independent body created by the Federal Government with the required powers and reach to investigate and prosecute, where necessary;
- (d) to ascertain whether state-owned network companies have prioritised their focus on future privatisation proceeds above the interests of energy users;
- (e) whether the arrangements for the regulation of the cost of capital are delivering allowed rates of return above the actual cost of capital;
- (f) whether the AER has actively pursued lowest-cost outcomes for energy consumers;
- (g) whether network monopolies should have the right to recover historic overspending that has delivered unwanted and unused infrastructure;
- (h) how the regulatory structure and system could be improved;
- (i) whether the arrangements for the connection and pricing of network services is discriminating against households and businesses that are involved in their own electricity production;
- (j) whether the current system provides adequate oversight of electricity network companies; and

(k) any other related matter.¹

1.2 On 2 March 2015, the Senate granted an extension of time to report until 20 April 2015.²

Conduct of the inquiry

1.3 The committee advertised the inquiry on its website and in *The Australian* newspaper. The committee also wrote to relevant organisations and individuals inviting written submissions.

1.4 The committee received 69 submissions, which are listed at Appendix 1. Included in the submissions are 552 letters co-ordinated by a community organisation that the committee agreed to receive as a submission.³ The non-confidential submissions were published on the committee's website.

1.5 The committee held public hearings for this inquiry in Brisbane on 16 February 2015, Sydney on 17 February 2015, Melbourne on 18 February 2015, Adelaide on 19 February 2015 and Canberra on 24 March 2015. A list of witnesses who appeared at the hearings may be found at Appendix 2.

1.6 The committee thanks all of the organisations, individuals and government departments and agencies that have contributed to the inquiry.

Reports

1.7 The committee has finalised its deliberations on many of the key issues canvassed during this inquiry. However, the committee is still considering particular instances where the conduct of network service providers has been questioned. The evidence that the committee has not concluded its examination of include:

- allegations from a whistleblower that a government-owned network business, Energex, manipulated data about its costs; and
- allegations from other stakeholders who allege the regulator is being misled about the necessity of particular infrastructure proposals.

1.8 Energex has been invited to respond to certain specific allegations. The committee wishes to ensure that Energex has a reasonable opportunity to consider and respond to this evidence. The committee also requires time to consider any further evidence that Energex may provide. Accordingly, the committee has determined it is unable to report on this evidence by the 20 April 2015 reporting date.

1 *Journals of the Senate*, 2013–15, no. 59 (2 October 2014), pp. 1586–87.

2 *Journals of the Senate*, 2013–15, no. 79 (2 March 2015), p. 2203.

3 These letters were published as *Submission 65* and as a supplementary submission (*Submission 65.1*).

1.9 Although the committee requires additional time to consider certain unresolved matters, the committee considers it is unnecessary to delay the publication of its other findings. Accordingly, the committee has prepared this interim report. The committee intends to present its final report by 5 May 2015.

Structure of the report

1.10 This interim report comprises eight chapters. The remaining chapters of the report are outlined below:

- Chapter 2 outlines various matters that help place this inquiry in context. In particular, the chapter notes that this inquiry followed sustained concerns from consumers and industry about high electricity prices and overinvestment by network businesses. The chapter also notes the expectation that the use of non-conventional forms of electricity generation will increase, potentially altering the roles performed by electricity networks.
- Chapter 3 provides an overview of the regulatory framework applied to electricity networks and how the revenue of a network business is determined.
- Chapter 4 considers certain inputs to the revenue determination calculation and the impact that these individual components have on final electricity prices.
- Chapter 5 discusses particular issues that may arise when regulating government-owned network businesses.
- Chapter 6 considers information asymmetries that exist in the regulation process and whether there are incentives for network businesses to 'game' the regulator. This chapter also considers the appeal process available to network businesses and other users following a revenue determination made by the regulator.
- Chapter 7 explores concerns about the process by which the rules that apply to electricity network businesses are made. The rule-making and regulatory bodies involved in the electricity market are also considered.
- Chapter 8 draws together evidence received about the future of electricity networks and the direction of the electricity market. Issues considered include demand-side participation and the response of network businesses, policymakers and the regulator to technological and market changes.

Notes on references

1.11 Hansard references in this report are to the proof version of the committee Hansard. Page numbers may vary between the proof and the official Hansard transcript.

Chapter 2

The context of this inquiry

2.1 Some of the reasons for this inquiry are readily apparent. Over the past several years, there has been ongoing and widespread concern in the community about rising electricity prices and the actions of electricity network businesses that have contributed to these increases. The attention given to this issue has resulted in terms like 'gold plating'—that is, excessive expenditure on 'poles and wires'—emerging into common parlance.

2.2 This is certainly not the first inquiry to examine high electricity prices. Indeed, as some of the industry stakeholders were quick to point out, this inquiry follows at least 17 other inquiries and reviews since 2010.¹ These inquiries resulted in various changes to the rules underpinning the regulation of networks; with the upcoming revenue determinations these new rules are being tested for the first time.

2.3 This inquiry, however, differs from the others in several key ways. First, it follows specific allegations by a whistle-blower that Energex, a Queensland distribution network service provider, sought to mislead the regulator. Other concerning and inefficient practices at Energex were also highlighted by the whistle-blower. Second, as this inquiry has taken place after the flurry of regulatory and other changes made since 2012, and as the first revenue determinations since these changes are being finalised, the committee can, to some extent, examine these changes. Of particular interest to the committee is how network businesses and the regulator have responded to both the rule amendments and changes to market conditions. It is also evident that concern about high electricity prices and their effect on consumers and economic activity has not gone away. In fact, the latest regulatory proposals have been an additional source of frustration in some quarters.

2.4 Finally, this inquiry is considering electricity network regulation in the context of innovation and disruptive technologies, such as the rise of photovoltaic panels and the potential for cost-effective battery storage. State-wide networks with centralised generation and linkages between states that create an almost national network have, overall, served Australia well. However, there is no guarantee that this will be the most-effective model in the future. An expensive but under-utilised network could mean that stranded assets will be the next thorny issue in energy policy.

1 Energy Networks Association, *Submission 31*, p. 2. These inquiries and reviews include several reviews undertaken by the Australian Energy Market Commission into specific issues, a Senate Select Committee inquiry and a comprehensive review undertaken by the Productivity Commission (PC) between January 2012 and April 2013. The PC report, *Electricity network regulatory frameworks*, is referenced throughout this report.

2.5 In summary, this inquiry builds on previous reviews by seeking to uncover whether there are fundamental problems with the system of electricity regulation in Australia. This chapter provides an overview of principal issues, which will inform the discussion in the remaining chapters of the report.

High electricity prices and 'gold plating'

2.6 While the other components of electricity supply, namely generation and retail, contribute to the prices end users pay for the electricity they use, the concern about electricity prices in recent years has been linked to a noticeable increase in the proportion of an electricity bill that is attributed to network costs.² For example, the Energy Users Association of Australia (EUAA) stated that residential network prices in Queensland and New South Wales have more than doubled, in real terms, between 2007 and 2013. Large industrial consumers have faced even greater increases: the EUAA advised that some of its members have seen their network tariffs increase by over 200 per cent during that same period.³ Cotton Australia compared the increases in electricity prices to the increases in the prices of other goods and services; it noted that electricity prices have significantly outstripped inflation during the past 15 years, with electricity prices increasing by approximately 350 per cent since 2000, compared to inflation of 45 to 50 per cent.⁴

Network cost trends, demand forecasts and international comparisons

2.7 Network costs now represent between 30 per cent and 60 per cent of a consumer's electricity bill.⁵ Figure 2.1 shows how the network costs differ between states.

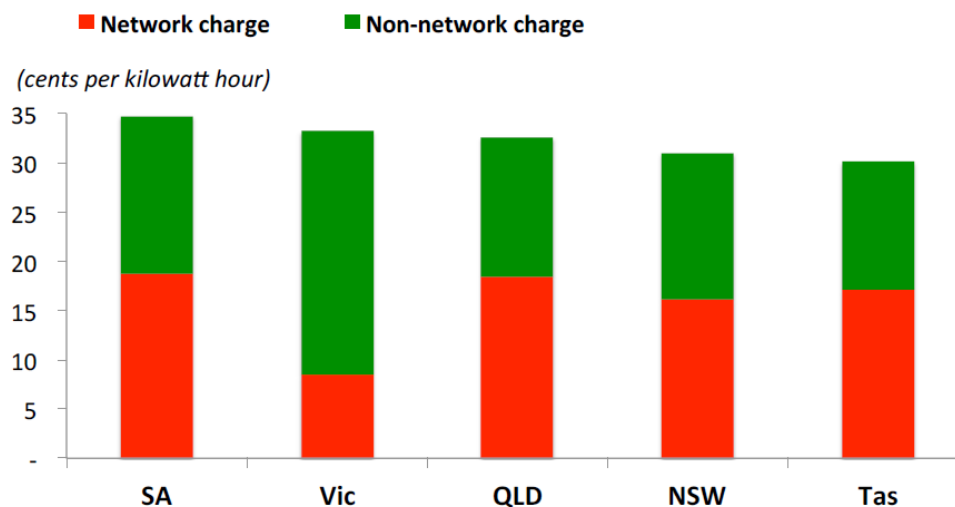
2 Network costs are the costs associated with building, maintaining and operating the transmission and distribution networks that transport electricity from the generator to the consumer. Other components of a typical small consumer's electricity bill include wholesale costs (costs associated with generating electricity), costs associated with retail services (such as billing) and costs linked to government green schemes. An indicative breakdown of the composition of residential electricity bills by state in 2014 can be found in Australian Energy Regulator (AER), *State of the energy market 2014*, p. 131.

3 Energy Users Association of Australia (EUAA), *Submission 17*, p. 5.

4 Mr Michael Murray, Policy Manager, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 20.

5 EUAA, *Submission 17*, p. 10; Mr Bruce Mountain, *Submission 19*, p. 7.

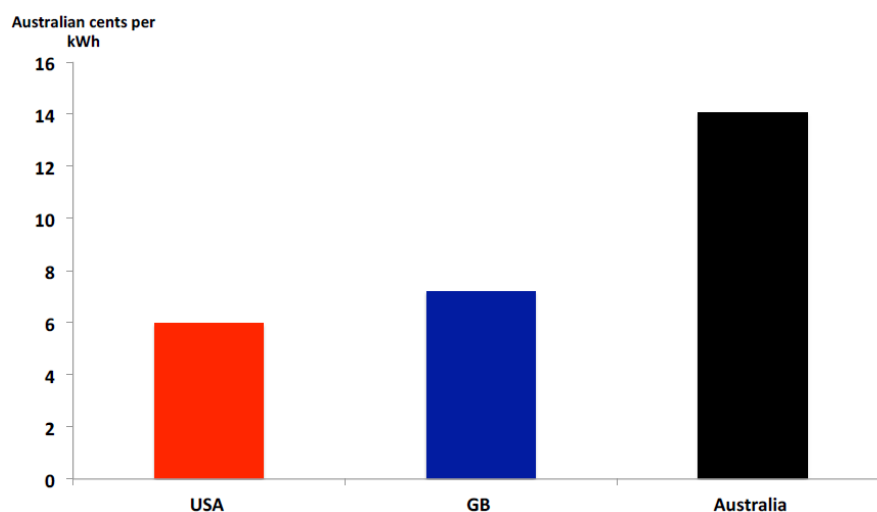
Figure 2.1: Average electricity network and non-network prices by jurisdiction in 2014



Source: Mr Bruce Mountain, *Submission 19*, p. 5.

2.8 The high prices in Australia relative to other countries were noted. Dr Gabrielle Kuiper from the Public Interest Advocacy Centre observed that while the contribution of network costs to electricity prices can vary significantly within Australia—for example, network costs in New South Wales are double those in Victoria—all states have higher network charges than Great Britain, Canada or the United States of America.⁶ Mr Bruce Mountain, the director of Carbon and Energy Markets Australia (CME), an energy economics consultancy, supplied a chart that illustrated this point (Figure 2.2).

Figure 2.2: Network services charges for average usage households in 2013



Note: PPP-adjusted exchange rates, constant currency.

Source: Mr Bruce Mountain, *Submission 19*, p. 6.

6 Dr Gabrielle Kuiper, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 15.

2.9 Mr Mountain claimed that differences in population density between Australia and other countries do not explain the network pricing outcomes. He argued that:

- Australia is one of the most urbanised countries in the world⁷ and although the National Electricity Market⁸ (NEM) covers an extensive geographic area, a large part of each state in the NEM is neither inhabited nor covered by network infrastructure;
- much of the additional length of Australia's networks consists of 'inexpensive single wire earth return or 11 kV [kilovolt] overhead distribution lines', with an additional cost that is 'much less per kilometre than an underground high voltage urban or metropolitan network' (he noted that underground networks 'can typically cost many times more than overhead networks');
- much of the rural network 'has been funded fully or partially from customers' capital contributions'; and
- network density 'does not explain the changes in prices or assets', given that changes in prices and assets occurred for both metropolitan and rural distributors and the density of the networks increased while the expenditure was taking place.⁹

2.10 Before further outlining some of the concerns about electricity pricing, it is instructive to acknowledge that consumers value both low prices and a reliable electricity supply. These two outcomes of an electricity system are related: electricity prices need to fund maintenance and provide incentives for appropriate levels of investment that respond to growth and ensure the supply remains reliable. An example of this tension between price and reliability was given by the Queensland distributor Energex. Energex noted that although its network is now 'very safe and reliable', reliability has been a flashpoint in the past. Mr Terence Effeney, Energex's chief executive officer, explained:

If you go back just a decade or so, when there were severe storms and high load conditions, our network did struggle to meet customers' requirements. At the time, both government and customers expressed some extreme dissatisfaction, and this led to what was called the Somerville review in those days. We call it the EDSR review as well. That review led to a whole range of mandated inputs which we then had to build and plan our network to. In particular, it mandated security and service standards for our network, and it also mandated maintenance and response programs.¹⁰

7 Mr Mountain added that customer density in Australia's metropolitan areas 'is often comparable to that in other countries with the exception of very dense international capitals such as London, Tokyo or New York. *Submission 19*, p. 13.

8 The NEM is the wholesale electricity market for states and territories in eastern and southern Australia. The NEM is explained in more detail in Chapter 3.

9 Mr Bruce Mountain, *Submission 19*, p. 12–13.

10 Mr Terence Effeney, Chief Executive Officer, Energex, *Proof Committee Hansard*, 16 February 2015, pp. 1–2.

2.11 Nevertheless, in recent years there has been sustained community and industry displeasure about the level of electricity prices. Further, there has been growing recognition that rising network costs have been a significant contributor to higher final prices. The increase in network costs has led to allegations of excessive investment in the networks, known as 'gold plating'.¹¹

2.12 In the absence of an alternative suitable explanation, the regulatory framework has been identified as the culprit for high electricity prices. Mr Bruce Mountain told the committee:

I do not believe there is any exogenous reason such as demand growth, growth in customer numbers or growth in energy supply or quality of supply that justifies the rather disastrous outcomes that have been observed in these states. In fact, to the contrary, I think the rate of the Australian dollar to the US dollar and other currencies has been very, very useful and in our favour at a time when large capital items have been imported. If anything, I would contend that the expenditure programs should have turned down.¹²

2.13 This over-investment, many have argued, indicates a failure of electricity regulation. It is claimed that the regulatory rules encourage network companies to engage in excessive, and inefficient, expenditure on assets as the current regulatory arrangements provide that this expenditure will be passed through to consumers, helping drive the network company's future revenue and profits. It is also evident that, for state government-owned networks, the dividends from increased profits provide a lucrative revenue stream for their government owners.¹³

2.14 Another aspect of the over-investment submitters were concerned about is that the forecasted increase in demand used to justify the investment was incorrect. Demand has fallen and is forecast to be flat in the NEM in upcoming years (see Figure 2.3). The following assessment of forecasted electricity consumption published by the Australian Energy Market Operator (AEMO) in 2014 highlighted the stagnant nature of demand throughout the country:

Queensland is the only region in the NEM experiencing industrial growth, due to LNG projects. It also has the strongest growth in rooftop

11 The gold plating effect, that is the risk that rate-of-return regulation can lead to inefficient levels of investment and high prices, is also known as the Averch–Johnson effect after Harvey Averch and Leland L. Johnson. The Averch–Johnson effect is outlined in H Averch and L Johnson, 'Behavior of the Firm Under Regulatory Constraint', *The American Economic Review*, vol. 52, no. 5 (December 1962), pp. 1052–69. See also Mr Bruce Mountain, *Submission 19*, p. 20.

12 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 61.

13 While network companies reject claims of gold-plating, it is noteworthy that these concerns have received a level of acceptance by governments. For example, concerns about gold-plating led then Prime Minister Julia Gillard to pursue a program of reform through the Council of Australian Governments (COAG). See *House of Representatives Hansard*, no. 15 of 2012 (11 October 2012), pp. 12093–94.

[photovoltaic (PV)]...installations, which drives down overall consumption from the grid.

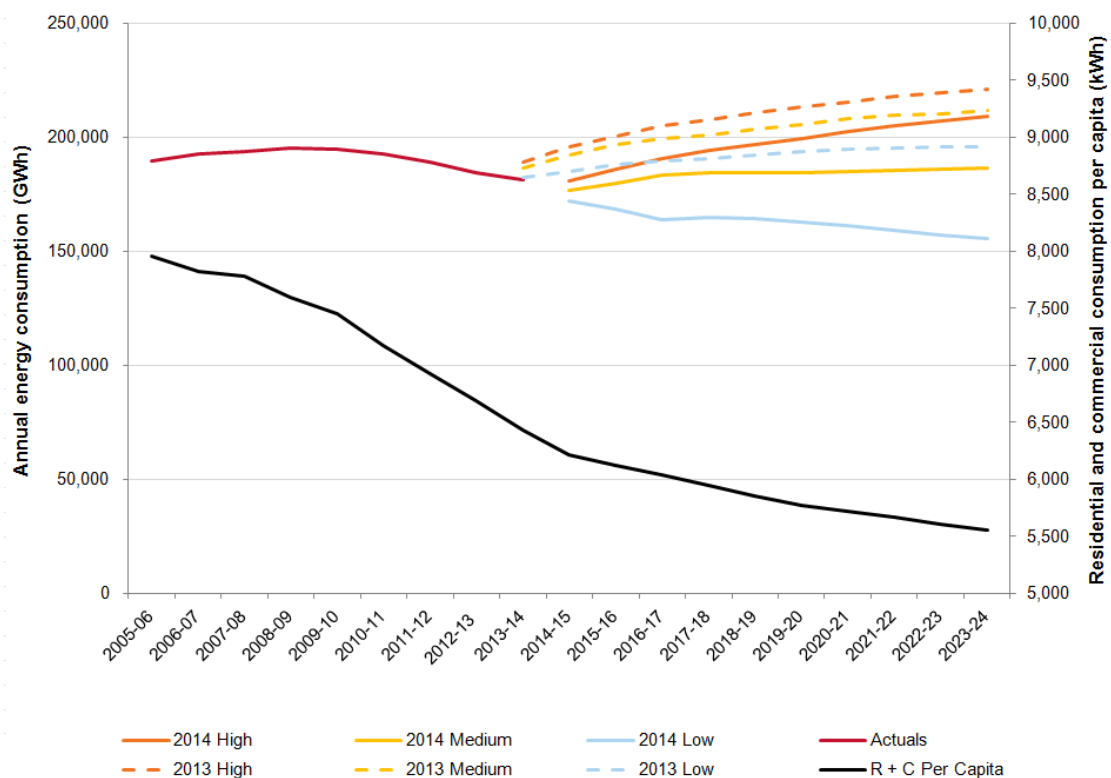
New South Wales experiences a decline in consumption, due to reduced large industrial forecasts.

Victorian consumption is forecast to decline, driven by large industrial and manufacturing plant closures, including the Point Henry aluminium smelter in August 2014.

South Australian consumption is forecast to decline, with the desalination plant reducing consumption due to the completion of operational tests. Decreasing residential and commercial consumption is a result of the highest existing levels of installed rooftop PV per capita across the NEM.

Tasmanian consumption is forecast to decline despite increased production at the Norske Skog Boyer paper mill. The decline reflects the lowest population growth in the NEM and high rooftop PV installations.¹⁴

Figure 2.3: Annual energy forecasts for the National Electricity Market (as at December 2014)



Note: R + C is residential and commercial annual energy consumption.

Source: AEMO, *National electricity forecasting report 2014 update*, December 2014, www.aemo.com.au/Electricity/Planning/Forecasting/~/_/media/Files/Other/planning/NEFR/2014/2014%20Updates/2014%20NEFR%20Update%20NEM.ashx (accessed 23 March 2015).

14 Australian Energy Market Operator (AEMO), *National electricity forecasting report 2014*, June 2014, www.aemo.com.au/Electricity/Planning/Forecasting/National-Electricity-Forecasting-Report (accessed 23 March 2015), p. iii.

2.15 The Department of Industry (the department) suggested that, despite falling electricity consumption, new network investment could still be required occasionally. Examples given included 'replacing electrical protection devices and power lines to mitigate bushfire risk, upgrading metering infrastructure to accommodate smart meters, and modifying equipment to deal with power flows from rooftop solar systems'. Further, the department noted that there may be some areas of the network where it is more critical to ensure reliability of supply compared to others.¹⁵

2.16 However, it was argued that network companies have been shielded from the change in demand. EnergyAustralia submitted that generation and retail, the competitive aspects of the electricity sector that EnergyAustralia is involved in, have 'felt the impact of lower demand', while the regulated monopoly transmission and distribution services 'have continued to recover against their regulated asset base at a higher rate per unit sold'.¹⁶ Furthermore, submitters questioned the flexibility of the regulatory system. They noted that expenditure forecasts and the resultant high electricity prices were locked in for five years when demand began to decline. For example, in its submission the Electrical Trades Union of Australia stated:

While it is not possible to accurately predict the future, important data such as demand projections should not be totally wrong, and there needs to be sufficient flexibility in the regulatory process to allow adjustments that protect consumers from having to foot the bill of bad investment decisions via bloated AER determinations.¹⁷

Continued growth in prices and the broader economic impact

2.17 Concerns about high prices have been examined by past inquiries. At a rudimentary level, the concept of network businesses gold-plating their networks appears to be widely acknowledged and understood. Despite this, many submitters to this inquiry considered that little has been done to address this issue. In particular, many submitters grappled with following question: why are prices still increasing given the past investment and declining demand? The following extract from the Central Irrigation Trust's submission is an example of the frustration submitters expressed:

We have endured significant price increases with the promises of upgrading an aged network. We now expect a significant drop in capital expenditure and subsequent network prices. There is no justification for increasing capital expenditure when total demand is decreasing and this trend continuing. Some big energy users such as Holden will close their doors soon and recognition of further demand decreases must occur.

15 Department of Industry, *Submission 34*, p. 14.

16 EnergyAustralia, *Submission 23*, pp. 2–3.

17 Electrical Trades Union of Australia, *Submission 22*, p. 2.

As a customer we find the reliability of the network satisfactory and do not see the need for further upgrades, for changed bushfire prevention activities or hardening of the network against lightning and storms.¹⁸

2.18 Electricity supply activities contribute to an energy sector that comprises a sizable part of Australia's economy. The Energy Supply Association of Australia advised that the 36 electricity and downstream natural gas businesses it represents 'own and operate some \$120 billion in assets, employ more than 51,000 people and contribute \$16.5 billion directly to the nation's gross domestic product'.¹⁹ However, while the energy sector has grown, concern was expressed in various submissions that high electricity prices are affecting the viability of other industries. Submitters noted that network service providers were 'extraordinarily profitable entities'.²⁰ The Central Irrigation Trust, which manages several irrigation districts in South Australia, provided the following evidence of how high electricity prices had affected businesses and economic activity in its region:

...in the 14 businesses that are part of the Riverland association, there are a number of projects where people are looking at significant investments for future developments and they are putting those on hold until we can get some resolution of this...It is a significant issue in our own business. We would love to put more people on, but, in fact, we have had to decrease over time. You could say some of that is power and some of that is the drought and the like. But it is putting on significant pressure and we do have an unemployment issue, as does regional Australia. We also have the capacity to drive productivity and GDP in Australia. We are an export dominated industry. We bring revenue into Australia from those exports and we want to continue to do that. Unfortunately, I cannot give you the exact numbers, but you can see how SA Power Networks are growing. You have got the numbers in their annual report. Most of that growth is coming out of our businesses.²¹

2.19 Another specific instance of businesses suffering under the burden of high electricity prices was provided by Canegrowers Isis, which gave the example of a Queensland canegrower whose electricity costs have increased by 80 per cent in nominal terms over the past five years:

In 2010 his electricity costs for supplying the water to his property and applying it onto the property were \$20,800, or about eight per cent of his gross income. In 2014, five years later, the electricity cost to do roughly the

18 Central Irrigation Trust, *Submission 1*, p. 4.

19 Energy Supply Association of Australia, *Submission 25*, p. 1.

20 Big Picture Tasmania, *Submission 4*, p. 5. See also Mr Phillip Barresi, Chief Executive Officer, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 20.

21 Mr Gavin McMahon, Chief Executive Officer, Central Irrigation Trust, *Proof Committee Hansard*, 19 February 2015, p. 10.

same task was \$37,500, and equated to about 23 per cent of his gross income. That is a significant change, from eight per cent to 23 per cent.²²

2.20 Large energy users also reported significant increases in their electricity network costs. Big Picture Tasmania, which represents large energy intensive companies in Tasmania that are directly connected to the high voltage network, stated that 'since 2008 transmission costs have effectively doubled' for the businesses it represents. Big Picture Tasmania described this as a 'perverse situation' that has 'undermined Tasmania's economic and social security'. It added:

Allowing this perverse situation to continue without significant reform by Federal and State Governments is bordering on neglect.²³

2.21 One submitter observed that energy costs 'are a fundamental building block of any economy', and although Australia 'should have cheap energy', it does not. The submitter presented the following assessment of the effect that high electricity prices are having on Australia's economy:

Electricity and gas prices are globally uncompetitive and have risen so rapidly that they are causing social damage as retail customers simply cannot afford the product. The current explicit high energy price policies being followed by the government are hollowing out the Australian economy. Mineral processing industries are leaving our shores, manufacturing has been decimated and our economy is being reduced to a 'houses and holes' economy, reliant on mining and housing to drive the economy.²⁴

Impact on other reforms

2.22 It was also noted that high electricity prices were undermining other reforms, such as water efficiency efforts. The New South Wales Irrigators' Council (NSWIC) explained that electricity 'has become a major input factor in irrigated agriculture as more irrigators have upgraded their on-farm equipment to conserve water and remain competitive'. This has resulted in productivity gains and water savings, however, irrigators' electricity use and costs have increased. For irrigators that have implemented water efficiency measures, the NSWIC reported that rising electricity prices have presented irrigators with the following dilemma:

The trade-off between water efficiency and energy intensity is extremely difficult to reconcile in irrigation and as a consequence of the escalating electricity costs many irrigators have taken drastic measures (including locking off their pumps or converting back to diesel energy) and reverted back to low energy but water-intensive production methods. The impacts in

22 Mr Robert Mackenzie, Director, Canegrowers Isis, *Proof Committee Hansard*, 16 February 2015, p. 27.

23 Big Picture Tasmania, *Submission 4*, p. 1.

24 Mr Bruce Robertson, *Submission 16*, p. 1.

terms of efficiency and productivity are immense and continuously increasing.²⁵

2.23 Canegrowers Isis similarly noted that efficiency gains quickly diminish when electricity prices increase and, as a result, irrigators are less willing to adopt or further invest in improved technologies.²⁶

An uncertain future: the rise of 'disruptive technologies' and concern about a 'death spiral'

2.24 From 2000 to the start of the global financial crisis in 2007–08, networks were faced with increasing demand and the need for ageing assets to be replaced or upgraded. Mr Terence Effeney, the chief executive officer of Energex, stated that the load on Energex's network increased by about 40 per cent over six years, largely due to the widespread installation of air conditioning. He explained:

Fifteen years ago about 25 per cent of homes in South East Queensland had air conditioning. Now over 75 per cent of homes will have air conditioning. Even with the global financial crisis, which occurred across 2007 and 2008, we were still experiencing record growth, and, in fact, across 2008 and 2009 we were still seeing some of the greatest demands that we had seen, with over 120 additional homes and businesses connecting to our network every day.²⁷

2.25 Indeed, summer peak demand in Queensland increased significantly during the 2000s decade. The peak demand during the summer months of 1999–00 was around 6,300 megawatts (MW); by 2009–10 summer peak demand had increased to around 8,900 MW.²⁸ However, AEMO figures indicate that the growth in maximum demand in Queensland during the 2000s largely occurred during the first half of the decade.²⁹ Although maximum demand was around four per cent higher in the summer of 2006–07 compared to the previous year, it fell sharply in the following year. Between 2005–06 and 2009–10, maximum demand increased by approximately seven per cent, around 1.5 per cent a year on average. Table 2.1 shows the AEMO's maximum demand figures for Queensland between the summers of 2005–06 and 2013–14.

25 New South Wales Irrigators' Council, *Submission 5*, p. 3.

26 Canegrowers Isis, *Submission 39*, p. 1.

27 Mr Terence Effeney, Energex, *Proof Committee Hansard*, 16 February 2015, p. 2.

28 AER, Seasonal peak demand by region, www.aer.gov.au/node/9767 (accessed 16 April 2015).

29 These figures are for the entire Queensland NEM region; Energex only operates in south-east Queensland.

Table 2.1: Queensland maximum demand, summer, various years

Summer	Residential and commercial maximum demand (MW)	Operational maximum demand (MW)
2005–06	6,414	8,280
2006–07	6,774	8,611
2007–08	6,260	8,086
2008–09	6,645	8,707
2009–10	6,803	8,897
2010–11	6,714	8,826
2011–12	6,524	8,714
2012–13	6,260	8,479
2013–14	6,191	8,374

Source: AEMO, *National electricity forecasting report 2014: Final NEM and regional forecasts data – Queensland*, June 2014, www.aemo.com.au/Electricity/Planning/Forecasting/~/_/media/Files/Other/planning/NEFR/2014/2014%20Updates/NEFR_2014_QLD_forecasts_template_values.ashx (accessed 16 April 2015).

2.26 In any case, demand has fallen throughout the NEM and is not predicted to return to its previous growth rate. Consumers are also already increasingly becoming involved in their own electricity generation. The committee was told that in 2008 there were just over 14,000 solar photovoltaic (PV) systems in Australia; as at February 2015 that were over 1.3 million rooftop systems and another 900,000 solar hot water systems.³⁰

2.27 The starting point for a discussion about the future of Australia's electricity networks is the so-called 'death spiral'. The concept of a death spiral follows the line of reasoning that high prices encourage consumers to reduce their energy consumption and/or to generate their own electricity. The EUAA provided the following statement that discussed the concept:

Over the past five years it has become apparent that electricity demand has declined and has significantly decoupled from economic growth. This has been driven in large part by consumers reducing their consumption in response to the dramatic increases in network prices. In addition, consumers are increasingly moving to self-generation as the relative costs of distributed generation are becoming more attractive, thereby further reducing the energy being delivered by the networks. The networks have responded by further increasing their prices to recover their guaranteed revenues over a reduced volume.

As a consequence, network assets are becoming increasingly under-utilised and the industry's productivity is in serious decline.

30 Ms Claire O'Rourke, National Director, Solar Citizens, *Proof Committee Hansard*, 17 February 2015, p. 61.

The natural outcome of the continuation of these trends is the well documented 'death spiral'—i.e. as demand continues to decline and the move towards distributed generation increases, the burden of paying for the networks' costs will be placed on a smaller consumer base until those consumers can no longer afford to stay connected to the network.³¹

2.28 A death spiral suggests that network assets are currently overvalued, with the likely future outcome being stranded assets.³² On this matter, the Bundaberg Regional Irrigators Group suggested that high electricity prices were not only affecting the competitiveness of its members in the sugar industry, but were also 'destroying demand for electricity', 'hastening the change to alternative energy sources' and in turn 'threatening the viability of...network investments and increasing the risk of electricity assets being stranded'.³³

2.29 The current regulatory proposals before the regulator caused some submitters to suggest that the death spiral was now evident. Referring to Ergon Energy's regulatory proposal, Mr Warren Males from Canegrowers claimed that rather than the proposal realistically reflecting the change in demand, a reading of it revealed the opposite. Mr Males stated:

In other sectors of the economy, if use of your product is falling, generally you put out a sales price to try and encourage an uptake. That does not work in the electricity market. If use is falling, then price goes up so that you can get your revenue cap again. And, if use falls further, then price goes up further. So it is really a bizarre twist in an energy-rich economy.³⁴

2.30 Anecdotal evidence of the death spiral was also supplied to the committee. For example, Mr Tom Chesson, a member of the Agriculture Industries Electricity Taskforce, gave the following account of a business seeking to minimise its reliance on the grid:

Last week I was speaking to a grower down in the Riverina who is 10 metres away from his transmission pole. He has just put in a diesel pump. It is already happening. It used to be that diesel was roughly twice as expensive as electricity. It is the other way around now...[W]e are all looking at renewables. A lot of my members have packing sheds and a lot of the dairy industry already has a 40 per cent uptake of solar panels for their sheds to try to chill the milk and other things. So we are looking at all options now. They are all on the table and a lot of them are starting to look far more attractive, which then will start the death spiral of our electricity

31 EUAA, *Submission 17*, pp. 7–8.

32 EUAA, *Submission 17*, pp. 7–8.

33 Bundaberg Regional Irrigators Group, *Submission 40*, p. 1.

34 Mr Warren Males, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, p. 26.

networks, which in some states we still own. So it is a very odd business model where we are seeing people driven off the network.³⁵

2.31 Submitters expressed concern that billions of dollars in network assets consumers have paid for over many years are at risk. Mr Robert Mackenzie from Canegrowers Isis stated that continued price rises cannot be absorbed. He expected the result will be 'a Rolls-Royce network across the whole industry and no customers'. He continued:

You will not have anybody to buy the power, and you will have a lot of stranded assets. That is ridiculous. Those assets were bought and paid for many, many years ago, to a large extent, and I suggest to you that individuals contributed to the construction of those assets over long periods of time. If it gets to be just a ghost, left to rot, because there is no way we can use it, what is the point of that? There are literally billions of dollars at stake here, both in the irrigation scheme, the on-farm infrastructure and the electricity network.³⁶

2.32 The implications of a death spiral and the rise of emerging technologies are considered further in Chapter 8.

Privatisation

2.33 Finally, it should be noted that this inquiry took place while proposals to privatise state government-owned network assets in Queensland and New South Wales through leasing arrangements were debated and taken by incumbent governments to their respective state elections.

2.34 The terms of reference for this inquiry does not include consideration of the merits of these proposals; however, they are relevant in the context of regulatory arrangements and the performance of network companies. In particular, evidence received by the committee discussed:

- whether public or private ownership affects the prices consumers pay;
- the implications of state governments being involved in setting the policy that underpins electricity regulation while also receiving dividends and other payments from the companies they own; and
- if the regulatory arrangements have resulted in unnecessary and inefficient investment with companies receiving excessive rates of return based on this investment, whether this can be remedied before privatisation.

2.35 These issues are considered in Chapter 5.

35 Mr Tom Chesson, Key Member, Agriculture Industries Electricity Taskforce, *Proof Committee Hansard*, 19 February 2015, p. 12.

36 Mr Robert Mackenzie, Director, Canegrowers Isis, *Proof Committee Hansard*, 16 February 2015, p. 27.

Concluding comment

2.36 Electricity costs are a significant burden on households and businesses. The committee is concerned that the high electricity prices experienced for several years have damaged the economy, particularly the sectors exposed to intense international competition. As electricity is an essential input to business activity, the revenue and profits enjoyed by the electricity network monopolies detract from the profits of businesses operating in the remaining sectors of economy. This outcome is made even worse if the high network costs are a result of perverse incentives in the regulatory rules that encourage significant investment in an electricity network that may not be used to the same extent in the future.

2.37 The next two chapters will commence a detailed study of the regulatory framework by considering how the revenue for a network business is determined.

Chapter 3

Overview of the regulatory framework and revenue determination process

3.1 The electricity system comprises four components: generation, transmission, distribution and retail activities. Retailers purchase electricity from the generators, the transmission networks connect generators to the distribution networks, which in turn connect most end users. Retailers sell bundled electricity and network services to residential, commercial and industrial energy consumers.¹

3.2 This inquiry focuses on two components of electricity supply: the transmission and distribution networks. This chapter provides an overview of electricity networks and why they are regulated. This chapter also outlines the key regulatory and policy bodies that have a role in electricity regulation in the National Electricity Market (NEM). The committee has generally limited the scope of this report to the network businesses that operate in the NEM as concern about network costs has largely been evident in NEM states and the majority of the evidence received related to the NEM's regulatory framework. The specific business referred to in the terms of reference for this inquiry also operates in the NEM.

Networks in the National Electricity Market

3.3 Prior to May 1996, state and territory government-owned utilities provided all four components of electricity supply. Every state and territory, except Western Australia (WA) and the Northern Territory (NT), are now connected to neighbouring states by interconnectors and participate in the NEM.² The NEM is the wholesale electricity market that allows for electricity generated in one state to be transmitted and sold in another state. The NEM spot market is run by the Australian Energy Market Operator (AEMO).

3.4 Electricity networks facilitate the transmission of electricity from generators to customers, often over long distances. To minimise transmission losses, transformers convert power to a high voltage when it enters the transmission network. After the high voltage electricity is transported by the transmission lines, substations convert the electricity to a lower voltage for transport along a distribution network. Substations within the distribution network lower the voltage further, making the electricity

1 Australian Energy Regulator (AER), *State of the energy market 2014*, p. 22.

2 WA and the NT are not included in the NEM primarily because of their geographical distance from the other states.

suitable for use by consumers (although some power is provided to end users at a high voltage).³

3.5 Within the NEM, there are five transmission networks and 13 major electricity distribution networks. The total asset value of the transmission and distribution networks in the NEM is over \$70 billion.⁴ The Productivity Commission (PC) has noted that the NEM is 'one of the most geographically dispersed electricity networks in the world', with more than 40,000 kilometres of transmission lines and 777,000 kilometres of distribution networks. In comparison, the United Kingdom's population, which is more than three times that of the NEM's, is served by approximately 25,000 kilometres of transmission lines and 800,000 kilometres of distribution lines.⁵

3.6 Key background information about the networks in the NEM is provided at Table 3.1 and Table 3.2.

Table 3.1: Electricity transmission networks in the NEM

Network	Location	Line length (circuit km)	Electricity transmitted (GWh), 2012–13	Maximum demand (MW), 2012–13	Asset base* (\$ million)	Owner
Powerlink	Queensland	14 310	49 334	10 956	6 035	Queensland Government
TransGrid	NSW	12 893	65 200	17 100	5 289	NSW Government
AusNet Services	Victoria	6 573	49 056	9 342	2 414	Listed company (Singapore Power International 31%, State Grid Corporation 20%)
ElectraNet	South Australia	5 527	14 284	4 136	1 786	State Grid Corporation 46.5%, YTL Power Investments 33.5%, Hastings Utilities Trust 20%
TasNetworks	Tasmania	3 503	12 866	2 483	1 236	Tasmanian Government
NEM totals		42 806	190 740		16 760	

Source: AER, *State of the energy market 2014*, p. 66.

3 Productivity Commission (PC), *Electricity networks regulatory frameworks*, vol. 1, April 2013, p. 85.

4 AER, *State of the energy market 2014*, p. 68.

5 PC, *Electricity networks regulatory frameworks*, vol. 1, p. 96.

Table 3.2: Electricity distribution networks in the NEM

Network	Customer numbers	Line length (circuit km)	Electricity delivered (GWh), 2012–13	Maximum demand (MW), 2012–13	Asset base* (\$ million)	Owner
<i>Queensland</i>						
Energex	1 359 712	51 781	21 055	5 029	10 197	Queensland Government
Ergon Energy	710 431	160 110	13 496	3 420	8 837	Queensland Government
<i>New South Wales and Australian Capital Territory</i>						
AusGrid	1 635 053	40 964	26 338	5 570	13 613	NSW Government
Endeavour Energy	919 385	35 029	16 001	4 156	5 344	NSW Government
Essential Energy	844 244	191 107	12 291	2 294	6 518	NSW Government
ActewAGL	177 255	5 088	2 903	698	790	ACTEW Corporation (ACT Government): 50%; Jemena (State Grid Corporation 60%, Singapore Power International 40%): 50%
<i>Victoria</i>						
Powercor	753 913	73 889	10 556	2 396	2 869	Cheung Kong Infrastructure / Power Assets 51%; Spark Infrastructure 49%
AusNet Services	681 299	43 822	7 501	1 877	2 809	Listed company (Singapore Power International 31%, State Grid Corporation 20%)
United Energy	656 516	12 837	7 856	2 077	1 789	DUET Group 66%; Jemena (State Grid Corporation 60%, Singapore Power International 40%) 34%
CitiPower	322 736	4 318	5 981	1 493	1 601	Cheung Kong Infrastructure / Power Assets 51%; Spark Infrastructure 49%
Jemena	318 830	6 135	4 254	986	1 031	Jemena (State Grid Corporation 60%, Singapore Power International 40%)
<i>South Australia</i>						
SA Power Networks	847 766	87 883	11 008	2 915	3 469	Cheung Kong Infrastructure / Power Assets 51%; Spark Infrastructure 49%
<i>Tasmania</i>						
TasNetworks	279 868	22 336	4 248	239	1 455	Tasmanian Government
NEM totals	9 507 007	735 298	143 488		60 322	

*Asset bases are at June 2013 (December 2013 for Victorian businesses).

Source: AER, *State of the energy market 2014*, p. 67.

Regulation of electricity networks in the National Electricity Market

Rationale

3.7 Electricity network businesses in Australia are subject to economic regulation, as is the case in many other countries. Generally, this regulation is based on an understanding that electricity transmission and distribution networks are capital intensive operations where increased output results in declining average costs. As a result of the evident economies of scale, it is generally accepted that networks are a natural monopoly. That is, the most efficient outcome is for a single supplier to provide network services in a particular geographic area.⁶

3.8 Economic regulation of a natural monopoly is required to prevent monopoly pricing, where inefficient outcomes result from monopoly firms charging customers more than what it costs to supply them.⁷ Efficient levels of investment and costs are encouraged by providing the monopoly firm with incentives similar to those faced by firms in competitive markets. Economic regulation is also supplemented by other regulatory requirements seen as desirable, such as reliability and quality of supply standards.⁸

Legislative framework

3.9 The creation of the NEM followed the National Electricity Market Legislation Agreement (NEMLA) entered into by New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory in 1996. The agreement provided for the National Electricity Law (NEL), a single national law for electricity regulation.⁹ The NEMLA was replaced by the Australian Energy Market Agreement (AEMA) entered into by the Council of Australian Governments (COAG) in June 2004. Tasmania entered the NEM in May 2005.¹⁰

3.10 The NEL provides the foundation for the regulatory framework governing electricity networks in the NEM. Underpinning this framework is the National Electricity Objective (NEO), which is contained in section 7 of the NEL. The NEO is as follows:

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:

6 AER, *Submission 36*, p. 2.

7 AER, *Submission 36*, p. 2.

8 AER, *Submission 36*, p. 2; Australian Energy Market Commission (AEMC), *Submission 41*, p. 4.

9 The NEL is a schedule to the *National Electricity (South Australia) Act 1996 (SA)*. South Australia is the lead legislator for the NEL; other jurisdictions enact application legislation that gives effect to the South Australian legislation.

10 AER, *State of the energy market 2014*, p. 43.

-
- (a) price, quality, safety, reliability and security of supply of electricity; and
 - (b) the reliability, safety and security of the national electricity system.¹¹

3.11 The National Electricity Rules (NER) are made under the NEL. The NER provide the detailed arrangements that govern the operation of the NEM. Matters covered by the NER include:

- the procedures that govern the operation of the market for the wholesale trading of electricity;
- the economic regulation of distribution and transmission services;
- retail markets; and
- metering.¹²

3.12 The NEL and NER provide the basis for the revenue determination process, which is discussed later in this chapter and in subsequent chapters.

Institutional regulatory arrangements in the NEM

3.13 There are several bodies established under the NEL and Commonwealth legislation that have a role in electricity policy or the regulation of the networks. These bodies either determine the overall policy that is applied to the NEM or administer functions under the NEL and NER. Of most relevance are the:

- COAG Energy Council;
- Australian Energy Market Commission (AEMC);
- Australian Energy Market Operator (AEMO); and
- Australian Energy Regulator (AER).

3.14 The functions and responsibilities of these bodies are outlined below.

COAG Energy Council

3.15 Reflecting the multi-jurisdictional nature of the NEM, the COAG Energy Council (formerly the Standing Council on Energy and Resources, or SCER) has responsibility for priority issues of national significance and key reforms in the energy and resources sectors. The COAG Energy Council is comprised of energy and resources ministers from the states, territories and New Zealand.

11 *National Electricity (South Australia) Act 1996 (SA)*, s. 7.

12 The current Rules are available at: www.aemc.gov.au/energy-rules/national-electricity-rules/current-rules

Australian Energy Market Commission

3.16 The AEMC makes rules under the NER, as well as the national gas and energy retail rules. The AEMC also conducts reviews of aspects of the energy markets at the request of the COAG Energy Council. The AEMC is responsible to the COAG Energy Council and is funded by state and territory governments.¹³

3.17 In making rule changes, the AEMC must follow an open and consultative process to ensure that decisions take account of the views of stakeholders. Proposed rule changes are assessed against the relevant statutory objective; for the regulation of electricity networks, this is the NEO.

Australian Energy Market Operator

3.18 AEMO was established in 2009, superseding the National Electricity Market Management Company (NEMMCO) and the state energy market management and planning entities. AEMO's electricity responsibilities include managing the wholesale electricity market and playing a coordinating role in ensuring system security when demand exceeds supply. Other functions performed by AEMO include the provision of long-term planning reports and regional demand forecasts and the planning for the Victorian electricity transmission system (in other jurisdictions, the state government or the transmission service provider undertakes these functions).¹⁴

3.19 AEMO's ownership structure is divided between government (60 per cent) and industry (40 per cent). Industry members include generators, transmission companies, distribution businesses, retailers, and resource companies across the eastern and south-eastern states of Australia. AEMO operates on a cost recovery basis as a company limited by guarantee under the *Corporations Act 2001*.¹⁵

Australian Energy Regulator

3.20 Economic regulation in the NEM is provided by the AER, an independent statutory authority located within the Australian Competition and Consumer Commission (ACCC).¹⁶ The AER regulates network providers in accordance with the NEL and the NER. Its main role is the determination of network revenue, although it also has compliance and information reporting functions.¹⁷

13 AEMC, *Submission 41*, pp. 1, 9.

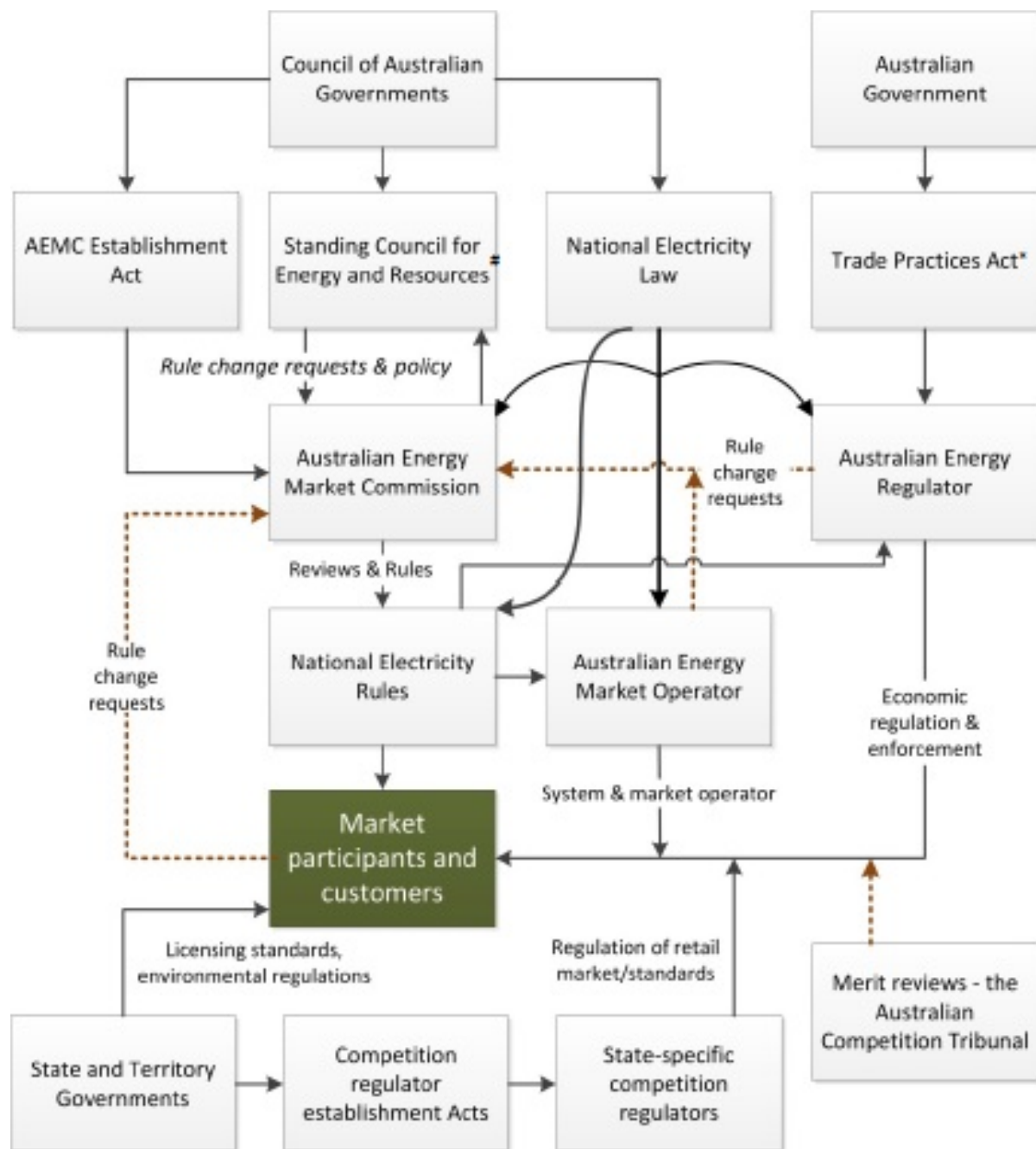
14 PC, *Electricity networks regulatory frameworks*, vol. 1, p. 70.

15 Australian Energy Market Operator, *Annual Report 2014*, p. 11.

16 Outside of the NEM, the Economic Regulation Authority regulates the networks in WA and the Utilities Commission regulates electricity networks in the NT.

17 PC, *Electricity networks regulatory frameworks*, vol. 1, p. 70; AEMC, *Submission 41*, p. 7.

Figure 3.1: Institutional arrangements in the NEM



Now the COAG Energy Council.

* Now the *Competition and Consumer Act 2010*.

Source: PC, *Electricity networks regulatory frameworks*, vol. 1, April 2013, p. 85; modified to indicate recent changes.

Introduction to the revenue determination process

3.21 The economic regulation applied to network businesses involves a regulator determining the amount of revenue the business can recover from its customers. For businesses operating within the NEM, this regulator is the AER.

Key statutory requirements and principles

3.22 The determination process and the roles of the AER are set out in the NEL and NER. The AER is required to exercise its economic regulatory powers and functions in a manner that will, or is likely to, contribute to the achievement of the NEO (section 7 of the NEL).¹⁸ As is evident from the wording of the NEO (see paragraph 3.10), and as the AER noted in its submission, the objective is 'not only concerned with cost outcomes for electricity consumers', but also the safety, reliability and security of energy supplies.¹⁹

3.23 Section 7A of the NEL contains revenue and pricing principles that must be applied to determinations. The principles provide:

- that a network business should be provided with a reasonable opportunity to recover efficient costs;
- for incentives to promote efficiencies; and
- that prices should reflect returns commensurate with the risks involved in providing network services.

3.24 In addition to the objectives and principles set out in the NEL, the NER provide the framework the AER must apply in undertaking its revenue determination role. The rules for the economic regulation of distribution and transmission networks are contained in chapters 6 and 6A of the NER respectively.

Benchmarking

3.25 Incentive-based regulation is enshrined in the NEL and NER, with the benchmarking requirements providing a clear example. When determining the amount of revenue that a network business can recover from its customers, the AER must set an allowed rate of return that reflects the efficient financing costs of a benchmark efficient entity. This involves the AER considering the revenue that would be required by a benchmark efficient business to cover its efficient costs and to provide a commercial return on capital. The AEMC explained that the benchmark entity used by the AER 'must be subject to a similar degree of risk in providing regulated services as the network business'. The AEMC noted that the framework maintains 'incentives for investment because investors can reasonably expect to recover efficient costs'.

18 AER, *Submission 36*, p. 2.

19 AER, *Submission 36*, p. 2.

The AEMC argued that this approach provides incentives for 'network businesses to raise capital as cheaply as possible and make efficient expenditure decisions':

Put simply, if the business spends less than the estimated efficient cost it will earn a higher return because it will still be allowed to recover the total revenue for the remainder of the regulatory period. Conversely, if its spending exceeds the estimated efficient costs, it will earn a lower return or potentially make a loss because it will not be allowed to recover the additional spending. The essential point is that the revenue of a particular network business is based on estimates of the efficient costs of a prudent operator and not on their actual costs.²⁰

3.26 The AEMC explained that the alternative to an incentive-based approach is a cost of service regulatory framework, where the revenue allowance 'is based on the costs that the individual business requires to provide services'. The AEMC argued that such frameworks do not 'provide strong incentives for regulated firms to operate efficiently and minimise costs'.²¹

Method for recovering revenue

3.27 A key consideration in revenue regulation is how the revenue will be recovered. Conceptually, the allowed revenue that a network business can recover from its customers can be recovered in two ways, either by a revenue cap or a price cap. Under a revenue cap approach, the AER determines the allowed revenue a network business can recover from its customers over the regulatory period. A price cap sets an average price level that a network business can charge over the regulatory period.

3.28 The AEMC provided the following information about these approaches:

Prices are based on estimates of future demand under both approaches. Under the revenue cap approach, average prices are adjusted each year for errors in forecast demand that result in revenue recovery above or below the allowed revenue. Put simply, network businesses under a revenue cap are guaranteed to recover the allowed revenue over the regulatory period. Under a price cap approach, prices are not adjusted for errors in forecast demand which result in revenue recovery above or below the allowed revenue. Variations in the allocation of risk should be reflected in how the AER determines the allowed rate of return.²²

3.29 The AEMC went on to note that the AER determines whether a revenue cap or price cap is 'most appropriate for the network business in order to maximise benefits for end-users'. The AEMC observed that recent network revenue determinations made by the AER have used a revenue cap approach. The AEMC

20 AEMC, *Submission 41*, pp. 4, 5.

21 AER, *Submission 36*, pp. 3–4.

22 AEMC, *Submission 41*, pp. 5–6.

suggested that by shifting the burden of demand risk onto consumers, the revenue cap approach could possibly result in lower prices:

Network businesses are required to meet their jurisdictional requirements for reliability such that they are obliged to maintain and develop the network to meet expected demand. In return, consumers experience the benefits of this reliability standard. There may be considerable risk to network businesses who are required to meet both a state-mandated reliability standard (that requires investment) and declining demand (a smaller amount of demand over which to recover the costs of that investment). By consumers bearing the demand risk through a revenue cap approach the risks of the network business are lower and there could then be an opportunity for the benefits to be passed on to consumers in the form of a lower allowed rate of return to the network.²³

Steps in regulating network revenue

3.30 The process for determining the amount of revenue that network businesses can recover from customers is *ex-ante*—businesses apply to the AER for an assessment of their revenue requirements in advance of a new regulatory period. Chapters 6 and 6A of the NER set out a detailed process that the AER must follow in regulating distribution and transmission network revenues. This process is as follows:

- 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). The paper must set out the AER's proposed approach to the business's next regulatory determination.
- 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 business's proposed regulated revenues for the following RCP.
- 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; and
 - an invitation to stakeholders to attend a public forum on the issues paper, well before stakeholder submissions are due to be submitted.
- The AER must then publish, nine 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 pre-determination conference; and
 - an invitation for stakeholders to make written submissions.

23 AEMC, *Submission 41*, pp. 5–6.

- The AER must ultimately publish, at least two 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; and
 - its decision in substitution of those elements of the regulatory proposal it has not accepted.²⁴

3.31 Following a final determination by the AER, affected parties can apply to the Australian Competition Tribunal for a review of the merits of the determination. Determinations are also subject to judicial review.

3.32 Table 3.3 outlines the next RCPs and key dates for AER decisions.

Table 3.3: Timetable for upcoming revenue determinations

State/ Territory	Service provider	Regulatory control period	Draft decision	Final decision
<i>Electricity transmission</i>				
NSW/Tas	TransGrid, TasNetworks	1 Jul 2015 – 30 Jun 2019	27 Nov 2014	30 Apr 2015*
Qld/NSW	Directlink	1 Jul 2015 – 30 Jun 2025	27 Nov 2014	30 Apr 2015
Vic	AusNet Services	1 Apr 2017 – 30 Mar 2022	30 Jun 2016	31 Jan 2017
Qld	Powerlink	1 Jul 2017 – 30 Jun 2022	30 Sep 2016	30 Apr 2017
SA	ElectraNet	1 Jul 2018 – 30 Jun 2023	30 Sep 2017	30 Apr 2018
Vic/SA	Murraylink	1 Jul 2018 – 30 Jun 2023	30 Sep 2017	30 Apr 2018
<i>Electricity distribution</i>				
NSW/ACT	Ausgrid, Endeavour Energy, Essential Energy, ActewAGL	1 Jul 2015 – 30 Jun 2019	27 Nov 2014	30 Apr 2015*
Qld/SA	Energex, Ergon Energy, SA Power Networks	1 Jul 2015 – 30 Jun 2020	30 Apr 2015	31 Oct 2015
Vic	CitiPower, Powercor, Jemena, Jemena, AusNet Services, United Energy	1 Jan 2016 – 30 Dec 2020	31 Oct 2015	30 Apr 2016
Tas	TasNetworks	1 Jul 2017 – 30 Jun 2022	30 Sep 2016	30 Apr 2017

* These determinations involved a transitional year determination 2014–2015 and a final determination for 2015–2019.

Source: AEMC, *Submission 41*, pp. 17–18.

24 AER, *Submission 36*, pp. 4–5.

The 'building block' approach

3.33 The NER outline a 'building block' approach to setting the revenue that networks are allowed to recover from their customers. The building blocks are estimates of the various costs a network business needs to incur while efficiently providing network services to customers over the RCP. These building blocks are added together to determine the maximum amount of revenue that a network business is allowed to recover from its customers.²⁵ The four blocks are outlined in Table 3.4.

Table 3.4: Regulatory building blocks

Building block	Description
Operating expenditure	Allowance for recovering of operating costs such as forecast labour costs, maintenance expenses and corporate expenses
Return on capital	Allowance for the recovery of capital invested by the business, which is calculated by multiplying the regulatory asset base (RAB) by the allowed rate of return
Return of capital	Allowance for the depreciation of existing assets
Tax allowance	Estimated corporate income tax over the period

Source: AER, *Submission 36*, p. 3.

3.34 In its 2013 report on electricity networks regulation, the PC explained that the building block model consists of two equations: the revenue equation and the asset base roll forward equation. These equations are as follows:

$$\text{MAR} = (\text{WACC} \times \text{RAB}) + \text{depreciation} + \text{operating expenditure} + \text{tax} + \text{incentive payments/penalties}$$

and

$$\text{new RAB} = \text{previous RAB} - \text{depreciation} + \text{capital expenditure}$$

where:

MAR is maximum allowable revenue

WACC is the post-tax nominal weighted average cost of capital

RAB is the regulatory asset base

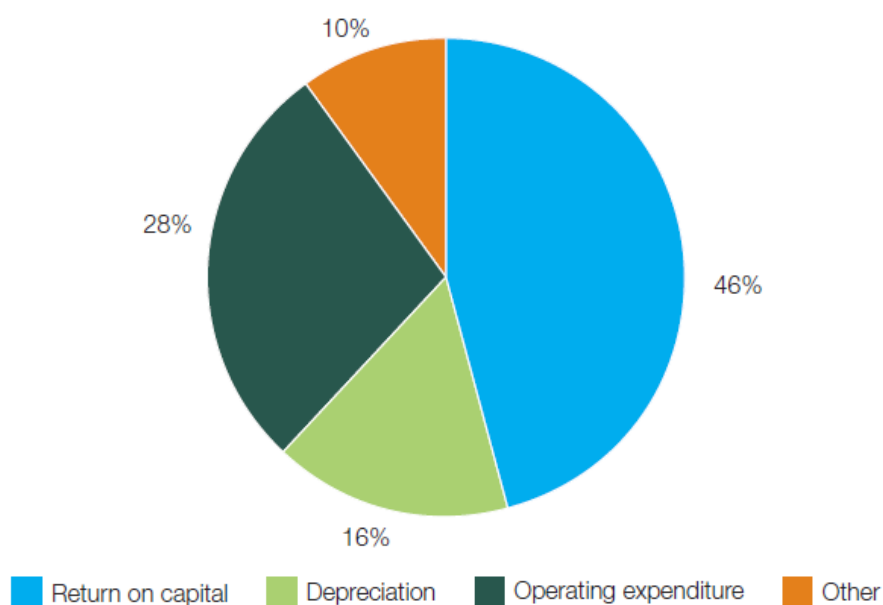
tax equals the expected business income tax payable.²⁶

²⁵ AER, *Submission 36*, p. 3.

²⁶ PC, *Electricity networks regulatory frameworks*, vol. 1, p. 194.

3.35 The AER noted that the largest component of the building block approach is the return on capital, which may account for up to two-thirds of the revenue allowance. Operating expenditure can typically account for 30 per cent of the revenue allowance.²⁷ Figure 3.2 provides an indicative breakdown of electricity distribution network revenue by each building block, based on the determination in place for the Tasmanian distribution network service provider.

Figure 3.2: Indicative composition of electricity network revenues, based on Tasmanian distribution



Source: AER, *State of the energy market 2014*, p. 69.

3.36 The following paragraphs provide an overview of the key building blocks and concepts involved in the determination process.

Regulatory asset base and costs of capital

3.37 The return on capital is calculated by reference to the regulatory asset base (RAB) and the weighted average cost of capital (WACC). Specifically, the NER prescribe that the return on capital for each regulatory year in a RCP must be calculated by applying a rate of return to the value of the regulatory asset base (RAB) at the beginning of that regulatory year.

3.38 EnergyAustralia provided the following description of the RAB:

The RAB is, conceptually, the regulatory valuation of the stock of (typically) physical assets used to provide network services. It represents the cumulative depreciated valuation of the capitalised sunk expenditure.

²⁷ AER, *Submission 36*, p. 3.

Each networks' RAB is calculated at the start of the specified regulatory period based on the asset value at the end of the previous regulatory period:

- less the depreciation on that opening asset base over the regulatory period;
- plus the depreciated value of the actual capitalised expenditure incurred in that period; and
- plus an adjustment to ensure the asset base is not eroded by monetary inflation.²⁸

3.39 The WACC is the expected rate of return required by investors to induce them to commit funds to the network business. The WACC for a firm is determined by the return it pays on debt and equity,²⁹ the two sources of funding for a firm, 'weighted in accordance to their relative use and adjusted for the operation of the tax system'.³⁰

3.40 To estimate the overall rate of return, the AER uses a nominal 'vanilla' WACC, which is a combination of a nominal post-tax return on equity and a nominal pre-tax return on debt.³¹ The WACC is calculated using the following formula:

$$\text{WACC}_{\text{vanilla}} = E(k_e) \frac{E}{V} + E(k_d) \frac{D}{V}$$

where

$E(k_e)$ is the return on equity, calculated with reference to the risk-free rate, the firm specific equity beta and the premium per unit of market risk (calculated using the capital asset pricing model)

$E(k_d)$ is the return on debt, calculated as the sum of the risk-free rate and the premium per unit of market risk

E/V and D/V are proportions of equity and debt in total financing (the AER assumes that the debt weighting is 0.6 and the equity weighting is 0.4).³²

3.41 The PC has made the following comments on how WACC is used as part of the revenue determination process for electricity networks:

...the regulator estimates the WACC of an efficient network business at the start of the regulatory period. It is an estimate of the financing costs of a typical network business with an efficient capital structure and is used to determine the revenue allowance that network businesses may recover.

28 EnergyAustralia, *Submission 23*, p. 4

29 The return on equity is the return shareholders will require for them to continue to invest. The return on debt is the interest rate the business pays when it borrows money to invest. See AEMC, *Submission 41*, p. 12.

30 PC, *Electricity network regulatory frameworks*, vol. 1, p. 195.

31 AER, *Better regulation: Expenditure statement rate of return guideline*, December 2013, www.aer.gov.au/sites/default/files/AER%20Explanatory%20statement%20-%20rate%20of%20return%20guideline%20-%20December%202013.pdf (accessed 27 February 2015), p. 9.

32 AER, *Better regulation: Rate of return guideline*, p. 9.

For clarity, this estimate is referred to as the regulatory WACC, while the actual capital costs that businesses face to fund their investments is referred to as the 'actual' WACC.

The regulator does not consider the individual circumstances of any particular firm when calculating the regulatory WACC. In theory, this creates incentives for businesses to source debt and equity financing efficiently, while considering the financial risks associated with different financing strategies. For instance, if a network operates in a low risk way, and as a result, they can access lower cost financing, they can keep the difference between the actual WACC and the regulatory WACC.³³

3.42 The AEMC remarked that a good estimate of the WACC is 'essential to promote efficient investment by network businesses'. It explained:

If the rate of return is set too low, network businesses may not be able to attract sufficient funds to be able to make required investments to maintain reliability and safety. Alternatively, if the rate of return of return is set too high, network businesses may face an incentive to spend more than necessary and consumers will pay inefficiently high prices.³⁴

Capital and operating expenditure

3.43 This section considers capital expenditure, commonly referred to as capex, and operating expenditure, or opex.

Definitions

3.44 For network businesses, capital expenditure is used for buying and installing assets, such as poles, wires and other equipment used for transporting energy, that are needed for the efficient operation of the network. The AEMC provided the following comments about capital expenditure:

Some types of capital expenditure are relatively certain and regular. However, more often capital expenditure is lumpy, typically varying from year to year because capital assets are generally very costly but last for a number of years. Network businesses earn revenue from capital expenditure through return on capital (WACC multiplied by the regulatory asset base) and return of capital, known as depreciation.³⁵

3.45 Operating expenditure 'is spent on the non-capital cost of running an electricity network and maintaining the assets'. Unlike capital expenditure, the AEMC noted that operating expenditure is 'generally recurrent and predictable from year to year'.³⁶

33 PC, *Electricity network regulatory frameworks*, vol. 1, p. 195.

34 AEMC, *Submission 41*, p. 12.

35 AEMC, *Submission 41*, p. 13.

36 AEMC, *Submission 41*, p. 15.

How capex and opex are determined

3.46 The AEMC explained that as part of the determination process, the AER approves an overall allowance of estimated capital expenditure at the start of an RCP. The total capital expenditure allowance for the RCP is based on the capital expenditure objectives and criteria set out in the NER. These require the AER 'to determine the efficient costs a prudent network business would need to meet or manage expected demand, comply with regulatory requirements (including jurisdictional reliability standards) and maintain safety'.³⁷

3.47 The regulatory arrangements for assessing operating expenditure are similar to those for capital expenditure. Specifically, an overall estimate of operating expenditure for each network business is determined at the start of the regulatory period based on the efficient costs the AER considers a prudent network business would incur. The NER provide 'the AER with discretion to use a range of methods and information to determine the efficient operating expenditure'.³⁸

3.48 The AER must accept the forecasts submitted to it if it is satisfied that a network service provider's proposed total capex forecast and total opex forecast reasonably reflect:

- the efficient costs of achieving the capex and opex objectives;
- the costs that a prudent operator would require to achieve the capex and opex objectives; and
- a realistic expectation of the demand forecast and cost inputs required to achieve the capex and opex objectives.³⁹

3.49 The AER's approach to estimating total capital expenditure is outlined in a guideline. Among other techniques, the AER uses economic benchmarking, modelling and analysis to compare the capital expenditure proposed by a business with estimates the AER develops. The NER also require that network businesses undertake a public regulatory investment test (RIT) process for major projects where expenditure exceeds \$5 million.⁴⁰ The AEMC advised that the RIT process is:

...designed to test whether the businesses' proposed investment is the most efficient solution (eg whether it is the most efficient way to meet the

37 AEMC, *Submission 41*, p. 13.

38 AEMC, *Submission 41*, p. 15.

39 AER, *Better regulation: Expenditure forecast assessment guideline for electricity distribution*, November 2013, www.aer.gov.au/sites/default/files/Expenditure%20Forecast%20Assessment%20Guideline%20-%20Distribution%20-%20FINAL.pdf (accessed 24 February 2015), pp. 6–7. See also National Electricity Rules, rules 6.5.6(c) and 6.5.7(c).

40 These tests are referred to as RIT-D for distribution projects and RIT-T for transmission projects.

applicable reliability standards), including allowing providers of non-network solutions to propose alternative approaches.⁴¹

Recent rule changes and upcoming determinations

3.50 The final section of this chapter briefly outlines the changes to the NER made in recent years that have implications for upcoming revenue determination processes. The AER has started to develop determinations based on these new rules.

3.51 The rule changes sought to address inconsistencies in the framework and other issues that may have contributed to high revenue allowances in previous determinations. For example, regarding the previous approach to determining the rate of return, the AER explained that the version of the NER in place at the time:

...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.⁴²

3.52 The AEMC and AER outlined the following rule changes made in 2012 that are relevant to revenue determinations:

- the AER must set an allowed rate of return that reflects the efficient financing costs of a benchmark efficient entity and must consider the appropriateness of the overall rate of return, rather than looking at the individual parameters that make up the rate of return in isolation;
- network businesses are provided with incentives to make cost-effective investment and operational decisions to promote efficient outcomes for consumers (if the businesses are more efficient than the benchmark they get rewarded, if not they get lower returns)—specifically:
 - the AER has the power to review the efficiency of capital expenditure over an RCP that exceeds the efficient amount estimated by the AER; if it is found that the expenditure was not efficient, the AER may decide that the business cannot recover that expenditure during the next RCP;⁴³
 - the AER may develop specific incentive schemes for capital expenditure that provide incentives for network companies to incur efficient capital expenditure;

41 AEMC, *Submission 41*, p. 14.

42 AER, *Submission 36*, p. 7.

43 AEMC, *Submission 41*, pp. 4–5.

- networks are required to consult with consumers about their expenditure plans and the AER regulatory determination processes have been made more accessible to consumer representation; and
- changes have been made to enhance the limited merits review process (these are examined in Chapter 6).⁴⁴

Regulatory proposals currently under consideration

3.53 The first network businesses to have RCPs commence under the new rules are currently having their revenue requirements assessed by the AER. As shown in Table 3.3, these businesses are the Tasmanian electricity transmission business, TasNetworks, and ACT and NSW transmission and distribution network businesses. The next regulatory control period for these businesses commences on 1 July 2015. The AER's final determinations are due by 30 April 2015.

3.54 Operating conditions for these businesses have substantially changed since their previous determinations, particularly as a result of reduced electricity demand and lower costs of capital. It appears that these changing conditions, and the amendments to the NER, are encouraging substantially different regulatory decisions to be made regarding the future revenue requirements of these businesses. The draft determinations issued by the AER in November 2014 challenged elements of the proposals submitted by the businesses. For example:

- the proposed rate of return was decreased—the rate of return proposed by the businesses was 7.58 per cent for TasNetworks, 8.83 per cent for the NSW businesses and 8.99 per cent for the ACT network business—the AER proposed between 6.9 and 7.2 per cent; and
- proposed operating expenditure was decreased—the AER proposed cuts of between 10.3 and 38.6 per cent to the base operating expenditure proposed by the ACT and NSW businesses.⁴⁵

Committee comment

3.55 The AER's latest draft determinations represent a promising development. It is, however, difficult to determine the weight that should be attached to each of the various factors that may have led to this outcome. The recent rule changes may have addressed certain flaws with the determination process, resulting in the AER having greater flexibility when assessing proposals. Lessons learnt following the previous regulatory period may mean the regulator is more sceptical of forecasts presented to it. Public pressure may also be a factor.

44 AER, *Submission 36*, pp. 7, 9; AEMC, *Submission 41*, pp 1–2.

45 AER, *Submission 36*, pp. 9, 12.

3.56 However, this is not the end of the matter. Although it seems the regulator is more willing, or able, to reject exorbitant proposals, the evidence taken by the committee through written submissions and public hearings largely took place after the draft determinations were released. Some well-informed submitters still questioned many of the fundamental principles applied in the economic regulation of network businesses.

3.57 The next chapter starts an analysis of this evidence by considering in detail how the return on capital and other building blocks are determined.

Chapter 4

Regulatory building blocks

4.1 As noted in Chapter 3, the maximum allowed revenue that network service providers can recover from their customers is determined by the Australian Energy Regulator (AER) with reference to four building blocks. These building blocks—operating expenditure, return on capital, return of capital and tax—are estimates of the various costs a network business needs to incur while efficiently providing network services to customers over the regulatory control period (RCP).

4.2 Although other building blocks are noted, this chapter largely focuses on the return on capital, which has been a key driver of increasing network costs. The return on capital is calculated by reference to the regulatory asset base (RAB) and the weighted average cost of capital (WACC). These inputs to the regulatory calculation have a significant effect on the amount of revenue network companies are allowed to recover from their customers: one submitter stated that the RAB is the 'single biggest driver of revenue for a transmission business'.¹

4.3 Many of the submissions received by the committee expressed concern that the RABs are inflated by inefficient investments and have been calculated using a flawed methodology. Further, submissions expressed concern about how the allowed rate of return is determined. In particular, it was argued that the National Electricity Rules (NER) and the approach taken by the AER provide incentives for overspending and allow returns on capital that do not reflect the low-risk nature of network businesses and the actual costs they face.

Calculation of the regulatory asset base

4.4 The electricity regulatory framework provides for the recovery of past network investments over the duration of their economic lives. This is reflected by the RAB—the regulatory valuation of a network service provider's assets and a key input for the return on capital building block.

4.5 The initial RABs for each network service provider are specified in the NER.² These bases are rolled forward to the beginning of the next RCP using a model determined by the AER. However, the NER provide that the RAB must be adjusted for inflation between RCPs.³

1 Big Picture Tasmania, *Submission 4*, p. 4.

2 For example, the RABs for distribution network service providers are outlined in schedule 6.2 of the NER.

3 National Electricity Rules, rules 6.5.1 and 6A.6.1.

4.6 Many submissions received by the committee expressed concern about network businesses' RABs. These submissions follow the established concern about the 'gold plating' of electricity networks; that is, the regulatory framework provides incentives for network service providers to undertake inefficient investments to maximise their RABs. For example, the Energy Users Association of Australia (EUAA) argued that 'study after study' has demonstrated that the RABs 'are grossly inflated due to unnecessary and inefficient investments'.⁴ A representative of the EUAA told the committee that networks service providers:

...are building 30- and 40-year assets that...are bad investment decisions that our children and grandchildren will be paying for.⁵

4.7 Submitters claimed that past decisions have led to a high RAB value being locked in, guaranteeing high prices in the future regardless of other rule changes or efforts to expose network businesses to the risk of their spending decisions.⁶ The long-lasting consequences of the inclusion of an investment in a network service provider's RAB was also identified by the Productivity Commission (PC) in its 2013 report on electricity network regulation:

Some network businesses may have benefited from being able to exceed regulatory allowances for capital expenditure in the previous regulatory period. Not only has this expenditure been rolled into the subsequent regulated asset base, but it has also influenced the regulator's decisions about what is reasonable expenditure in future periods. It is possible that some of this overspend could have reasonably been reduced or deferred.⁷

4.8 The PC's conclusion was supported by evidence given by the chief executive officer of Energex, who acknowledged that despite proposed reductions in capital and operating expenditure for the next regulatory period, Energex's RAB will continue to increase:

The reality is that our RAB...is continuing to grow through the period because of the investments that we have had in the previous period. And because of the way regulatory depreciation works, that RAB will continue to grow. So what you are seeing is an outcome of the regulatory construct where the [RAB], due to investments that we made in the previous period, will continue to grow for some period of time. And given that the majority

4 Energy Users Association of Australia (EUAA), *Submission 17*, p. 7 (footnotes and emphasis omitted).

5 Mr Mark Grenning, Board Director, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 17.

6 Australian Aluminium Council, *Submission 27*, p. 5; EUAA, *Submission 17*, p. 3.

7 Productivity Commission, *Electricity networks regulatory frameworks*, vol. 1, April 2013, p. 227.

of our revenue comes from RAB multiplied by WACC, that is what is driving up the revenue requirements.⁸

4.9 Data on RABs for various network businesses were provided to the committee. EnergyAustralia stated that the RABs for New South Wales have doubled since 2000, with the result being an increase in network charges of 130 per cent since 2007–08.⁹ Big Picture Tasmania told the committee that the Tasmanian asset base has increased from approximately \$0.8 billion in 2005 (in 2013 dollars) to \$1.5 billion in 2013. Further, Big Picture Tasmania claimed that during the last regulatory period Transend¹⁰ had approximately \$600 million in capital expenditure at a time when demand and peak demand was declining.¹¹

Methodology for valuing assets

4.10 Some submitters questioned the methodology used for determining the RAB of a network business. These submitters discussed three models for valuing business assets: 'asset optimisation', depreciated optimized replacement cost (DORC) and depreciated actual cost.

4.11 The EUAA and Major Energy Users explained that, prior to 2006, an asset optimisation model was used for electricity network assets. Under this model, the value of a network service provider's RAB was 'optimised' to reflect 'the minimum value of assets needed to deliver the required services'. That is, the asset base was optimised to reflect the value of assets that were the minimum needed to provide the service, rather than actual capital expenditure automatically being included. The value of any investments that resulted in excess capacity were excluded from the RAB until the additional network capacity was needed.

4.12 Changes were introduced in 2006 (for transmission networks) and 2007 (for distribution networks) to provide incentives for investment.¹² The EUAA advised that asset values are now determined using the DORC valuation method. In the EUAA's view, the DORC method 'significantly overstates the value of the assets'. Further, the NER require the asset values to be adjusted each year in line with the consumer price index (CPI), an approach that the EUAA advised is 'unique to Australia'.¹³ The EUAA noted that businesses operating in competitive sectors

8 Mr Terence Effenev, Chief Executive Officer, Energex, *Proof Committee Hansard*, 16 February 2015, p. 5.

9 EnergyAustralia, *Submission 23*, p. 4.

10 Transend was a transmission network service provider in Tasmania. On 1 July 2014, the Tasmanian Government merged Transend's electricity transmission business with Aurora's electricity distribution business to form TasNetworks. TasNetworks, www.tasnetworks.com.au/about-us/corporate-profile/about-tasnetworks (accessed 31 March 2015).

11 Big Picture Tasmania, *Submission 4*, p. 4.

12 EUAA, *Submission 17*, p. 8; Major Energy Users, *Submission 7*, pp. 3–4.

13 EUAA, *Submission 17*, p. 8.

'predominantly use the depreciated actual cost valuation approach, which results in significantly lower asset valuations'.¹⁴

4.13 Major Energy Users concluded that the change to DORC has given network service providers 'carte blanche to over-invest with impunity', with the building block approach to determining allowed revenue resulting in a network provider's profit being 'related entirely to the value of the assets it provides'. According to Major Energy Users, a network service provider has an incentive 'to overinvest if it can and to replace existing assets with new assets as this increases the asset base'. To put it another way, 'the larger the asset base, the greater the profit [a network service provider] receives'.¹⁵ In this regard, the automatic inclusion of any investment made by a network business was seen as particularly questionable.¹⁶

4.14 Professor David Johnstone, a professor of finance at the University of Sydney, described DORC as a formula that allows 'infrastructure owners to charge users as if they had to rebuild it all, even its most perfectly functional parts—at today's supposed prices'.¹⁷ He described the formula as 'nonsense' that was 'clearly set up in the interests of the asset owners...both private and public'.¹⁸ The following example was provided to demonstrate how assets can be valued under the DORC method:

Suppose the asset owner has an asset that cost \$100 years ago, and would cost \$1000 to build today (at a guess, and with some discretion on the part of the consultant valuer producing this estimate). Suppose also that the asset is currently 'depreciated' by 20% in terms of its existing life span, and is expected to depreciate by another 2% this year (at a guess). Lastly, suppose that the WACC return regulated in the access arrangements to owners (from users) is 10%. The regulated asset base (RAB), also known as the depreciated replacement cost (DORC) is therefore 80% [of] \$1000 = \$800.

The tariff payable on this asset this year is then:

$\$800 \times 10\% = \80 paid as 'interest' or 'return' on depreciated assets

plus

$\$800 \times 2\% = \16 paid as compensation for this year's depreciation on assets

Total \$96.

So the owner gets 12% of an imaginary cost base of \$800, an amount that was never actually paid (the owner actually paid \$100 years earlier).¹⁹

14 EUAA, *Submission 17*, p. 8.

15 Major Energy Users, *Submission 7*, pp. 3–4.

16 See Central Irrigation Trust, *Submission 1*, p. 4; Big Picture Tasmania, *Submission 4*, p. 4.

17 Professor David Johnstone, *Submission 10*, pp. 3–4.

18 Professor David Johnstone, *Proof Committee Hansard*, 17 February 2015, p. 42.

19 Professor David Johnstone, *Submission 10*, pp. 1–2.

4.15 Professor Johnstone's evidence indicated that the origins of the current problems can be traced back to when the assets were valued in the 1990s and early 2000s. He stated that the result was 'basically, a made-up number, rather than anything necessarily related to money that had been spent building those assets, which, in many cases, were very old'. He explained:

...what happened in the energy industry was valuers came in and were told to value these assets at what they would cost today. The valuers thought, 'Strewth, how would you do this today? It is going to cost a fortune.' So they start writing down telephone numbers and then get paid accordingly for those valuations. That was the kind of cosy nexus that occurred between that valuers and asset owners—some of whom were government obviously.²⁰

4.16 In his submission, Professor Johnstone wrote there are 'many bits of convoluted economic rhetoric that have been put forward for this obviously generous set up'. Professor Johnstone focused on the 'new entrant' rationale, which suggests that asset owners should be permitted to charge up to the point where the owner risks a new entrant replicating or bypassing its assets. Professor Johnstone described this concept as 'one of many superficially plausible economic theory arguments that any vested interest could mount to suit its case', or more simply, that its application to network businesses was 'leg pulling by whoever invented the idea'. Professor Johnstone explained:

Neither the economic rationale nor the political acceptability of large scale duplication of natural monopoly assets will ever exist. The new owner would have to pay current asset replacement cost, whereas the existing owner could compete against them without paying another cent.

Ultimately this means that existing owners of assets that would cost let's say \$500 to replicate today (if those assets could be built given the need for easements etc.) can charge customers as if those same assets would cost \$1000 (i.e. 'double DORC') or an even greater multiple of true current replacement cost. They can charge this much because there is no realistic threat of a new entrant. So the sky is the limit in relation to any actual true threat of major infrastructure duplication or bypass. (Think of those massive electricity stanchions that we see running across country, is any competitor going to build an identical network running hundreds of miles right next to it?).²¹

4.17 Professor Johnstone highlighted the valuation of easements under the DORC method as being 'the most absurd application of this idea':

Governments decades earlier (at little cost in today's terms, and long 'paid for') and yet they appear in the tariff asset base (DORC) as if they must be re-acquired today. Not only that, they are valued widely at the per foot replacement cost of the land involved, which is not only a conceptual

20 Professor David Johnstone, *Proof Committee Hansard*, 17 February 2015, p. 42.

21 Professor David Johnstone, *Submission 10*, p. 2.

nonsense, it is an open invitation to inflate the asset base (DORC) by introducing factors and market conditions entirely unrelated to the asset owners cost of delivering energy.²²

4.18 Similarly, Mr Ray Mostogl of Bell Bay Aluminium questioned the rationale behind valuing land under power lines in a way that results in the value of that land increasing 'at about five per cent year on year because it is being judged as something that a foreign investor would be happy to purchase'.²³

4.19 Although a number of problems with the DORC model were put forward, the indexation of assets was a specific area of concern. Mr Michael Murray from Cotton Australia told the committee he was 'just astounded' by the way a network service provider's RAB is calculated. Mr Murray stated:

Why do consumers need to pay for the full asset base that has a utilisation of under 40 per cent and continues to decline? Why should consumers pay for assets that were justified and constructed based on spurious peak demand forecasts that have never materialised? Why does the asset base get revalued in line with inflation each year? This means that many assets still retain a considerable value even at the end of their life and are then subject to full replacement of costs.²⁴

4.20 Mr Murray went on to comment that this was not the usual commercial practice:

It certainly does not happen in the real world that you can depreciate an asset and then automatically adjust it back up for inflation and end up with something that potentially is worth more than what you started with 40 years and then replace it with something at the new cost.²⁵

4.21 Most submitters, other than network companies or their industry association, argued that a fundamental problem with the RAB calculation is that it is removed from commercial realities. Mr Mostogl suggested that the asset base reflects how much is being invested in it, rather than being a true indicator of actual performance.²⁶ Big Picture Tasmania claimed that if a private enterprise delivered outcomes of increased investment and declining reliability, as it suggested was the case with Tasmanian networks, the board of directors and chief executive officer would 'most likely...face hostile shareholders and possible legal action'.²⁷ The Australian Aluminium Council provided the following similar observation:

22 Professor David Johnstone, *Submission 10*, pp. 3–4.

23 Mr Ray Mostogl, General Manager, Bell Bay Aluminium, *Proof Committee Hansard*, 17 February 2015, p. 35.

24 Mr Michael Murray, Policy Manager, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 20.

25 Mr Michael Murray, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 25.

26 Mr Ray Mostogl, Bell Bay Aluminium, *Proof Committee Hansard*, 17 February 2015, p. 37.

27 Big Picture Tasmania, *Submission 4*, p. 4.

A 'normal' business within a 'normal' industry is subject to a range of commercial disciplines that would see it financially damaged if it overestimated demand, invested more capital than necessary, over-valued its assets, or assumed its borrowing costs were higher than necessary. Furthermore, it is the subsequent reality and ever-changing circumstances that will determine the actual returns for a normal business, not the estimates prior to the investment program.

These commercial disciplines are not only largely absent for network businesses but there is potential reward—or protection at a minimum—for differences between estimates and reality on key parameters such as future demand, capital costs and costs of borrowing. Network business returns are largely dictated and locked-in by the proposed investment program and regulator's decision – they are shielded if reality differs from the prediction or if circumstances change.²⁸

4.22 Professor Johnstone argued that asset valuation rules favouring asset owners 'would not have occurred in countries with larger more influential manufacturing sectors'.²⁹ He observed that:

At a philosophical level, the tariff regulation regime could have been biased in energy users' direction rather than in the asset owners' direction. The thinking could have been that pre-existing infrastructure was a 'sunk cost' (i.e. it's there already, whatever we do today) so let's just charge users whatever is necessary to operate it.³⁰

Assessment of investments and asset write-downs

4.23 If it is accepted that the RABs of network businesses are significantly over-valued, as was claimed in many submissions, the question that follows is what can be done about it? For many, the solution is to write-down the value of inefficient assets. This could be facilitated by excluding the assets from the network provider's RAB until the asset was no longer underutilised. For example, Canegrowers Isis presented the following statement in support of asset write-downs:

[Distribution network service providers] have over invested in the network to maximise their revenue based on false and over inflated demand forecasts. Therefore, the network assets must be written down substantially prior to the next regulatory reset.

One way of keeping electricity prices under control is to write-down the network asset values. A one-third network asset write-down would have a significant and positive impact on electricity prices for all customers.³¹

28 Australian Aluminium Council, *Submission 27*, p. 2.

29 Professor David Johnstone, *Submission 10*, p. 1.

30 Professor David Johnstone, *Submission 10*, pp. 3–4.

31 Canegrowers Isis, *Submission 39*, p. 1.

4.24 Submitters suggested that the first step should be a review of the asset base to identify assets that are underutilised.³² For example, Mr Michael Murray of Cotton Australia, stated:

...there just needs to be a hard look at a lot of the capital expenditure that was based on very overoptimistic peak demand forecasts. I believe that is the case in Canada; if it is proven that the expenditure was not justified it gets taken off the books and maybe sometime in the future you say, 'Okay, that peak demand has finally arrived', or maybe you add it back onto the books then. I think those sorts of things would be the starting points. Whether you then have a much more severe approach and enforce some major write-downs and provide some sort of compensation or whatever, I think that is an area for debate.³³

4.25 Bell Bay Aluminium called for more rigorous processes for assessing the efficiency of investments. Bell Bay highlighted how ex-post reviews of investments occur in its sector:

In private enterprise, at the end of a capital project, particularly for significant investments, we would typically bring in an independent person to assess the value that the organisation got for that project. They would look at what was installed, what was spent, what should have been spent and whether it delivered the value that was identified up-front. We have asked for evidence of this from the transmission providers; I would like to think they do something internally, but we have never been able to uncover that. So just holding people to account for spending money that the public have to pay for is certainly an area of improvement.³⁴

4.26 While the EUAA noted that recent rule changes have given the AER 'marginally more power to scrutinise future gold plating', it argued that a 'major omission' in the new rules was that the AER still does not have the ability to address past gold plating.³⁵ The AER confirmed that under the current framework, it is unable to exclude assets from the RAB. The AER's chief executive officer noted that providing for the AER to do this would:

...require quite a significant policy change through the rules and possibly through the law. In essence it is a policy for decision for governments around whether they want to make that change.³⁶

32 Ms Stefanie Schulte, Policy Manager, New South Wales Irrigators' Council (NSWIC), *Proof Committee Hansard*, 17 February 2015, p. 26.

33 Mr Michael Murray, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 25.

34 Mr Ray Mostogl, Bell Bay Aluminium, *Proof Committee Hansard*, 17 February 2015, p. 36.

35 EUAA, *Submission 17*, p. 7 (footnotes and emphasis omitted). Since 2014, the AER is able to review the efficiency of capital expenditure over a regulatory control period that exceeds the efficient amount estimated by the AER. The AER may disallow capital overspending it considers was inefficient.

36 Ms Michelle Groves, Chief Executive Officer, Australian Energy Regulator (AER), *Proof Committee Hansard*, 18 February 2015, p. 4.

4.27 In support of asset re-valuation, the New South Wales Irrigators' Council pointed to the National Gas Rules, which it suggested provides a precedent for reviews of asset bases to take place. Specifically, it drew the committee's attention to sub-rule 81(1), which states:

A full access arrangement may include...a mechanism to ensure that assets that cease to contribute in any way to the delivery of pipeline services...are removed from the capital base.³⁷

4.28 Precedents can also be found in other jurisdictions. The AER's equivalent in Western Australia, the Economic Regulation Authority (ERA), advised that under the Electricity Networks Access Code the ERA can review existing and proposed expenditure for efficiency, not just spending over the forecast. The ERA is of the view that this power is 'a particularly effective aspect of the Code'. It is also evident that this provision of the Code is utilised; the ERA provided the following example of an ERA decision to exclude expenditure from a network service provider's RAB:

In addition to reducing forecast expenditure proposed by Western Power, the ERA excluded more than \$200 million of capital expenditure already incurred by Western Power from its RAB in the second access arrangement review of Western Power. This related to expenditure undertaken between 2007 and 2009, which the ERA determined did not meet the efficiency requirements of the Code.³⁸

Potential adverse consequences from asset write-downs

4.29 While submissions from large electricity users generally supported some form of re-valuation of asset bases, the committee also received warnings about the consequences of writing-down the value of assets. The Department of Industry observed that write-downs that have been part of approved capital expenditure would result in costs that need to be borne, either by taxpayers if the business is government-owned, or by shareholders if it is a private company. The department claimed this would introduce a new risk to network businesses, placing upward pressure on the cost of capital. As a result, asset write-down proposals 'may be inconsistent with the goal of minimising costs for consumers in the long run'.³⁹

4.30 The department's comments were echoed and reinforced by the Energy Networks Association (ENA) and the Energy Supply Association of Australia (ESAA). The ENA argued that the mechanism of a 'predictably updated' RAB 'provides the critical foundation for low cost financing of new and ongoing network investments'. The ESAA described the key benefit of a rule-based system as being 'the certainty that it gives investors'. The ESAA went on to state:

37 National Gas Rules, rule 81(1); cited by Ms Stefanie Schulte, NSWIC, *Proof Committee Hansard*, 17 February 2015, p. 26.

38 Economic Regulation Authority (WA), *Submission 30*, pp. 3–4.

39 Department of Industry, *Submission 34*, p. 14.

If you undermine that certainty by going back and saying, 'Well, the rules were applied but we didn't like the outcome, so we're going to put a red pen through your asset base,' that causes a real impact on the cost of finance for those companies, particularly in the case of the privately owned networks that rely on financial markets to underwrite their investments and to keep operating and maintaining the system on behalf consumers.⁴⁰

4.31 The ENA argued that network charges would increase as a result of the higher rates of return investors would require to account for the risk of future network write-downs. Further, according to the ENA, asset write-downs would:

- 'tend to reverse existing downward pressures on the cost of capital and prices';
- not lead to lower tariffs for consumers;
- likely worsen the risk of any death spiral by increasing financing and network costs; and
- even if the future cost of capital increased by a small amount as a result of the risk of write-downs, this would 'completely offset' any notional savings associated with the write down.⁴¹

4.32 The ENA cited analysis it undertook in 2014 that suggested consumers would face overall increases in network charges if current regulatory commitments to provide for recovery of past investments were removed. The ENA advised:

This analysis found that under the scenarios modelled, households across individual Australian states would experience increases of up to about 7 per cent in the prices paid for network services. Australian consumers could pay the equivalent of over \$320 million in increased network charges each year leading to unnecessary increases in average electricity bills of up to 2.4 per cent.⁴²

4.33 The ENA suggested its analysis was 'likely to be a highly conservative lower bound estimate, because it completely excludes consideration of the costs to finance new capital investment in the future'. However, if this factor was included, the ENA indicated that the expected outcomes for consumers would worsen:

As an illustrative example, assuming an average capital expenditure of around \$7.0 billion undertaken each year on Australian networks, network charges would have to recover an additional \$345 to \$915 million over the next five years to recover the associated increased financing costs arising from the implementation of any regulatory asset writedowns.⁴³

40 Mr Kieran Donoghue, General Manager Policy, Energy Supply Association of Australia (ESAA), *Proof Committee Hansard*, 18 February 2015, p. 26.

41 Energy Networks Association (ENA), *Submission 31*, p. 4.

42 ENA, *Submission 31*, pp. 4–5.

43 ENA, *Submission 31*, p. 5.

4.34 The ESAA also questioned what the basis would be for writing down the assets of businesses that 'are charging prices that are broadly similar, in real terms, to what they were charging 20 years ago'.⁴⁴

4.35 Several other submitters did not accept the arguments put forward by the energy industry associations. Their counter-arguments focused on sovereign risk and standard commercial practice.

4.36 On sovereign risk, Mr Oliver Derum from the Public Interest Advocacy Centre disagreed with the argument that asset write-downs would significantly increase the costs of borrowing for network companies because of sovereign risk. He countered that if the business had fewer stranded assets because of the asset write-down it 'becomes a lower risk investment proposition'.⁴⁵

4.37 The EUAA added that all businesses face the risk of a government changing a policy that could affect them:

On that basis, if you think it is a sovereign risk issue and you think they should be compensated, then the question I ask is: how many businesses in Australia could maintain a sovereign risk argument where something the government has done has changed the value of their business? On that basis, the government budget would be dominated by compensating people. I do not think it is a reasonable argument to say that, just because the rules change or things change, I should be compensated for that.⁴⁶

4.38 How assets are treated by firms operating in markets that are not subject to economic regulation was also considered. The Public Interest Advocacy Centre noted that 'the entire regulatory system is, in theory, set up to mimic the structures and determinations of the competitive market'. The Centre observed that one aspect of commercial behaviour in those markets is that businesses write down assets 'when circumstances change or when poor business decisions have been made'. The Centre remarked 'we are seeing it in the resources sector almost daily...at the moment'.⁴⁷

4.39 Although he considered it would be 'problematic' to revalue privately-owned assets, Mr Bruce Mountain noted that under the regulatory formulation, the businesses are compensated to bear market risk and that market risk is set with reference to a market of firms that actually compete. Mr Mountain also noted the write-downs in the resources sector, which is 'the market that the cost of capital is referenced to'. He concluded that network companies:

44 Mr Kieran Donoghue, General Manager Policy, ESAA, *Proof Committee Hansard*, 18 February 2015, p. 26.

45 Mr Oliver Derum, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 17.

46 Mr Mark Grenning, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 18.

47 Mr Oliver Derum, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 17.

...cannot have it both ways. You either take a lower regulatory return and have greater certainty of your asset valuation or you have the superior returns and have with that the risks that market participants are exposed to.⁴⁸

4.40 Finally, the EUAA suggested that arguments mounted by the network services providers in opposition to asset write-downs reflected efforts to delay the inevitable:

In a sense, they are trying to achieve something that technology may not enable them to achieve in the future. They are wanting to get a return on a bad investment decision and a return over 40 years, and I suspect that technology is going to be such, with the way battery technology is developing, that, no matter what the rules say in 10 years' time, they will be relevant. Batteries will enable people to disconnect from a grid that is charging them an enormous amount of money to connect to the grid.⁴⁹

Weighted average cost of capital

4.41 This chapter has so far considered the RAB, which is one of two inputs to the return on capital building block. The second input is the allowed rate of return.

4.42 Paragraphs 6.5.2(d) and 6A.6.2(d) of the NER require that the allowed rate of return determined by the AER for a regulatory year of the RCP must be a weighted average of the return on equity for the RCP in which that regulatory year occurs and the return on debt for that regulatory year. The rate of return must also be determined on a 'nominal vanilla'⁵⁰ WACC basis. Paragraph 6.5.2(e) prescribes that in reaching its determination of the allowed rate of return, the AER must have regard to:

- relevant estimation methods, financial models, market data and other evidence;
- the desirability of using an approach that leads to the consistent application of any estimates of financial parameters that are relevant to the estimates of, and that are common to, the return on equity and the return on debt; and
- any interrelationships between estimates of financial parameters that are relevant to the estimates of the return on equity and the return on debt.

48 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 63.

49 Mr Mark Grenning, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 18.

50 A vanilla WACC is the simplest form of WACC. A nominal vanilla WACC excludes all tax-related matters, combining a post-tax return on equity and pre-tax return on debt, for consistency with other building blocks. See AER, *Draft decision: ActewAGL distribution determination 2015–16 to 2018–19*, Overview, November 2014, www.aer.gov.au/sites/default/files/AER%20draft%20decision%20ActewAGL%20distribution%20determination%20-%20Overview%20-%20November%202014.pdf (accessed 30 March 2015), p. 39.

4.43 The NER also provide that the allowed rate of return is to be determined such that it achieves an 'allowed rate of return objective'. The allowed rate of return objective provides that the rate of return is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the network service provider in respect of the services covered by the NER.⁵¹ The AER explained that the use of benchmarking, rather than actual costs, in calculating the rate of return provides incentives for network businesses 'to finance their business as efficiently as possible'.⁵²

4.44 The following paragraphs outline overall views that stakeholders had about how the WACC is determined before considering the individual components that affect the WACC, namely the return on equity, return on debt and gearing.

Overall comments

4.45 Energy networks and the industry organisations representing these businesses emphasised that although a WACC calculation is provided to the AER as part of the regulatory proposal, the AER has no obligation to accept this figure and may substitute its own. Further, if a network company departs from the AER's *Rate of return guideline* when providing its proposed WACC figure, the company is required to set out the reasons for doing so.⁵³

4.46 The ENA advised that 'there have been no instances of an electricity network having its proposed WACC estimate simply accepted by the regulator'.⁵⁴ Evidence from the ESAA suggested this trend has continued, as in the draft revenue determinations issued since the 2012 rule changes the AER has substituted the network service providers' proposed WACC figures with its own.⁵⁵

4.47 Various submitters criticised the WACCs the regulator has determined and the overall approach it has taken. For example, in relation to SA Power Networks (SAPN) and the effect of the global financial crisis, Mr Bruce Mountain claimed that the AER 'got the allowed cost of capital badly wrong', giving SAPN a 'significant win'. Mr Mountain stated:

The information on borrowing by network utilities, certainly here in Australia and internationally during the peak of the [global financial crisis], is they continued to attract capital at much the same rates they had in the past, because they are very low-risk utilities.⁵⁶

51 National Electricity Rules, rules 6.5.2(b), (c); 6A.6.2(b), (c).

52 AER, *Draft decision: ActewAGL distribution determination 2015–16 to 2018–19*, Overview, November 2014, p. 81.

53 ESAA, *Submission 25*, p. 2.

54 ENA, *Submission 31*, p. 6.

55 ESAA, *Submission 25*, p. 2.

56 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 68.

4.48 The consequences for electricity prices and network profitability when the allowed rate of return is applied to an inflated RAB were also noted. Mr Mountain remarked that when an excessive WACC is multiplied by a reasonably significant RAB, 'that translates into lots of money'.⁵⁷ Professor David Johnstone also highlighted how both a high WACC and an inflated RAB together intensify the negative outcomes provided by the regulatory system. He gave the following reasoning:

Gold plating will naturally occur when the owner is allowed an overly generous % return on its new investment, especially if there is potential for revaluing/reconfiguring its notional asset base (DORC) in the future (remember this regulatory asset base becomes just a number written on a piece of paper, and is therefore open for possible renegotiation in the future). Every extra 1% added to the WACC (return) is extra profit, just like when a bank borrows at 4% and lends at 7% instead of 6%.

The short term return to owners from spending big money now on its asset base goes straight to the annual bottom line and to the management's salaries and bonuses. The incentives are obvious, especially since the dollars earned by owners come down to a multiple of the paper asset base (DORC) times the generous regulated interest rate (WACC).⁵⁸

4.49 One of the fundamental issues identified by submitters is the assessment of risk made by the AER in its *Rate of return guideline*. It was argued that network businesses are low-risk, as the demand for their services is high and the businesses are not subject to competitive forces (reducing the need to spend money to attract customers). Consequently, various submitters concluded that the return on capital should reflect the low-risk investment environment in which the network businesses operate.⁵⁹ The Public Interest Advocacy Centre argued that the AER's guideline does not account for the 'reality of financing low-risk businesses such as regulated monopolies with guaranteed revenues'. The Centre suggested:

...the Rate of Return Guideline leads the AER to build conservative assumptions about constituent components upon one another. This leads to a final WACC that is higher than what is likely to be the actual cost faced by the networks. This was certainly the conclusion of the AER Consumer Challenge Panel (the so called group of 'critical friends' who provide the AER with expert analysis of regulatory proposals and advice on matters) in a recent paper on the issue.⁶⁰

57 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 68.

58 Professor David Johnstone, *Submission 10*, p. 2.

59 Central Irrigation Trust, *Submission 1*, p. 3; Mr Bruce Robertson, *Submission 16*, p. 7; EUAA, *Submission 17*, p. 3;

60 Public Interest Advocacy Centre, *Submission 18*, p. 15.

4.50 Cotton Australia also expressed its view that the risk associated with network companies is not being adequately accounted for in the WACC calculation process. A representative of Cotton Australia provided the following comments on this matter:

If you or I want to go to the bank today for a commercial venture we can borrow money at about 5½ per cent. I do not know about you, but I suspect that I am more of a risk than Ergon or Essential in running something like that. When you consider that they are a monopoly, they hold the ultimate sanction, if you do not pay they cut you off—there are plenty of ways to encourage payment. If you look at the last determination, the WACC was set at over nine per cent on the basis that the global prices global financial crisis was going to push interest rates well up. But we are seeing the exact opposite effect, with interest rates at 2½ per cent today. So you would think there is a whole lot more room to realign that WACC far lower than the 7½ per cent that the AER is proposing. I just think it is a slap in the face in the whole process that Essential, with their renewed proposal, could actually ask for even a higher WACC than what their previous proposal was. It just shows that they have no interest at all in cutting costs.⁶¹

4.51 Despite lower WACCs being proposed in the latest draft determinations, in the absence of fundamental change to how the allowed rate of return is calculated submitters questioned the sustainability of such outcomes in the future. For example, Canegrowers Isis noted that low interest rates had resulted in a 'small correction', however, it considered this would not last when interest rates start to increase.⁶² Similarly, Mr Bruce Mountain suggested that the main reason for upcoming revenue allowances being lower was a reduction in the risk-free rate of finance, which the AER does not determine. Mr Mountain argued that in the AER's draft determinations for the New South Wales distribution network service providers, once the change in the risk-free rate has been accounted for the cost of capital is 'only a little changed from the AER's last decision', and still substantially above the levels decided in the past by the state regulator.⁶³

4.52 Highlighting the inexact science that is economic regulation, the committee also received evidence regarding the different outcomes that can result, at least in the short- to medium-term, when different regulators consider the same principles. For example, the Western Australian regulator, the ERA, advised that it refers to a five-year period when considering the prevailing conditions for capital, a period that aligns with the duration of the regulatory period. However, the AER uses a ten-year period as, according to the ERA, the AER considers 'that this better approximates the return required by investors in, what are, long lived infrastructure assets'. The ERA explained that it expects the AER's ten-year term is 'likely to be closer to long run average rates of return', whereas the five-year terms selected by the ERA has given greater regard to current conditions, where prevailing rates of return for equity and

61 Mr Michael Murray, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 27.

62 Canegrowers Isis, *Submission 39*, p. 2.

63 Mr Bruce Mountain, *Submission 19*, p. 16.

debt 'tend to be below their long run averages', driven by historically low interest rates and low risk perceptions. The ERA noted that the current differences between the two regulators in this regard 'reflect a different interpretation of...the requirement for a rate of return which reflects 'prevailing conditions''.⁶⁴

Return on equity

4.53 When considering the WACC, the AER seeks to determine an expected return on equity that would 'provide compensation to a service provider for the equity financing cost which is commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk'.⁶⁵ The AER has outlined how it calculates the return on equity in its *Rate of return guideline*. The calculation involves the multiplication of the firm-specific equity beta (an estimate of the risk of equity; that is, the 'riskiness' of a firm's returns compared with that of the market)⁶⁶ by an estimate of market risk premium; this result is then added to a risk-free rate proxy. These inputs are determined as follows:

- Equity beta—after 'empirical analysis using a set of Australian energy utility firms the AER considers reasonably comparable to the benchmark efficient entity', the AER has determined that the equity beta is in the range of 0.4 to 0.7. Further information has led the AER to estimate an equity beta of 0.7, which it has applied to its recent draft determinations.⁶⁷
- Market risk premium—the range and point estimate for market risk premium is based on theoretical and empirical evidence available to the AER and the AER's judgement.⁶⁸
- Risk-free rate—the AER uses the ten-year yield on Commonwealth Government Securities.⁶⁹

64 Economic Regulation Authority (Western Australia), *Submission 30*, p. 8.

65 AER, *Better regulation: Rate of return guideline*, December 2013, www.aer.gov.au/sites/default/files/AER%20Rate%20of%20return%20guideline%20-%20December%202013.pdf (accessed 30 March 2015), p. 11.

66 AER, *Better Regulation: Equity beta issues paper*, October 2013, www.aer.gov.au/sites/default/files/AER%20-%20equity%20beta%20issues%20paper%20-%20rate%20of%20return%20guideline%20-%20October%202013.PDF (accessed 13 March 2015), p. 8.

67 The AER noted that some companies have an equity beta of 1 in previous and current determinations as a result of transitional arrangements put in place when the company came under the national framework. At present, only the NSW distribution companies still have an equity beta of 1. See Ms Michelle Groves, AER, *Proof Committee Hansard*, 18 February 2015, p. 13.

68 AER, *Better regulation: Rate of return guideline*, p. 16.

69 AER, *Better regulation: Rate of return guideline*, p. 15.

4.54 Submitters argued that, as the NER allow several approaches to assess the cost of equity, network businesses have the opportunity to seek an outcome that results in the highest cost.⁷⁰ Further, Major Energy Users told the committee that despite the AER guideline, most network businesses do not follow it and instead seek higher values for their cost of equity. Major Energy Users argued:

To assess the reasonableness for the return on equity, comparisons should be made between what was allowed by the AER at a reset with what the [network service provider] actually achieved and between what was allowed and with what the general market achieved at the same time. These comparisons will give a better view as to the what the AER should allow at a reset but these benchmarking comparisons are not carried out to demonstrate the effectiveness of the NER and the AER guidelines in providing outcomes that are equitable.⁷¹

4.55 The AER's decision to use an equity beta of 0.7 was criticised. By selecting an equity beta at the highest end of the range of 0.4 to 0.7, the EUAA considered that the AER has inappropriately applied its discretion.⁷²

4.56 Other energy users objected to specific regulatory proposals lodged by network businesses. For example, Cotton Australia claimed that Essential Energy's proposed WACC of 8.83 per cent and its equity beta of 0.82 was 'unjustified', particularly as it was outside of the AER's range.⁷³ The New South Wales Irrigators' Council argued that Essential Energy faced a similar level of risk as the NSW State Water Corporation, which it advised has an equity beta of 0.7 and a WACC of 6.72 per cent.⁷⁴

Return on debt

4.57 The AER estimates the allowed return on debt for a network service provider based on the efficient financing costs of a benchmark efficient entity with a similar degree of risk. According to its *Rate of return guideline*, to do this the AER uses a trailing average portfolio approach over ten years⁷⁵ and a credit rating of BBB+ from Standard and Poor's (or the equivalent rating from other recognised rating agencies).⁷⁶

70 Big Picture Tasmania, *Submission 4*, p. 6 and Major Energy Users, *Submission 7*, p. 5.

71 Major Energy Users, *Submission 7*, p. 5.

72 EUAA, *Submission 17*, p. 3.

73 Cotton Australia, *Submission 3*, p. 3.

74 NSWIC, *Submission 5*, p. 5.

75 This approach considers the average interest rate that a network business would face if it raised debt annually in ten equal parcels. The trailing average portfolio approach means that the return on debt is updated annually based on an assumption that one-tenth of the debt of a network business is re-financed each year. AER, *Draft decision: ActewAGL distribution determination 2015–16 to 2018–19*, Overview, November 2014, pp. 81–82.

76 AER, *Better regulation: Rate of return guideline*, pp. 19, 21.

This approach, the clauses of the NER that informed it, and decisions recently made by the AER on regulatory proposals were questioned by submitters.

4.58 The New South Wales Irrigators' Council objected to the use of a ten-year trailing average, as it considered companies would simply 'benefit from the volatility in financial markets during the global financial crisis'.⁷⁷ However, the ENA contended that the approach 'has the advantage of more closely matching costs over time, and the actual efficient debt management practices of infrastructure providers'. Further, the ENA argued that the annual adjustment that the trailing average allows protects consumers from 'undue volatility' in network charges between regulatory periods.⁷⁸

4.59 Another issue was the use of credit ratings. The Agriculture Industries Electricity Taskforce stated that network companies claim their borrowing costs are determined by the credit rating for their debt. However, the Taskforce contended that 'the evidence from the actual yields on network bonds and the price paid for bank debt shows that network businesses' actual borrowing costs are much lower than implied by their credit ratings'. The Agriculture Industries Electricity Taskforce explained that this is because lenders recognise the network businesses are monopolies with actual credit risks that are lower than those signified by their credit rating, and as a result network companies can secure credit at lower rates.⁷⁹

4.60 In a more fundamental objection to the approach, several submitters argued that the company's actual cost of debt should be used instead of the cost of debt estimated for a benchmark company. For example, Major Energy Users argued that 'the cost of debt is no different to any other cost that a firm incurs'. Major Energy Users asserted that the approach set out in the guidelines and under the NER, and the incentives they provide, are flawed. It stated:

The AER guideline developed from the NER provides a cost of debt allowance which is based on the highest cost source of debt and the AER considers this provides an incentive to the [network service provider (NSP)] to minimise its cost of debt. What is intriguing about providing an incentive for the NSP to minimise its cost of debt is that there is no mechanism for the lower cost to be passed onto consumers. The AER guideline also makes some assumptions that result in higher levels for the cost of debt than are actually incurred by NSPs. Overall, the effect of the NER and the AER guideline provides an outcome where consumers pay considerably more for the debt than the NSPs do, giving the NSPs significant unearned revenue.⁸⁰

77 NSWIC, *Submission 5*, p. 5.

78 ENA, *Submission 31*, pp. 7–8.

79 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 7.

80 Major Energy Users, *Submission 7*, p. 6.

4.61 While it acknowledged the argument that the use of actual debt costs may not provide incentives for the network business to try to minimise the cost of its debt, Major Energy Users countered that the regulatory treatment applied to other expenditure, such as operating expenditure, could be used.⁸¹

4.62 The ENA rejected calls for actual borrowing costs to be taken into account. It claimed that the use of actual borrowing costs 'would be an inappropriate way to set cost of debt allowances and would result in poor outcomes for consumers generally'. The ENA advised the committee that such a change may result in consumers being exposed to the cost of inefficient financing decisions. According to the ENA, inefficient decisions may result because the firm would recoup its incurred cost, rather than being provided with incentives to have efficient financing costs. Also, the ENA noted that network charges may vary across service areas based on individual firm financing decisions. The ENA added that regulators in the United Kingdom and New Zealand apply benchmark cost of debt allowances that are 'conceptually similar' to the methodology used by the AER.⁸²

Gearing

4.63 Some submitters commented on the benchmark gearing ratio, which is the ratio between debt and equity, that the AER uses in the WACC calculation. The AER assumes that a benchmark efficient entity has a gearing ratio of 0.6; that is 60 per cent of its funds are raised from debt, and 40 per cent are raised from investors.⁸³ Big Picture Tasmania argued that the AER's approach reflects 'a lower gearing than is seen by the performance of the network businesses', with the result being that consumers pay 'a premium for the WACC as debt is sourced at a lower cost than providing equity as it has a lower risk profile'.⁸⁴ Major Energy Users also made this point, although it noted that higher gearing can increase the risk to lenders and therefore the cost of debt.⁸⁵

Taxation

4.64 The other component of the building block model considered in this chapter is taxation. Under the NER, network companies are allowed to recover the costs associated with corporate income tax. The AER is, therefore, required to make a decision on the estimated corporate income tax payable for a network service provider.

81 Major Energy Users, *Submission 7*, pp. 5–6.

82 ENA, *Submission 31*, p. 8.

83 AER, *Better regulation: Rate of return guideline*, p. 9.

84 Big Picture Tasmania, *Submission 4*, p. 7.

85 Major Energy Users, *Submission 7*, pp. 5, 6.

4.65 The NER provide the following formula for calculating the estimated cost of corporate income tax:

$$ETC_t = (ETI_t \times r_t) (1 - \gamma)$$

where

ETC_t is each regulatory year

ETI_t is an estimate of the taxable income for that regulatory year that would be earned by a benchmark efficient entity determined in accordance with the post-tax revenue model

r_t is the expected statutory income tax rate for that regulatory year as determined by the AER

γ is the value of imputation credits.⁸⁶

4.66 The assumptions about tax were questioned given that private companies engage in tax minimisation strategies. Although he recognised that the regulatory system should include an allowance for taxation so that the company is suitably compensated for all its costs, Mr Mountain argued that the model applied is 'simply a very standard tax calculation'. As a result, Mr Mountain argued that AER has not had regard to tax minimisation strategies that have been used. To demonstrate his point, Mr Mountain referred to the tax figures published by one network service provider:

In the case of South Australia, they were allowed \$414 million in the regulatory period just ended, and in the first three published accounts for which I have data I found they had a credit of \$4.2 million. There is a sizeable difference. It is a regulatory design issue and it is an absolute core issue, as far as I am concerned: why are we imagining a benchmark regime which does not look at the actuals?⁸⁷

4.67 Mr Mountain contended that the tax allowance, along with other benchmarks, should be more closely aligned with actual outcomes. He told the committee:

Looking at the actuals is not inconsistent with the benchmark. We do that in setting up tax allowances. We do not set up tax allowances based on a hypothetical motor vehicle company. We look at the actuals for the business, and there is our allowance. Why do we not do that with far more of our regulatory parameters and look at what has happened in the past, be clear on it and think about that in setting the allowances for the future. I think dealing with that is likely to mean a more reasonable and sustainable profitability for the network businesses and one that is more in the long-term interests of consumers.⁸⁸

86 National Electricity Rules, rule 6.5.3.

87 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 68.

88 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 68.

4.68 Concerns about the tax arrangements of electricity network businesses have also been recently reported in the media.⁸⁹

Committee view

4.69 Despite numerous reviews, recent rule changes and positive signs from the AER as a result of its recent draft determinations, the committee considers that fundamental problems with the regulatory framework for electricity network businesses remain. The principal flaw is that the framework protects network service providers from certain risks that businesses in competitive markets face. In particular, network businesses do not bear the risk of inefficient investments and do not face risks associated with changing demand in a timely manner.

4.70 The committee is concerned that the asset bases used in the calculation of the return on capital are inflated by unnecessary and underutilised investments. Regardless of other changes to the regulatory framework, consumers will continue to pay higher bills than necessary as long as the RABs are not reviewed.

4.71 Following a recent rule change, the AER may preclude inefficiently incurred capital expenditure from being included in the regulatory asset base, but only in circumstances where the actual capital expenditure exceeds the capital expenditure allowance. The committee considers the AER requires the discretion to review the efficiency of all future investments and the need for their inclusion in the RAB. However, to avoid sovereign risk concerns, the AER's power to review assets should continue to apply only on a prospective basis.

4.72 While the committee is reluctant to recommend further reviews, this is a complex issue that requires careful consideration. An expert review charged with considering these issues would be an appropriate starting point for change in this area.

4.73 The committee was also made aware of problems with how the rate of return is determined and other aspects of the benchmarking process informed stakeholders found concerning. The committee considers that following the AER's latest round of determinations (including any appeals), a performance assessment of the benchmarking process should be undertaken. In addition to considering the assumptions and outcomes related to the WACC calculation, the methodology for estimating the cost of corporate income tax should be closely scrutinised. Although incentives for companies to minimise their other costs, such as debt costs, may be beneficial, it is not clear that companies should be provided with incentives to minimise their tax while receiving guaranteed levels of revenue from taxpaying consumers. The committee is concerned that the current arrangements simply reward companies for minimising their tax obligations.

89 See Andrew White, 'Power firms in \$1.1bn tax stoush', *The Australian*, 17 March 2015, p. 19; Michael West, 'Tax strategies may distort power sales', *The Age*, 23 March 2015, p. 25.

4.74 Finally, the committee considers it is important that the AER has greater flexibility in relation to the RCP. While the committee agrees that there are benefits for consumers in network service providers having a degree of certainty about their revenue, and a five-year RCP appears appropriate for this in most cases, there will be occasions when a different approach should be considered. The experience of the global financial crisis is instructive in this regard. If a new RCP is scheduled to commence during a period of turmoil in the financial markets, a decision determined in this environment and locked in for five years may not be an outcome that is in the best interests of consumers.

Recommendation 1

4.75 The committee recommends that the Council of Australian Governments (COAG) Energy Council commission an independent expert review of options for excluding future imprudent capital expenditure and surplus network assets from a network service provider's regulatory asset base (RAB). This review should consider the provisions of the Western Australian Electricity Networks Access Code and its decision-making criteria.

4.76 The review should have the freedom to suggest any necessary changes to intergovernmental agreements, the National Electricity Law or the National Electricity Rules.

Recommendation 2

4.77 The committee recommends that, following the outcomes of the current round of network pricing decisions, the COAG Energy Council commission an independent expert review of the efficacy of recent changes to the National Electricity Rules and the benchmarking process in promoting the long-term interests of consumers. This assessment should focus on the appropriateness of current methodologies for calculating the weighted average cost of capital (WACC) and the manner in which the estimated cost of corporate income tax is calculated.

Recommendation 3

4.78 The committee recommends that the National Electricity Rules be amended to provide that the Australian Energy Regulator may set a regulatory control period that is less than five regulatory years.

Chapter 5

Regulation of state government-owned network companies

5.1 The terms of reference for this inquiry contained specific statements about the actions of state government-owned network companies, such as how they have calculated their weighted average cost of capital (WACC).

5.2 As some of the issues are relevant to all network companies, whether publicly or privately owned, the discussion in other chapters of the report is generally applicable to both. This chapter differs in that it deals with some particular issues that either clearly are, or were considered by submitters to be, unique to government-owned network companies. Specifically, this chapter considers the evidence received about:

- the relative efficiency of government-owned networks compared to the privately-owned networks;
- the application of competitive neutrality principles that require government-owned companies to be compared to a benchmark efficient entity;
- how inaccurate revenue determinations can provide a lucrative source of revenue for state governments; and
- past inefficient expenditure and calls for asset write-downs, particularly in the context of privatisation proposals.

Efficiency of state government-owned networks

5.3 Mr Bruce Mountain argued that analysts have 'long recognised', and the AER has also accepted in its latest benchmarking report, that the government-owned distribution network companies are less efficient than the privately-owned companies in terms of operating expenditure.¹ Indeed, it is evident that this issue has been considered thoroughly elsewhere. When the Productivity Commission (PC) recommended in 2013 that state and territory governments should privatise their government-owned network businesses, it stated that:

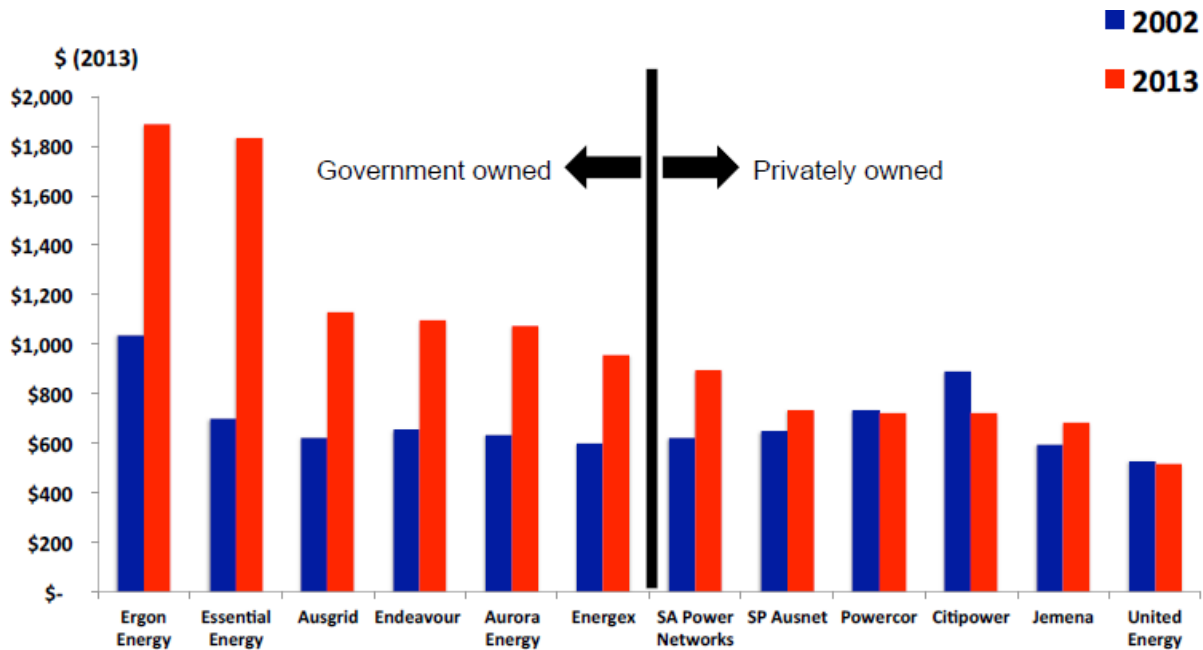
State-owned network businesses appear to be less efficient than their private sector peers. This is not surprising given their multiple objectives, political intervention and the imposition of non-commercial restrictions.²

5.4 Mr Mountain provided some charts to illustrate the higher costs associated with state government-owned networks (Figure 5.1 and Figure 5.2)

1 Mr Bruce Mountain, *Submission 19*, pp. 15–16.

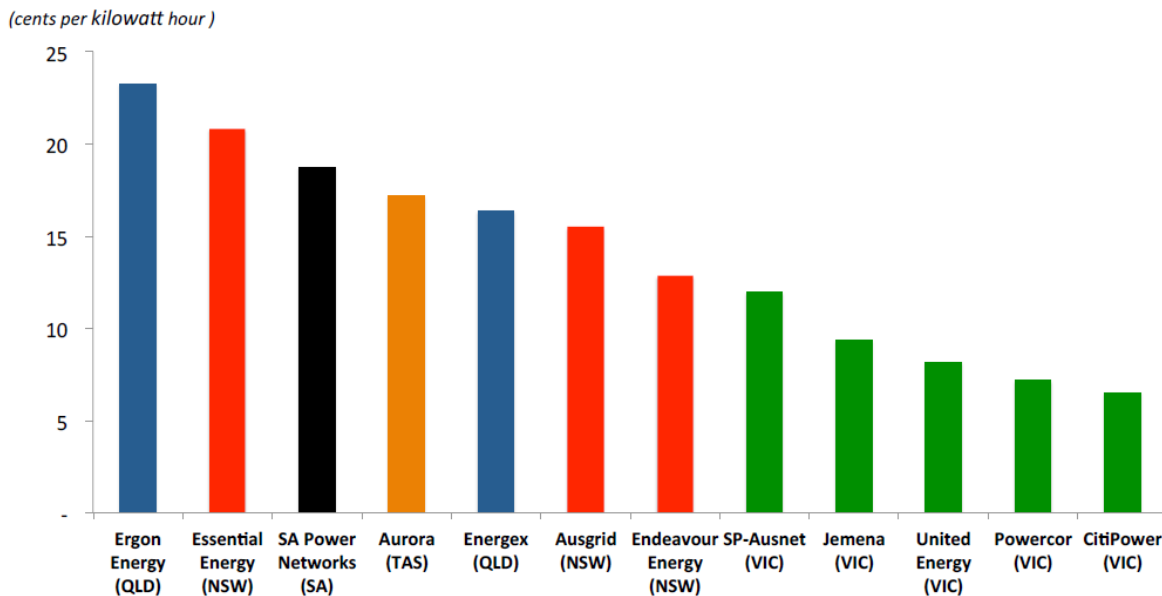
2 Productivity Commission (PC), *Electricity networks regulatory frameworks*, vol. 1, April 2013, p. 287

Figure 5.1: Regulated revenue of distributors per connection (\$2013)



Source: Mr Bruce Mountain, *Submission 19*, p. 4.

Figure 5.2: Average electricity network services prices per household for distribution network service provider in 2014



Source: Mr Bruce Mountain, *Submission 19*, p. 6.

5.5 Government-owned network companies were questioned about their efficiency. When asked why Ergon was identified by both an independent Queensland government review and the PC as the most inefficient network in Australia, Mr Ian McLeod, Ergon's chief executive officer, responded that Ergon's customer profile and geographic coverage means 'simple maths' will make it the highest cost network in the country. He advised that Ergon distributes to 44 per cent of the NEM's geographic

area, but only to seven per cent of the NEM's customers. To put it another way, Ergon serves 170,000 customers in an area of 160,000 square kilometres.³ However, Mr McLeod contended that Ergon was not the most inefficient network. He provided the following explanation:

We have done multimodels of productivity. From a customer perspective, we certainly look inefficient. You can look at it from an actual asset perspective and you will see that makes us look efficient compared to the others. We can look at it from a load perspective. Our customers use more load than any others—mines and those sorts of things. That makes us look efficient. We have quite a substantial amount of generation connected to the grid, which does not pay towards the grid costs. So that is also a challenge. We have done a multifactor productivity analysis and, whichever inputs you put in and whichever model you use, it drives a different outcome. However, on top of that, we think it is a challenging network. The integration of technology is part of the solution. We have certainly been leaders in that space. We have a huge amount of distributor generation in solar PV. We are more advanced on batteries, we have more demand under control than any other network. I think it drives innovation in Ergon. We do not think we are at the efficient frontier. We think we can get there, though, and will aim to get there. Are we the most inefficient? I would argue we are not.⁴

5.6 The privately-owned Victorian distribution businesses argued that their ownership structure was a key reason for their lower network costs and stronger records of reliability. Mr Alistair Parker, the general manager of asset management at AusNet Services, a privately-owned transmission and distribution network service provider in Victoria, discussed the relative performance of the Victorian businesses compared to those in other states, particularly Queensland. He recognised that Queensland businesses face particular challenges, such as cyclones and difficult topography. Nevertheless, he argued that the AER takes this into account as part of its benchmarking process and, even then, the privatised distributors 'remain the most efficient networks on average'.⁵ Mr Parker explained why he attributes this disparity in performance to the different ownership structure:

[The privately-owned businesses] aim to spend less to get the same outcomes. We have investors, and I use that term very carefully. We do not have owners; we have investors, and we have investors like superannuation funds and so on, who demand a return from us. Our commercial view is that, while there is potentially an incentive to increase your RAB—to

3 Mr Ian McLeod, Chief Executive, Ergon Energy, *Proof Committee Hansard*, 16 February 2015, p. 18. However, the utility of figures based on customer density per square kilometre was questioned. Mr Bruce Mountain argued that these figures make 'little sense as a basis for comparison, since a large part of the surface area of each state is not inhabited, and neither does electricity infrastructure cover it' (*Submission 19*, p. 12).

4 Mr Ian McLeod, Ergon Energy, *Proof Committee Hansard*, 16 February 2015, p. 18.

5 Mr Alistair Parker, General Manager Asset Management, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 32.

increase your asset base—we make more money by responding to the AER's efficiency incentive schemes. So we do better by spending less. We do better over the long run by spending less, by finding cheaper alternatives to deliver good outcomes. And we need to innovate, and we need to really have a culture that is seeking to do that at all times to get to that point.⁶

5.7 Mr Parker noted another key difference between the privately-owned business in Victoria and others that arises from the use of 'probabilistic investment'. He provided the following explanation of how the adoption of probabilistic investment affects how his company approaches investment decisions:

...what we do is we look at the value that we believe customers and the Australian Energy Market Operator place on reliability, we look at the probability of having a problem on our network, and we only invest if there is not an alternative solution like demand management and if the economic value of the loss of supply outweighs the cost of doing something about it. This means, in practical terms, we invest later than somebody in New South Wales will. We are currently doing, as a transmission company, a huge redevelopment of the CBD supply in Melbourne. My guess—it is not accurate—is that we are doing that four or five years later than somebody in New South Wales would do it, and we look at that all the time to check: if we can avoid the investment, we will avoid the investment. It means we have to do some things in terms of contingency plans, but if we can avoid an investment we will.⁷

Application of competitive neutrality principles

5.8 The current framework is designed so that state government-owned networks are treated as if they are privately owned. This section examines the rationale for this and the evidence received about whether this is appropriate and in the long-term best interests of consumers.

Overview of competitive neutrality

5.9 The current regulatory treatment of government-owned companies follows the development of a national competition policy. The 1993 report on the subject chaired by Professor Fred Hilmer (known as the Hilmer Report) called for pro-competitive structural reform of public monopolies so that natural monopoly elements were no longer integrated with potentially competitive activities.⁸ To facilitate this, the Hilmer Report proposed several principles that Commonwealth, state and territory

6 Mr Alistair Parker, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 33.

7 Mr Alistair Parker, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 33.

8 A relevant example given was that the natural monopoly of electricity transmission was integrated with electricity generation, an activity that was potentially competitive. Independent Committee of Inquiry into Competition Policy, *National Competition Policy*, August 1993, p. 218.

governments would abide by. The Council of Australian Governments' (COAG) Competition Principles Agreement, which was entered into in 1995, contained the final principles the governments adopted and required COAG members to issue a policy statement on competitive neutrality. The following objective is contained in the Agreement:

The objective of competitive neutrality policy is the elimination of resource allocation distortions arising out of the public ownership of entities engaged in significant business activities: Government businesses should not enjoy any net competitive advantage simply as a result of their public sector ownership. These principles only apply to the business activities of publicly owned entities, not to the non-business, non-profit activities of these entities.⁹

5.10 Among other things, the Competition Principles Agreement requires that the following are imposed on government-owned businesses:

- full Commonwealth, State and Territory taxes or tax equivalent systems;
- debt guarantee fees directed towards offsetting the competitive advantages provided by government guarantees; and
- on an equivalent basis as private companies, regulations to which private sector businesses are normally subject to, such as planning and environmental regulations.

5.11 Following the competition reforms, governments separated the generation, transmission, distribution and retail components of electricity supply. The new generation and retail businesses were opened up to competition,¹⁰ whereas the transmission and distribution businesses were regulated as monopolies.

Application of competitive neutrality principles to electricity networks

5.12 Evidence taken by the committee considered what effect the competition neutrality principles have had on electricity prices. The principles underpin the current framework and have informed both the AEMC's and AER's decisions. For example, the AEMC has decided against proposed rule changes on the basis that the rule would be inconsistent with the concept of competitive neutrality.¹¹ The AER's determinations do not take into account that state governments have a stronger credit rating than that used for the benchmark efficient entity. As Energex noted, the AER's

9 *Competition Principles Agreement*, 11 April 1995 (as amended to 13 April 2007), <http://ncp.ncc.gov.au/docs/Competition%20Principles%20Agreement,%2011%20April%201995%20as%20amended%202007.pdf> (accessed 19 March 2015).

10 Since the 1990s vertical re-integration of some retailers and generators has occurred to form what are known as 'gentailer' structures. See Australian Energy Regulator (AER), *State of the energy market 2014*, p. 40.

11 See Energy Users Association of Australia (EUAA), *Submission 17*, p. 11.

method of determining the rate of return by reference to a benchmark efficient entity means the ownership structure of a network company 'should be irrelevant'.¹²

5.13 However, the Energy Users Association of Australia (EUAA) questioned the AEMC's and AER's application of the Competitive Principles Agreement to electricity network businesses. The EUAA argued that the Agreement was 'designed to apply to businesses that operate in competitive markets—not to regulated monopolies'.¹³ A similar point was made by Mr Bruce Mountain; he noted that the Competition Principles Agreement makes no provision for the principles to apply to monopolies. He described competitive neutrality principles applied to a monopoly as 'an oxymoron'.¹⁴ The EUAA stated that requiring the regulator to ignore 'that government owned networks are funded by low cost state government debt' and providing the companies 'with "theoretical" debt and equity raising costs that they do not incur' was an approach that is unique to Australia.¹⁵

5.14 Submitters that argued against the application of the Competitive Principles Agreement to government-owned network companies highlighted what they consider are adverse outcomes from this practice. Mr Mountain argued that the treatment of government-owned networks as if they are a private company has 'had a significant impact on incentives to invest'. Mr Mountain pointed to borrowing costs as an example:

...over the last five years state government borrowing costs were typically in the range from 3% to 5%. Under the current revenue/price controls however they have been allowed to charge consumers a rate of around 8.8%. A conservative estimate of the excess above reasonable costs would be around 300 basis points. The regulated asset base of government-owned distributors (in the NEM) in 2013 was \$42.8bn. A 300 basis point excess translates into a revenue premium of \$0.8bn per year (only 60% of the asset base is assumed to [be] financed through debt).¹⁶

5.15 Submitters suggested that the benchmarking framework is far removed from the actual outcomes. The Agriculture Industries Electricity Taskforce argued that debt and equity raising allowances given to state government-owned network companies do not correspond with reality. This is because the government-owned networks do not incur equity raising costs and state treasuries do not incur many of the debt raising costs network companies seek to recover.¹⁷ A similar argument was made by the EUAA, which used the experience in New South Wales to demonstrate its point. The EUAA claimed that in 2010 the New South Wales government received an

12 Energex, *Submission 14*, p. 5.

13 EUAA, *Submission 17*, p. 11.

14 Mr Bruce Mountain, *Submission 19*, p. 20.

15 EUAA, *Submission 17*, p. 11.

16 Mr Bruce Mountain, *Submission 19*, p. 20.

17 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 8.

effective rate of return of around 29 per cent on its electricity networks, which was around three times higher than that allowed by the AER's determinations. The EUAA explained this higher return was due, in large part, to:

- the New South Wales government's ability to collect both the profits and tax on profits delivered by the networks it owns; and
- the margin added by the New South Wales government to the cost of debt that it provides to the network companies.¹⁸

5.16 The treatment of tax was delved into further by Mr Mountain. He noted that the government-owned network companies are 'in effect exempt from income taxes', as although a tax allowance payment is calculated, the payment is collected by the shareholder anyway.¹⁹ Mr Mountain provided the following example that not only illustrated his argument about the flaws in this arrangement, but also showed how the AER can use resources defending decisions based on unrealistic benchmarking:

In 2011 the two Queensland distributors successfully appealed against the AER's decision on dividend imputation in the calculation of income tax allowances. Their argument was based on the imputation of dividends paid by privately owned companies and ignored the fact that these distributors' profits are effectively untaxed (because the Queensland Government collects the income tax).²⁰

5.17 Mr Mountain advised that the successful appeal meant the distribution businesses were entitled to recover additional revenues of around \$400 million. However, following the appeal, the Queensland government 'instructed its distributors not to raise their revenues by the additional amount'.²¹ The AER was, nevertheless, left with over \$1.2 million in costs that it incurred defending its decision.²²

Response to concern about the competitive neutrality principles

5.18 As noted above, it was argued that the approach of regulating state government-owned electricity network companies as if they were private companies is unique to Australia. However, the AER suggested that a mix of public and private-owned network companies was a situation unique to Australia anyway. AER officials gave the following evidence on this subject:

Typically in...overseas jurisdictions they tend to be either fully government or fully private, so it is a little bit unusual to have the mix of the two. If you look at the UK and the US, they are all private and in Europe it is mostly all

18 EUAA, *Submission 17*, p. 11.

19 Mr Bruce Mountain, *Submission 19*, p. 18.

20 Mr Bruce Mountain, *Submission 19*, p. 18.

21 Mr Bruce Mountain, *Submission 19*, p. 18.

22 This figure does not include the cost of AER officers or in-house lawyers. AER, *Answers to questions on notice 8*, received 10 April 2015, p. 10.

government. So we tend to have, if you like, a one-zero scenario. I cannot think of another jurisdiction which has such a clear mix as us.²³

* * *

While [New Zealand has]...a mix of privately owned, you would characterise it as more municipally owned. They are government owned businesses but they are quite often community trusts or the equivalent of local government...The US and Canada are regulated on a state basis. A lot of municipally owned businesses are community trusts, so they are probably more akin to government ownership than to private sector, but they are a slightly different model. In Australia we do not have the municipally, local government, owned business sector.²⁴

5.19 The AEMC argued that if consumers paid the state borrowing rate rather than the benchmarked efficient costs of a stand-alone network business, decisions about investment would be distorted.²⁵ The AEMC also observed that such a framework would allow network businesses in some states to offer pricing that was lower than what is 'reflective of the true stand-alone costs of providing those network service'.²⁶ Mr Matthew Warren, the chief executive officer of the Energy Supply Association of Australia (ESAA) expanded on this; he noted that the competitive neutrality principles prevent state governments that own utilities (or other businesses) from utilising their influence 'to unfairly compete with or attract businesses from other states'.²⁷

5.20 The committee notes that a review of competition policy was recently completed. The review, which was chaired by Professor Ian Harper, released its final report on 31 March 2015. In the report, the Harper Review expressed support for the principle of competitive neutrality, although it noted that 'competitive neutrality policies benefit consumers in markets where both governments and other providers deliver services'. Among other recommendations, the draft report suggested that all Australian governments should review and update their competitive neutrality policies.²⁸

23 Mr Sebastian Roberts, General Manager, Networks, AER, *Proof Committee Hansard*, 18 February 2015, p. 4.

24 Ms Michelle Groves, Chief Executive Officer, AER, *Proof Committee Hansard*, 18 February 2015, p. 4.

25 Mr Paul Smith, Chief Executive, Australian Energy Market Commission (AEMC), *Proof Committee Hansard*, 17 February 2015, p. 9.

26 Mr Paul Smith, Chief Executive, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 9.

27 Mr Matthew Warren, Chief Executive Officer, Energy Supply Association of Australia (ESAA), *Proof Committee Hansard*, 18 February 2015, p. 27.

28 Competition Policy Review, *Final report*, March 2015, p. 50.

Revenue raising via electricity companies

5.21 State governments collect significant amounts of revenue from the network companies they own. This revenue is in the form of dividends received as shareholders, fees associated with the provision of finance and the income tax allowances that are calculated. Examples of these payments were provided by submitters. Mr Bruce Robertson reported that in New South Wales, the combined dividends paid by the network companies totalled \$872 million, with a further \$829 million collected from income tax equivalent payments.²⁹

5.22 It is also evident that at least some state governments have been enjoying increasing payments. A community group that opposes a certain network investment proposal, VETO, advised that its inspection of the Queensland distributor Energex's annual financial reports revealed that Energex's dividends paid to the state government have increased from \$103 million in 2009 to \$406 million in 2014. Over that same period, the tax equivalent payments that the state government collects increased from \$47 million to \$215 million.³⁰

5.23 It has been suggested the state governments that own electricity network companies benefit from the current regulatory arrangements as the money collected from high revenue determinations effectively act as a hidden tax on consumers. As a result, it is argued that the state governments have a conflict of interest when it comes to electricity regulation. The potential benefits of a system where a Commonwealth regulator determines the revenue of a state government-owned network company based on rules put in place by state governments are evident when regulatory decisions are made. For example, the Australian Sugar Industry Alliance considered that Ergon and its owner, the Queensland government, 'misrepresent the binding nature of the AER's decision around the regulation of revenue'. The Alliance explained:

The AER sets the maximum revenue that a network operator can recover. The regulated amount is not a mandated recovery amount and it is not a minimum revenue recovery amount. Some state governments, with network ownership, have foregone the maximum allowable revenue determined by AER for their particular network, to reduce the financial strain on the dependant customer base. In Queensland, the government continues to argue that it has been directed by the AER to collect this level of revenue.³¹

29 Mr Bruce Robertson, *Submission 16*, p. 3.

30 VETO, *Submission 55*, p. 7.

31 Australian Sugar Industry Alliance, *Submission 32*, p. 3.

5.24 Submitters called for greater transparency of what they consider is a tax:

We are a developed, rich country and international policy, government policy, is absolutely unanimous on not hiding our taxes, being transparent, and having accountability at suitable levels. I do not believe that we should have the arrangement that we have. I do not believe it constitutes transparent and good government. It is a right of the states, in answer to their voters, to do what they choose. If they seek to tax electricity supply to meet other objectives, I think that is their decision. But I think those things should be made clear...³²

5.25 Mr Robert Mackenzie from Canegrowers Isis suggested that the government-owned distribution network companies, and therefore the government, are enjoying rent for the assets they own. Although addressing this would affect the state government's revenue, he argued this should not be the main consideration:

Governments raise revenue by a variety of means. They should not be raising it through electricity. It acts as a tax on doing business. It stifles business. It stifles GDP. It stifles activity. It is just a bad way of raising revenue, in my opinion. We should be looking at other ways. We should be taxing outputs rather than inputs.³³

5.26 The equity implications of state governments raising revenue from electricity prices were also noted. Mr Oliver Derum from the Public Interest Advocacy Centre argued that such practices were regressive as low-income people use a greater percentage of their income to pay their electricity bills.³⁴

5.27 Mr Mountain similarly argued that a tax on electricity is 'highly regressive' for low-income consumers and inefficient as taxes should tax outputs and not inputs. Mr Mountain concluded:

From an efficiency and fairness perspective, the current arrangement seems to be the worst of all words: a regressive input tax that misallocates resources and results in stranded assets.³⁵

5.28 Nevertheless, the view that state governments with their own networks have a conflict of interest in relation to electricity prices was not shared by all stakeholders. The ESAA maintained that state governments would either need to raise the money from electricity prices by some other means or cut expenditure. A general manager at the ESAA stated:

32 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, pp. 62–63.

33 Mr Robert Mackenzie, Director, Canegrowers Isis, *Proof Committee Hansard*, 16 February 2015, p. 28.

34 Mr Oliver Derum, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 15.

35 Mr Bruce Mountain, *Submission 19*, p. 20.

...while I understand those frustrations about the way that competitive neutrality payment is applied, the money that those state governments receive is money they would either have to raise from other forms of taxation or they would have to reduce spending. Whilst you could make a change to that rule, it would just be moving money around between the people of New South Wales and Queensland as electricity consumers and essentially the same people as taxpayers. It is really just moving money around, whereas in terms of really driving down their power bills going forward, the obvious point to tackle is the future efficiency of operating and capital expenditure.³⁶

Asset write-downs and privatisation proposals

5.29 Whether the value of inefficient and underutilised assets included in the regulatory asset base should be written down is an issue that was considered generally in Chapter 4. Evidence taken by the committee, however, indicated there were distinct considerations when the assets belong to government-owned network service providers. Some submitters added that the correct value of assets is also relevant to proposals for privatising these businesses. This section considers these issues.

Revaluing the assets of state government-owned network companies

5.30 As discussed in Chapter 4, one of the arguments used to counter asset write-down proposals is that such action may actually lead to higher electricity prices for consumers as higher sovereign or regulatory risk would need to be taken into account in the future. Although he considered it would be 'problematic' to revalue privately-owned assets, Mr Bruce Mountain submitted that, for government-owned businesses, the sovereign risk argument does not apply. He argued that 'governments are not able to expose themselves to sovereign risk, to suggest otherwise is just nonsense'.³⁷

5.31 State governments are also not normal shareholders. While they may seek returns from their assets, other political and economic considerations also influence their decisions regarding how their assets should be used. This tension was highlighted by the Public Interest Advocacy Centre. Using New South Wales as an example, the Centre argued that if the state government decided to write-down the assets of a government-owned network business, it follows that the 'asset belonging to the people of New South Wales would, according to its book value, be worth less'. However, the Centre argued that this would be offset by consumers paying less for their electricity.³⁸

36 Mr Kieran Donoghue, General Manager, Policy, ESAA, *Proof Committee Hansard*, 18 February 2015, p. 27.

37 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 63.

38 Mr Oliver Derum, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 15.

5.32 EnergyAustralia acknowledged that governments, like businesses, do not like to write down the value of assets. Nevertheless, it argued that the fall in electricity demand and low growth forecasted by the AEMO compels the government to take such action. EnergyAustralia argued the alternative option would be a continuation of 'the "death spiral" which will only increase hardship cases for those that remain connected to the network'.³⁹

5.33 However, another witness speculated that a state government may be reluctant to write-down assets as doing so may have implications for a government's future capital raising activities:

Write-downs of the asset values would cause difficulties with the government raising capital in the capital markets. If the assets were written down to their true level, Queensland Treasury and the Queensland Treasury Corporation may find some embarrassment when they are looking to be raising capital.⁴⁰

Asset write-downs in the context of privatisation

5.34 Proposals for leasing publicly-owned electricity assets to private sector companies were key issues at the January 2015 Queensland election and the March 2015 New South Wales election. As a consequence, submitters also considered the re-valuation of assets in that context.

5.35 Some submitters were nervous that privatisation proposals would threaten efforts to reform the regulatory system and cause the less than optimal outcomes achieved for consumers under the current system to be locked in for the future. The Agriculture Industries Electricity Taskforce argued that the New South Wales Government appears to be prioritising the sale of its network assets above any possible reform. The Taskforce suggested this was evidenced by that government's opposition to the AER's draft determinations for New South Wales distribution networks.⁴¹ Unless 'credible regulatory arrangements are established', the Taskforce feared that leasing or privatisation will mean:

...a government monopoly will be replaced by a private monopoly but with continued inadequate regulation. Regulatory reform in the context of private ownership will be even more difficult since it will raise the prospect of sovereign risk for the new private investors. It is essential that the regulatory challenges are dealt with now as a priority, before privatisation.⁴²

39 EnergyAustralia, *Submission 23*, p. 5.

40 Mr Warren Males, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, p. 23.

41 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 14.

42 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 14.

5.36 Another example of this concern can be found in the evidence given by the Australian Sugar Industry Alliance. One of its representatives told the committee:

If you are looking at privatisation of a system which is currently flawed and you have excessive tariffs and what we would say are flawed tariffs within that current model, our fear is that you would lock those flawed tariffs and that flawed profit model into some kind of privatised basis. No-one is going to invest in purchasing assets if they are not going to be able to generate a significant profit from that. So the end point is that you have a flawed and abstract profit motivation in the current system, you privatise that and you lock it in, and then it becomes a lot more difficult to deal with that into the future.⁴³

5.37 It was also suggested that the Australian Government's asset recycling initiative may also reinforce opposition to asset write-downs. The New South Wales Irrigators' Council considered the asset recycling program provides a 'perverse incentive' for asset values to remain inflated or to be inflated further. It provided the following explanation:

If the payment from the Asset [Recycling] Scheme, as is suggested in the Federal Government's Energy Green Paper, is a proportion of the value of the asset, then it is an incentive for the State Government to 'inflate' the asset value of the electricity network business in order to increase the amount of payments it receives. However such an inflated asset base (and the return that the network business currently receives on this asset base) will be passed onto consumers in the form of higher network charges.⁴⁴

5.38 Some submitters expressly called for state governments that are seeking to privatise their electricity network assets to examine whether those assets are overvalued and should be written-down prior to privatisation. EnergyAustralia declared that privatisation proposals are 'a unique circuit-breaker', with an opportunity for assets to be written-down to reflect reduced electricity demand before privatisation.⁴⁵ The Public Interest Advocacy Centre, which also argued that network assets should be examined before privatisation, provided the following overview of the competing issues at play:

Higher-valued networks will yield greater proceeds from privatisation, but consumers will, in effect, be funding those proceeds through their electricity bills (as they repay the investment in the RAB through network charges). On the other hand, if network values are written down then electricity bills will be lower, but less funds may be available to governments to fund infrastructure or other programs that benefit the community.⁴⁶

43 Mr Dominic Nolan, Joint Secretary, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, p. 23.

44 New South Wales Irrigators' Council, *Submission 5*, p. 8.

45 EnergyAustralia, *Submission 23*, p. 5.

46 Public Interest Advocacy Centre, *Submission 18*, p. 13.

5.39 The Public Interest Advocacy Centre noted that it does not 'have a definitive answer' to the question of whether the assets of New South Wales distribution network companies are over-valued. It also advised it cannot answer whether an asset write-down would ultimately be 'good or bad for the people [of New South Wales]'. Consequently, the Centre called for the state government to consider these issues. However, the Centre advised that a report it commissioned suggested that the writing down of the value of stranded assets 'may provide the best outcome for all parties'. In addition to lower prices for consumers, it was suggested that 'a more accurately priced asset would attract more attention from investors'.⁴⁷

Committee view

5.40 The committee acknowledges that some aspects of the economic regulation applied to government-owned network businesses appear to have led to perverse outcomes. For example, assuming that a government-owned business has debt costs comparable to those of a private company when its debt is secured by a government with a strong credit rating is seemingly odd. It also results in customers living in that state paying more for electricity than they would otherwise need to, at least in the short-term.

5.41 Regardless of the relative merits of the arguments for and against the application of competition neutrality principles to government-owned electricity network businesses, the committee does not envisage a situation where this arrangement would change. For governments that own networks, the payments received as a result of these arrangements are a lucrative source of revenue that, if abolished, would need to be replaced (or alternatively, expenditure would need to be reduced). The governments that do not own networks may be concerned that changes to the current arrangements would see the cost of electricity fall in the states with publicly-owned networks, potentially attracting business to those states away from states with privately-owned networks.

5.42 In any case, while there may be particular issues caused by the regulatory treatment of state government-owned network companies, the committee considers the matter of greatest concern is how the return on capital for all network businesses is determined, as canvassed in Chapter 4.

5.43 In this regard, the committee notes that certain state governments have, or are currently considering, proposals for privatising some of their network assets. The committee considers those governments have a duty to their citizens, and an obligation to potential investors, to demonstrate that the value of the RABs for these businesses are reasonable. As noted in Chapter 4, action taken now to ensure the RABs are accurate may prevent more difficult decisions from being needed in the future.

47 Public Interest Advocacy Centre, *Submission 18*, p. 14.

Recommendation 4

5.44 The committee recommends that state governments seeking to privatise their electricity network assets examine whether those assets are overvalued and if the regulatory asset base should be written down prior to privatisation.

Chapter 6

Information asymmetry, incentives to 'game' the regulator and merits review

6.1 Under the current regulatory framework, network service providers propose to the Australian Energy Regulator (AER) the levels of capital expenditure (capex) and operational expenditure (opex) they consider are needed to run their business effectively over the regulatory control period. The AER must either accept the proposal or substitute the elements it does not accept with its own decisions.

6.2 This chapter considers the merits of the current model for considering regulatory proposals and the manner in which electricity network companies have presented information to the AER. This chapter also examines:

- consumer engagement and consultation about regulatory proposals and infrastructure projects; and
- the appeal process available once a determination is made.

The propose–respond method of revenue determinations

6.3 As noted in Chapter 3, the process for determining the amount of revenue that network businesses can recover from their customers is ex-ante—businesses must periodically apply to the AER for an assessment of their revenue requirements in advance. The AER then assesses the expenditure forecasts and proposed revenue requirements before making a determination. This is a 'propose–respond' framework.

6.4 This model recognises the information asymmetry that exists between the regulated entity and the regulator. As the network service provider actually runs a network, it is likely to be best placed to consider what is needed and to develop an initial proposal. The initial proposal can then be scrutinised and if necessary challenged by the regulator and interested parties. Through its benchmarking activities and experience from regulating many network companies, the AER should be able to identify and challenge excessive proposals.

6.5 However, electricity regulation and the concepts involved can be complex. This can have implications for how network businesses interact with the regulator as well as requiring other stakeholders to devote significant effort and resources if they wish to make a meaningful contribution to the process. This report has already outlined some of the problematic incentives provided by the National Electricity Rules (NER) regarding the return on capital, which has been the main driver of increasing electricity prices. Further, this inquiry has been conducted in the context of high electricity prices and allegations that network companies are seeking to 'game' the regulator. The extent to which the propose–respond method of regulation has led to, or exacerbated, these outcomes and whether this method of regulation can lead to

optimal outcomes generally was considered in several submissions received by the committee. This section examines this issue.

Views on the propose–respond model

6.6 Energex considered that a positive feature of the propose–respond model is how it 'gives all stakeholders an opportunity to be engaged in the development and delivery of a regulatory framework that can best deliver on the [National Electricity Objective]'. Energex argued that the consultation undertaken is 'an openly visible process', with a range of stakeholders involved. Specifically, Energex noted that submissions to the AER regarding a regulatory proposal may be made by other market participants, such as retailers, networks and generators; state and federal government departments; and state-based regulators.¹

6.7 Other submitters, however, consider the propose–respond model benefits the network companies. As noted in previous chapters, submitters have expressed concern about problematic incentives provided in the regulatory framework that encourage network companies to try to secure the highest returns possible by undertaking inefficient investment. These submitters considered the propose–respond model supports this outcome as it allows network companies to promote these high initial revenue proposals and 'frame the discussion'.² For example, the Energy Users Association of Australia (EUAA) expressed the view that the propose–respond revenue determination process helps allow the networks to 'game the regulator'. The EUAA explained:

The networks have much more information available to them than the AER has access to, and they take advantage of this asymmetry in deciding the type and volume of information to provide to the AER in their revenue proposals. An analysis of the networks' expenditure claims and the AER's annual reports suggests that, on average, the electricity networks spend around 20 times the expenditure of the AER on their revenue determinations.³

6.8 Similarly, the Agriculture Industries Electricity Taskforce noted that:

While the AER is free to ask questions during the reviews and to seek information, it is not free to set the agenda—this has been established through the businesses' proposals and the regulator is therefore constrained to respond to those proposals and conduct its reviews accordingly.⁴

1 Energex, *Submission 14*, pp. 5–6.

2 Big Picture Tasmania, *Submission 4*, p. 2.

3 Energy Users Association of Australia (EUAA), *Submission 17*, p. 14.

4 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 5.

6.9 Two key challenges that the propose–respond model appears to present for the AER were identified. The first issue submitters highlighted was the 'onus of proof' on the AER to disprove the network service providers' justifications for their revenue proposals. If the AER decides not to accept the proposal, the AER is required to provide detailed reasons.⁵ The Total Environment Centre argued that this has allowed the network companies to 'successfully "cherry-pick" from AER determinations in the Australian Competition Tribunal...to increase their guaranteed revenue'.⁶

6.10 The second weakness is the level of documentation that can be involved in the process. Mr Bruce Mountain advised that the current regulatory proposals by the three New South Wales distribution network companies total 'around 44,000 pages including around 30 consultant reports', while the proposals by distribution companies in Queensland and South Australia are no smaller with the Queensland proposals containing '560 separate documents and reports'. The costs of these reports are recovered from customers.⁷

6.11 The EUAA argued that the network businesses take advantage of the inherent information and resource asymmetries and 'swamp the AER with information that detracts from an effective and efficient assessment of their revenue proposals':

The volume of the networks' revenue proposals is excessive, with some networks' current proposals amounting to around 40,000 pages. This makes it extremely difficult and time consuming for the AER and other stakeholders to respond effectively.⁸

6.12 The implications of this amount of documentation given the limited time available to the AER to assess it were also noted. Major Energy Users made the following observation:

The [network service providers (NSPs)] have much more information available to them than the AER can access in the time available to complete a revenue review. This means that the NSP is in a much better position to argue with the AER over what capex and opex the NSP considers it wants.⁹

6.13 Similarly, it was argued that the volume of material provided to the regulator negatively affects the ability of other interested parties to engage in the process. While summaries of revenue requirements are included in the main regulatory proposal document, Cotton Australia wrote that the detailed information about

5 EUAA, *Submission 17*, p. 14.

6 Total Environment Centre, *Submission 43*, p. 3.

7 Mr Bruce Mountain, *Submission 19*, p. 24. The AER provided details of the number of pages it has received in submissions to support regulatory proposals and revised regulatory proposals for the upcoming regulatory control periods. See AER, *Answers to questions on notice 8*, received 10 April 2015, p. 8.

8 EUAA, *Submission 17*, p. 14.

9 Major Energy Users, *Submission 7*, pp. 2–3.

investment decisions, forecasted demand, revenue and the WACC are provided in 'largely impenetrable' supporting documents.¹⁰ The Agriculture Industries Electricity Taskforce asserted that the difficulty encountered by interested parties in reviewing significant numbers of documents to understand and respond to regulatory proposals was a consequence 'the network businesses intend'. The Taskforce remarked:

While the network businesses argue that they are customer focussed and seek to take account of consumer views, 1000 megabyte proposals with 500+ documents and spreadsheets and 20+ consultancy reports, suggests exactly the opposite.¹¹

6.14 Mr Mountain argued that the current propose–respond model 'has failed badly as can be seen in the profit, price and expenditure outcomes'. He added that large differences between actual and forecast demand growth and the cost of capital was further evidence of this failure.¹² Mr Mountain also noted that although the network businesses seem able to exploit the information asymmetry between them and the regulator, the AER, 'mindful of criticism from industry, consumers and merits reviews of its decisions' has responded by seeking to 'avoid risks through ever more forensic analysis'.¹³ Mr Mountain concluded that the rationale underpinning the overall regulatory approach, that is the provision of incentives for monopolies to reveal their efficient costs, 'has been lost and in its place is a system of regulation that follows its form rather than its function'.¹⁴

6.15 Recent efforts to address weaknesses in the NER may also present further challenges for the AER when utilising a propose–respond model. Major Energy Users explained that the AER is now able to 'regulate by comparison' by developing tools to benchmark regulatory proposals. However, it added that the network businesses 'attempt to overcome this regulation by comparison by countering the AER assessments with arguments that they are "different" to their comparators'.¹⁵

Proposals to limit the volume of information provided by network companies

6.16 Several submitters argued that the propose–respond model would be enhanced by changes to how information is provided to the AER or limits on the amount of documentation that may be presented. For example the EUAA suggested that a limit on the volume of information that is allowed to be submitted to the regulator as part of a network service provider's regulatory proposal would go some way to address the

10 Cotton Australia, *Submission 3*, p. 2.

11 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 6.

12 Mr Bruce Mountain, *Submission 19*, p. 24.

13 Mr Bruce Mountain, *Submission 19*, p. 24.

14 Mr Bruce Mountain, *Submission 19*, p. 25.

15 Major Energy Users, *Submission 7*, pp. 2–3.

information and resource imbalance in the determination process. The EUAA suggested that the limit could be a cap on the number of pages that can be submitted.¹⁶

6.17 The development of a template was also suggested. Mr Phillip Barresi, the chief executive officer of the EUAA, informed the committee that he had raised with the AER the idea of a template based on the model used in the United Kingdom; however, he was told that implementing the template in Australia would be 'problematic'. Nevertheless, he argued that some form of template would be useful:

...we do not have to adopt the UK model but we can certainly look at that concept. We are an inventive nation and I am sure we can come up with our own template which will help users and consumers to better wade their way through a lot of the information. They have an army of consultants out there. As I said in my introduction, we are one of the better equipped advocacy organisations for energy users and even we struggle, absolutely struggle, to get through the submissions and what it means.¹⁷

6.18 The Public Interest Advocacy Centre also suggested that a limit to the number of pages network companies could submit or a requirement that network companies supply information in a template designed by the AER could be beneficial. Alternatively, it argued that a limit could be imposed on the total cost associated with the preparation of a regulatory proposal that can be passed through to consumers. The Centre explained that under this model, which is its preferred option, network businesses could still provide additional information that led them to exceed the cap, however, the cost of doing so would come from their profits.¹⁸

6.19 The AER noted that the NER and the AER's guidelines specify the form in which network businesses must present certain classes of material to the regulator. Despite this, the AER stated that 'dealing with the volume of material associated with regulatory proposals is resource intensive for the AER and other stakeholders'. Further, the AER acknowledged that the volume of material lodged may detract from efforts to better engage consumers in network regulatory decision-making.¹⁹ The AER recognised that it 'is worth considering changes to the framework that could make the regulatory process more effective'.²⁰

16 EUAA, *Submission 17*, p. 14.

17 Mr Phillip Barresi, Chief Executive Officer, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 20.

18 Public Interest Advocacy Centre, *Submission 18*, pp. 17–18.

19 Although the AER added that, following efforts to better engage consumers, it is seeing greater involvement in its consultation processes from a wider variety of interested parties. AER, *Answers to questions on notice 8*, received 10 April 2015, p. 9.

20 AER, *Answers to questions on notice 8*, received 10 April 2015, p. 9.

Alternative approaches

6.20 The replacement of the propose–respond model with another model was also suggested. The EUAA explained that prior to 2006, a receive–determine model was used. Under this model, the regulator 'received and considered the networks' proposals, and had the flexibility to determine an outcome that in the regulator's view best met the criteria'. The EUAA and Major Energy Users endorsed the reintroduction of a receive–determine model.²¹ The Agriculture Industries Electricity Taskforce supplied further details about how the model operated:

...in the economic regulation performed by the ACCC (for transmission networks) and state regulators (for distribution networks), the regulators determined the information requirements and businesses responded to the regulator's requests. While the networks also submitted their intentions and proposals, there was no obligation on the regulators to respond to these proposals. This arrangement mirrored those in Britain where there is not (and never has been) a formal obligation on the regulator to respond to the network businesses' proposals.²²

6.21 A model based on negotiation and arbitration was also put forward. The Public Interest Advocacy Centre suggested that the AER should 'facilitate negotiation and arbitrate between networks and consumers on total revenue' to seek a negotiated settlement. The Centre noted that this option was discussed and canvassed in the PC's 2013 electricity regulation report:

The PC noted that in theory, such an approach should maximise community welfare, as 'the only contract that two parties with equal bargaining power would mutually agree to would be one involving no removable inefficiencies'. The PC also noted that if the AER was acting as an arbitrator rather than a consumer advocate pitted against the regulated businesses, its decisions would not be subject to merits review. This would be the case 'because, as an arbiter, the regulator would already have fairly addressed both parties concerns'.²³

6.22 Mr Bruce Mountain provided an overview of other possible determination processes that are used in various jurisdictions:

In the United States, in most cases in Germany and in Denmark, co-operative or municipal distributors are usually not explicitly regulated but are restricted from using profits from electricity distribution to cross-subsidise other services. In the United States investor-owned utilities are not subject to federal or state regulatory reviews unless they wish to raise prices. In some cases, prices have not risen for decades and so there has been no regulatory review. In some states of the US, prices are set through negotiated settlements with consumers. In several Scandinavian

21 EUAA, *Submission 17*, p. 14; Major Energy Users, *Submission 7*, p. 3.

22 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 5.

23 Public Interest Advocacy Centre, *Submission 18*, p. 14.

countries, price caps for municipal distributors are established through high-level productivity-based formulae rather than decisions on the detail of various inputs as in Australia. The system of regulation in Britain has also evolved, and much can be learned from this.²⁴

6.23 Mr Mountain did not endorse any particular model; rather he suggested that the possibilities should be explored without being constrained by whether alternative approaches are consistent with other clauses of the NER or are beyond the current powers of the AER or AEMC. He concluded:

I suggest that fresh eyes need to be brought to this...There are many possibilities. The size of the industry and its economic importance means that effort at improvement will be well rewarded.²⁵

Consumer engagement and public consultation

6.24 Despite the importance of revenue determinations given their effect on electricity prices, it is evident that the determination process is not well-understood. Inputs to determinations such as rates of return and expenditure forecasts are matters that external parties would find difficult to challenge. Further, as already highlighted, the current system can also encourage lengthy regulatory proposals and substantial amounts of other information and documents being provided to the regulator. This makes it even more difficult for energy users to review and comment on the overall proposal.

6.25 Accordingly, the committee gave particular consideration to how energy consumers fit into the determination process. This section considers whether the framework encourages and supports consumers to make a meaningful contribution to the process.

Views on consumer and stakeholder engagement

6.26 The committee received a variety of responses regarding network service providers' approach to consultation from consumer groups and stakeholders that represent energy-intensive businesses.

6.27 The Public Interest Advocacy Centre noted that the AER has recently expressed criticism of certain network service providers' consultation efforts, such as a comment that Ausgrid 'has significant work to do to give consumers more say in the services it provides'. The Centre acknowledged that 'there has been a significant increase of the amount of consumer engagement being undertaken by networks across the NEM'.²⁶ An increase in the amount of consultation, however, did not mean that the consultation is meaningful. Representatives of the Public Interest Advocacy Centre

24 Mr Bruce Mountain, *Submission 19*, p. 25.

25 Mr Bruce Mountain, *Submission 19*, p. 25.

26 Public Interest Advocacy Centre, *Submission 18*, pp. 16–17.

told the committee that the consultation they have been engaged in with network businesses went as follows: '[t]hey get you in and they tell you what is going to happen, pretty much'.²⁷

6.28 The Public Interest Advocacy Centre also observed that there were different views of what consumer engagement actually entails. Brochures, focus groups and Facebook pages produced by the network companies were noted, however, it was argued that meaningful consumer consultation was more complex than that. Dr Gabrielle Kuiper told the committee:

...engaging with consumers who have no understanding of how the energy market works is one thing. Engaging with the consumer advocacy sector and also the community welfare organisations who deal on a day-to-day basis with people who have thousands of dollars of electricity debt is quite different. The Productivity Commission report...said that currently end users, whether households or commercial users, are disenfranchised from the regulatory process and would absolutely endorse that. We, in fact, have liaised with our counterparts in Queensland and it sounded like they had significantly greater engagement with their network businesses in Queensland than we did in New South Wales.²⁸

6.29 The EUAA reported that it has had a variety of responses from network businesses; while it had been 'inundated' with consultation offers from some network businesses, it has not been contacted by others. Even so, the EUAA's chief executive officer characterised the consultation that does take place as efforts 'to kill us with kindness' as part of a 'tick the box exercise':

It is one of just simply letting us know what is taking place, rather than actually working through the issues with us.²⁹

6.30 The New South Wales Irrigators' Council (NSWIC) told the committee that it was 'aghast' at the following comment in Essential Energy's regulatory proposal that it considered formed the basis of the company's approach to customer engagement:

Customers do not fully understand why charges are rising but accept it is inevitable and out of their control.³⁰

27 Mr Oliver Derum, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 13.

28 Dr Gabrielle Kuiper, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 13.

29 Mr Phillip Barresi, Chief Executive Officer, Energy Users Association of Australia (EUAA), *Proof Committee Hansard*, 18 February 2015, p. 22.

30 Essential Energy, *Regulatory proposal 2014–19*, May 2014, p. 16; cited in New South Wales Irrigators' Council (NSWIC), *Submission 5*, p. 4.

6.31 The NSWIC noted that, given the complexity of electricity pricing, consumers are disengaged from the process and do not fully understand why electricity prices are rising. However, the NSWIC argued:

...it is simply not correct that customers accept recent price rises and see them as inevitable. Irrigators, in particular are acutely aware of their electricity charges and are taking drastic measures to reduce their costs.³¹

6.32 Cotton Australia noted the recent efforts by Ergon and Essential to reach out to agricultural groups. While some of this has been positive, Cotton Australia claimed it occurred too late in the regulatory process for the organisation to understand the network businesses' positions and to engage with them.³² One representative of Cotton Australia advised that Essential Energy relied 'very heavily on the outcomes around their scenario modelling to justify their case going forward and their continued expenditure.'³³ Another representative stated that 'you could not help but get the sense that all they were trying to do was scaremonger and try to justify the proposal'.³⁴ The NSWIC's evidence indicated that it had a similar experience:

Unfortunately, every discussion that we have had with Essential Energy has led to us asking quite detailed questions where we were referred back to their submission, attachments or Excel spreadsheets, which does not really help a small organisation like us to get an understanding of where the underlying costs are. So, in that sense, we have had discussions, but unfortunately the results that are coming out of that are not really useful for stakeholders like us to engage.³⁵

6.33 Groups aggrieved by actions taken by certain network service providers were unsurprisingly scathing of the approach taken by the network business to consultation. A case study of this is the experience of the Veto Energex Towers Organisation (VETO). VETO is a Queensland community organisation that was formed in 2008 after Energex informed certain landowners that it intended to build a duplicate sub-transmission line from Loganlea to Jimboomba. VETO provided the following summary of the early consultation sessions on the proposal that its members attended:

Energex conducted community consultation sessions where Energex staff said they were there to tell us what they would do, not to consider alternatives as the route had been selected in the Corridor Selection Report (CSR) based on scoring by Energex and Aurecon in an in-house workshop.

31 NSWIC, *Submission 5*, p. 4.

32 Mr Michael Murray, Policy Manager, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 22.

33 Mrs Angela Bradburn, Policy Officer, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 22.

34 Mr Michael Murray, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 22.

35 Ms Stefanie Schulte, Policy Manager, NSWIC, *Proof Committee Hansard*, 17 February 2015, p. 22.

Our community considered this consultation to be a sham, where Energex pushed their pre-determined outcome and trivialised community issues.³⁶

6.34 Some positive comments about the approach to consultation were received. Bell Bay Aluminium reported that its experience in Tasmania has improved since the creation of TasNetworks, which manages both the electricity transmission and distribution networks in Tasmania. Bell Bay Aluminium's general manager described the consultation and discussions with TasNetworks as 'very businesslike'. He added:

It is the sort of relationship that we would have with our key suppliers and our key customers. It is a commercial arrangement, but it is a productive relationship and an honest one where you can be quite frank about the issues and your problem becomes my problem. TasNetworks are operating in that space. With the previous entity—and I am not drawing at the individuals, and we also had a different government at that time so I do not know where the rules of engagement came from—we found it nigh on impossible to make any progress on any of the issues we raised.³⁷

Recent developments in consumer consultation

6.35 The representation of consumer interests in the determination process has been considered in recent reviews of the electricity sector.³⁸ Following these reviews, efforts have been made to improve the standing of consumers. For example, the AER has established a consumer challenge panel to provide expert input on 'issues of importance to consumers'. The panel is tasked with advising the AER on:

- 'whether a network business's proposal is justified in terms of the services to be delivered to customers; whether those services are acceptable to, and valued by, customers; and whether the proposal is in the long term interests of consumers'; and
- 'the effectiveness of network businesses' engagement with their customers and how this engagement has informed, and been reflected in, the development of their proposals'.³⁹

36 Veto Energex Towers Organisation (VETO), *Submission 55*, p. 2.

37 Mr Ray Mostogl, General Manager, Bell Bay Aluminium, *Proof Committee Hansard*, 17 February 2015, p. 37.

38 For example, see Senate Select Committee on Electricity Prices, *Reducing energy bills and improving efficiency*, November 2012, pp. 134–35.

39 Australian Energy Regulator (AER), 'Consumer challenge panel', www.aer.gov.au/about-us/consumer-challenge-panel (accessed 20 March 2015).

6.36 The AER's chief executive officer, Ms Michelle Groves, noted that the panel is 'enhancing consumer input into some of the more complex technical issues that arise in network regulation'. Ms Groves added that the AER has received positive feedback from customer groups about the consumer challenge panel.⁴⁰

6.37 Some submissions expressed their support for these efforts. Mr Warren Males from Canegrowers commended the AER for seeking to address the imbalance in industry knowledge and resources between networks and energy users by establishing the consumer challenge panel. He provided the following comments:

Canegrowers as an organisation and the Australian Sugar Industry Alliance—the Australian sugar industry overall—has devoted an enormous amount of resources and effort to understand what is a very complex and complicated system. We have come to that over the last couple of years, from a very low base, to what we hope now is a moderate level of understanding. But we sit here this morning and see before you the chief executive of Ergon surrounded by nine of his executives. We simply do not have that level of resources. So I say to the AER: thank you for providing the resources of the consumer challenge panel.⁴¹

6.38 The EUAA, however, considered that the effectiveness of the consumer challenge panel 'is yet to be determined', as it will depend on the results of the current round of determinations.⁴²

6.39 Another entity established following recent reviews is Energy Consumers Australia (ECA). COAG agreed to create a national energy consumer advocacy body as part of the energy market reform package agreed to in December 2012. Despite this, the ECA was only established on 30 January 2015. The lengthy process involved in setting up the ECA was criticised. Dr Kuiper from the Public Interest Advocacy Centre argued that the delay means that consumers 'have not had a strong voice' during the current determination process. She stated:

The point of setting up that body in December 2012 was such that it would participate in this round of revenue determinations. The round is almost over, effectively. The precedent that is set by the determinations in New South Wales will likely flow on to other states. So we have missed out again on another five-year regulatory determination process; consumers have not had a strong voice.⁴³

40 Ms Michelle Groves, Chief Executive Officer, AER, *Proof Committee Hansard*, 18 February 2015, pp. 2, 3.

41 Mr Warren Males, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, pp. 25–26.

42 Mr Phillip Barresi, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 22.

43 Dr Gabrielle Kuiper, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 14.

6.40 More effective consultation processes have also been required as a result of changes to the NER. The chief executive of the Australian Energy Market Commission (AEMC) explained that following the recent rule changes, network companies 'must consult about the tariff structures that they propose to put in place prior to making a submission to the AER about those tariff structures'.⁴⁴

6.41 The AER is now also considering, and publishing comments on, the quality of the consultation that network companies undertook for both revenue determinations and annual pricing proposals. In particular, for pricing proposals, the AER will have regard to how effectively the business has consulted with its consumers and other stakeholders. The AEMC chief executive made the following observation:

It is important that tariff structures are meaningful to consumers and are structures that consumers can understand, so, unless there has been a proper consultation process, it will be difficult for the AER to be satisfied that the businesses are meeting the new rules.⁴⁵

6.42 Nevertheless, suggestions for further improvements were outlined. The Consumer Action Law Centre expressed support for the AER's consumer challenge panel and noted the creation of the ECA. However, it suggested that the effectiveness of consumer consultation should be subject to regular reviews. The Centre envisaged that these reviews would take place at the end of the regulatory determination process and would consider both the effectiveness of the consultation and whether the consultation framework promotes the interests of consumers.⁴⁶

Limited merits review

6.43 Another area of the determination process that some submitters considered needs reform is the limited merits review regime.

Overview of the limited merits review regime

6.44 Merits review is 'the process by which a person or body other than the primary decision-maker reconsiders the facts, law and policy aspects of the original decision and determines what is the correct and preferable decision'. The merits review process has been described 'as "stepping into the shoes" of the primary decision-maker'. Merits review seeks to ensure that administrative decisions made by government agencies are 'correct', in that they are made according to law, and 'preferable', in 'the sense that, if there is a range of decisions that are correct in law, the

44 Mr Paul Smith, Chief Executive, Australian Energy Market Commission (AEMC), *Proof Committee Hansard*, 17 February 2015, p. 4.

45 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 5.

46 Consumer Action Law Centre, *Submission 20*, p. 6.

decision settled upon is the best that could have been made on the basis of the relevant facts'.⁴⁷

6.45 Under the National Electricity Law (NEL), a limited merits review regime is in place with the Australian Competition Tribunal able to review certain types of regulatory decisions. Reviewable decisions include the AER's pricing and revenue determinations for electricity transmission and distribution. An application for review needs to be made on one or more permitted grounds. These grounds are that:

- the AER made an error of fact in its findings of facts, and that error of fact was material to the making of the decision;
- the AER made more than one error of fact in its findings of facts, and that those errors of fact, in combination, were material to the making of the decision;
- the exercise of the AER's discretion was incorrect, having regard to all the circumstances; and
- the AER's decision was unreasonable, having regard to all the circumstances.⁴⁸

6.46 In deciding whether to affirm, vary or set aside the decision (remitting the matter back to the AER), the Tribunal must be satisfied that such action will, or is likely to, result in a decision that is materially preferable to the reviewable regulatory decision in making a contribution to the achievement of the national electricity objective (NEO), which is the overall objective of the NEL.⁴⁹ If not, the Tribunal must affirm the decision.⁵⁰ Another key element of the merits review process is that costs incurred by the network service provider in seeking a review must not be recovered from consumers.⁵¹

Overall views on the regime

6.47 The limited merits review regime was strongly supported by industry stakeholders. The Energy Networks Association (ENA) stated:

Merits review remains a fundamental part of ensuring accountable, high-quality regulatory determinations, and promoting the required investor

47 Administrative Review Council, *What decisions should be subject to merit review?*, 1999, www.arc.ag.gov.au/Publications/Reports/Pages/Downloads/Whatdecisionsshouldbesubjecttomeritreview1999.aspx (accessed 24 March 2015).

48 National Electricity Law, s. 71C(1).

49 Further, if deciding to vary a decision, the Tribunal must be satisfied 'that to do so will not require the Tribunal to undertake an assessment of such complexity that the preferable course of action would be to set aside the reviewable regulatory decision and remit the matter to the AER to make the decision again'. National Electricity Law, ss. 71C(1a), (2)(d).

50 National Electricity Law, s. 71C(2).

51 National Electricity Law, s. 71YA.

confidence for major long-lived network infrastructure investments required to be made on an ongoing basis...[A]vailability of merits review on decisions of a national access and pricing regulatory body is a fundamental principle.⁵²

6.48 Energex argued that the limited appeal rights available to network businesses 'ensure' that the AER's decision will only be overturned if an alternative decision would make a materially better contribution to the NEO.⁵³

6.49 However, it is clear that aspects of the limited merits review regime have not, at least in the past, led to optimal outcomes.⁵⁴ It has been estimated that network service providers' appeals to the Tribunal following AER determinations have added \$2 billion to \$3 billion to the overall network costs paid by consumers.⁵⁵ The Public Interest Advocacy Centre explained that the successful appeals against the first AER determinations:

...were based on a ruling that there was no valid reason why one consultant's report about the rate or return was more valid than another. As a result, the networks had won increases based on expert evidence that the AER has considered overstated the true cost of borrowing.⁵⁶

6.50 The Consumer Action Law Centre outlined a discouraging experience it had with the limited merits review process. The Centre explained that in the AER's final determinations for the Victorian electricity networks' 2011–2015 price review, the AER agreed to increase capital expenditure by 45 per cent and operating expenditure by 32 per cent, compared to the previous regulatory period. Despite these increases, each of the distribution network service providers appealed the AER decisions. The Consumer Action Law Centre decided to intervene in the appeal with another consumer group to 'ensure that consumer views were put forward' to the Tribunal. However, the result was as follows:

Despite putting significant resources into the intervention, ultimately senior counsel advised us to withdraw, citing the immense task in producing new

52 Energy Networks Association, *Submission 31*, p. 14.

53 Energex, *Submission 14*, p. 14.

54 This has been recognised by the Standing Council on Energy and Resources (SCER), the precursor to the COAG Energy Council. See SCER, *Statement of policy intent: Review framework for the electricity and gas regulatory decision making*, December 2012, <https://scer.govspace.gov.au/files/2012/12/LMR-Statement-of-Policy-Intent-December-2012.pdf> (accessed 25 March 2015).

55 G Yarrow, M Egan, J Tamblyn, *Review of the limited merits review regime: Stage one report*, June 2012, www.scer.gov.au/files/2012/06/Stage-One-Report-to-SCER-29-June2.pdf, pp. 18–21; cited in Consumer Action Law Centre, *Submission 20*, p. 3. See also Public Interest Advocacy Centre, *Submission 18*, pp. 10–11.

56 Public Interest Advocacy Centre, *Submission 18*, pp. 10–11.

expert evidence to counter that of the energy businesses and the adverse costs risks that could have financial implications for our organisations.⁵⁷

6.51 Although the Consumer Action Law Centre's highlighted the difficulties an interested party faces when seeking to be involved in the merits review process, it suggested that this was a secondary issue given the flaws in the NER. The Centre argued that the network service providers' successful appeals demonstrate that it 'wasn't so much the AER's decisions, but the poor rules that enabled businesses to recover so much money'.⁵⁸

6.52 The EUAA argued that there is 'no downside risk' for networks in deciding to appeal AER decisions. It argued that appeals have 'become the norm rather than the exception' and that network companies 'typically "cherry pick" elements of the AER's decision', such as the WACC allowances, with their appeals 'usually successful'.⁵⁹ The EUAA claimed that Australia's limited merits review regime 'contrasts sharply' with the process in the United Kingdom. It explained:

The UK appeals process effectively re-opens the complete revenue determination, thereby exposing the networks to the risk of an unfavourable outcome on the complete decision rather than their 'cherry picked' elements. As a result, appeals are very rare in the UK.⁶⁰

6.53 The EUAA added that various stakeholders have extensively criticised aspects of Australia's limited merits review regime. Key concerns included that the process involved significant costs and was litigious in nature; the decisions made are 'focused on quasi-legal/economic theory, resulting in outcomes that are not in consumers' long-term interests'; and the processes 'deter and disenfranchise participation by energy consumers'.⁶¹ Like the Consumer Action Law Centre, the EUAA advised that it too has previously found it necessary to withdraw from a merits review process:

A few years ago the EUAA actually tried to mount an appeal in the Australian Competition Tribunal against one of the rulings, and we sought and received contributions from a number of members, companies, to finance that, to employ a QC, and we were just overwhelmed by the resources that the network was able to bring to that process, and we had to withdraw.⁶²

57 Consumer Action Law Centre, *Submission 20*, p. 3.

58 Consumer Action Law Centre, *Submission 20*, p. 3.

59 EUAA, *Submission 17*, p. 18.

60 EUAA, *Submission 17*, p. 18.

61 EUAA, *Submission 17*, p. 18.

62 Mr Mark Grenning, Board Director, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 20.

6.54 It was also noted that the AER is constrained by the requirement to act as a model litigant. The conclusion Major Energy Users drew from this is that the Tribunal has 'exhibited a tendency' to accept network service providers' arguments as the AER is unable to defend its own views.⁶³

Recent changes to the limited merits review regime

6.55 A review of the limited merits review regime was required by legislation to be initiated by 2016; however, in December 2011 the Standing Council on Energy and Resources, the forerunner to the COAG Energy Council, agreed to bring forward the review. The review was conducted in 2012 and chaired by Professor George Yarrow.⁶⁴ Amendments to the NEL were made following the review. Specifically, the following aspects of the limited merits review process were introduced:

- the requirement that the Tribunal consider the overall outcome of its decision and the long-term interests of consumers;
- costs cannot be awarded against consumer groups that intervene in the process; and
- networks cannot pass on the costs of appeals to consumers through the regulatory revenue process.⁶⁵

6.56 The evidence received by the committee revealed that consumer and energy user groups were generally unimpressed by the limited extent of the changes. The Public Interest Advocacy Centre was perhaps the most positive; it described the changes as 'welcome developments', although it qualified this remark as 'the reforms are yet to be tested'.⁶⁶

6.57 The Consumer Action Law Centre considered the changes should alter the 'risk/reward' equation businesses face when considering Tribunal action. The Centre 'hope[s] that the reform will significantly reduce the number of appeals'.⁶⁷

6.58 Other submitters, however, pointed out that the COAG body rejected the significant changes recommended by the expert panel. In their separate submissions, Mr Bruce Mountain and the EUAA explained that the review panel made 36 recommendations that would have addressed the issue of networks 'cherry picking' elements of the decision they considered could be successfully appealed. Also, the expert panel recommended that the merits review should be undertaken by an economic institution, rather than by a quasi-judicial commission. The EUAA advised that it 'strongly supported' the expert panel's recommendations. Mr Mountain stated

63 Major Energy Users, *Submission 7*, p. 3.

64 Dr John Tamblyn and the Hon Michael Egan were the other members of the expert panel.

65 Public Interest Advocacy Centre, *Submission 18*, p. 11.

66 Public Interest Advocacy Centre, *Submission 18*, p. 11.

67 Consumer Action Law Centre, *Submission 20*, p. 5.

that it is not clear why the recommendations were rejected and, in his view, it 'is difficult to see' how the changes put in place will address the problems that the expert panel identified.⁶⁸

Committee view

6.59 Fundamentally, the committee considers that for economic regulation to be effective with outcomes accepted as legitimate by the community, the processes underpinning it need to be transparent and accessible to external stakeholders. In this regard, the interactions network businesses have with both their customers and the regulator are important.

6.60 The committee is sympathetic to the arguments about how the propose–respond model and the limited merits review regime may encourage the network businesses to inundate the regulator with information, as well as allowing network businesses to frame the initial discussion and 'cherry pick' unfavourable aspects of the AER's decision on appeal. The committee also notes that even the most-engaged interested parties struggle to contribute to the process.

6.61 However, information asymmetry is a common problem in regulation. The committee does not consider that changing the determination process from a propose–respond model to another model will change that. In general, optimal regulatory decisions can only be made if the regulator has access to all of the information it needs and if the process is transparent. Provided the regulator is resourced appropriately, and exercises appropriate scepticism when assessing claims by regulated entities, the propose–respond model that is currently used fulfils this requirement.

6.62 While the case has not been made that the propose–respond model needs to be replaced, the committee considers that the framework could be improved. The ability of a regulator with limited resources to assess regulatory proposals would be negatively affected if it is overwhelmed by information. Similarly, a mass of supporting documentation is also likely to make it more difficult for businesses, industry associations, consumer groups and other interested parties to understand and provide feedback on the regulatory proposals. There are also clear challenges these organisations face when participating in the appeals process.

6.63 Proposals to address this, such as a template or cap on the number of documents (or pages) that can be submitted, could be beneficial, but may be overly restrictive given that the regulator should, as a matter of principle, be provided with all the information it needs. While it may be necessary to revisit these proposals in the future, an initial improvement can be made that may rationalise the number of supporting reports and other documents provided to the regulator, while still ensuring the regulator receives all of the information relevant to its decision-making.

68 EUAA, *Submission 17*, p. 18; Mr Bruce Mountain, *Submission 19*, p. 16.

6.64 The committee considers a limit should be imposed on the expenditure linked to a regulatory proposal that network businesses can recover from their customers. Network businesses could be permitted to recover costs up to a reasonable amount—any expenditure above that amount would not be recoverable.

6.65 The consultation with consumers that network businesses engage in about their regulatory proposals and network projects must be meaningful. The committee considers that more work needs to be done to make it easier for stakeholders to provide meaningful input into revenue and investment proposals. The recent revenue determination processes provide an opportunity to assess the progress of efforts to enhance consumer input. Over time, Energy Consumers Australia may also provide a vehicle that can advise the AER and policymakers about the effectiveness of network service providers' consultation efforts. Consumer engagement in AEMC and AER processes may also be assisted if clear, consolidated guidance about electricity regulation was published. This guidance should outline the processes involved, define key terms and explain relevant concepts.

6.66 The committee has not made any recommendations about limited merits review. Although some stakeholders expressed concern that recent amendments to the merits review process did not go far enough, the committee considers that further changes should only be made if it has been demonstrated that the recent changes have not been effective. It is necessary for the changes to be tested before any consideration can be given to further enhancements to the limited merits review regime.

Recommendation 5

6.67 The committee recommends that the National Electricity Rules be amended to cap the costs associated with the preparation of a regulatory proposal that a network service provider may recover from its customers.

Recommendation 6

6.68 The committee recommends that the COAG Energy Council request the Australian Energy Market Commission to review the consumer engagement activities of network service providers. As part of this review, proposals for enhancing the effectiveness of consumer engagement efforts should be invited from consumer advocacy groups. Particular focus should be given to the effectiveness of consumer engagement in ensuring that network planning outcomes respond to the long-term interests of consumers.

Recommendation 7

The committee recommends that the Australian Energy Market Commission and the Australian Energy Regulator jointly develop and publish consolidated guidance on the regulatory determination process to better inform members of the public, consumer groups and other energy user stakeholders.

Chapter 7

The rule-making process and institutional framework

7.1 This chapter examines aspects of the operations and performance of the Australian Energy Market Commission (AEMC) and the Australian Energy Regulator (AER) in detail. In particular, this chapter focuses on the rule-making process, the overall performance of the two organisations and suggestions for changes to the institutional framework.

Rule-making process

7.2 The AEMC makes and amends the national electricity and gas rules.¹ With the exception of minor matters, the AEMC cannot initiate rule changes itself; it relies on the AER, other stakeholders and interested parties to submit rule change proposals to it.² Rule changes can also have their origins in the reviews of aspects of the energy markets that the AEMC undertakes at the request of the COAG Energy Council.

Criticism of the AEMC's process and approach

7.3 The committee received evidence from stakeholders who were dissatisfied by their experiences engaging with the AEMC. The speed of the rule-change process was one aspect that was criticised. The Total Environment Centre drew the committee's attention to a rule change request it submitted in November 2013. Despite being complemented by a similar proposal the COAG Energy Council lodged one month later, the AEMC only opened consultation on the request in February 2015.³ The Total Environment Centre added that rule change requests typically take two years after the process has formally commenced.⁴

7.4 Mr Oliver Derum from the Public Interest Advocacy Centre explained that he considers the AEMC is 'completely driven by economic theory and ideas about how this all works out there' and 'just do not have regard to the real world'.⁵ To support this criticism, his colleague Dr Gabrielle Kuiper noted that the one rule change proposal

1 Australian Energy Market Commission (AEMC), *Submission 41*, p. 1.

2 Mr Paul Smith, Chief Executive, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 3.

3 Total Environment Centre, *Submission 43*, p. 3; AEMC, 'Rule changes: Demand Management Incentive Scheme', www.aemc.gov.au/Rule-Changes/Demand-Management-Embedded-Generation-Connection-I (accessed 16 March 2015).

4 Total Environment Centre, *Submission 43*, p. 3.

5 Mr Oliver Derum, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 16.

consumer groups have put forward 'was roundly rejected by the AEMC'.⁶ The proposal, developed by the Consumer Action Law Centre jointly with the Consumer Utilities Advocacy Centre, related to contracts described as 'fixed' where the retailer could still change the electricity price at any time with notification. The rule change proposal sought to prohibit retailers from varying prices during the period of time that the fixed contract covered. Mr Gerard Brody, the chief executive officer of the Consumer Action Law Centre explained the rationale for seeking the change:

We had had a lot of complaints from people who had signed up to a fixed period contract only to have the price change mid-contract. If you look at those contracts, they all have fine print which allows the retailer to do that. We wanted a rule change to stop that practice, and we proposed that to the AEMC.⁷

7.5 The committee was informed that the AEMC rejected the proposal 'on the grounds that you simply needed to provide consumers with further information'.⁸ Mr Derum suggested that the AEMC took this approach as it did 'not want to distort the purity of the market and market interactions, so their answer is more information'.⁹

7.6 In addition to what consumer groups considered was an unfavourable outcome, the significant effort involved in seeking a rule change was also noted. The Consumer Action Law Centre outlined its experience in developing this proposal:

We initially scoped that rule change around the middle 2013. Our rule change was researched, and a lot of effort went into it during that year. We submitted the rule change in October 2013. It took 12 months for the rule change process; we did get a decision from the AEMC in October 2014...It is a very lengthy process. It took a lot of resources from a small consumer organisation like ours to run that rule change process. We were able to get some funding support, but it was a significant undertaking for us.¹⁰

6 Dr Gabrielle Kuiper, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, pp. 15–16.

7 Mr Gerard Brody, Chief Executive Officer, Consumer Action Law Centre, *Proof Committee Hansard*, 18 February 2015, p. 57.

8 Dr Gabrielle Kuiper, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 16.

9 Mr Oliver Derum, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 16.

10 Mr Gerard Brody, Consumer Action Law Centre, *Proof Committee Hansard*, 18 February 2015, p. 57.

7.7 The Energy Users Association of Australia (EUAA) also remarked on the resource-intensive nature of mounting a rule change bid. The EUAA's chairman, Mr Brian Green, advised that the EUAA found the process 'extremely expensive and very restrictive'. For example, the EUAA had to engage a consultant in the United Kingdom to advise it on the proposal as the consultants in Australia who were familiar with the issues targeted by the rule change proposal were 'conflicted because they were engaged at some point by generators or networks'. Mr Green added that ultimately the EUAA's proposal was amalgamated into another put forward by the AER.¹¹

7.8 Mr Green concluded that while the entire process is 'extremely cumbersome' at present, in his view there 'is considerable room to be able to streamline and simplify the processes without losing any of the rigour of the process'. The EUAA called for streamlining of the process and noted that it would welcome 'the establishment of a group that could look at this issue and put forward changes in a far more timely fashion'.¹²

Effectiveness of the current regulatory system

7.9 Several stakeholders commented on the number of regulatory and rulemaking bodies, the various jurisdictions to which they belong, and the overall complexity of the framework. For some, this was a key weakness of the system.

7.10 The Total Environment Centre pithily summed up the 'national' approach to electricity market regulation as 'fragmented and cumbersome', a mixture of 'part state and part federal; part public and part private'.¹³ Mr Bruce Mountain remarked that Australia's framework is based on 'elaborate and bureaucratic rules-based arrangements',¹⁴ and that he is not aware of another country that 'prescribes economic regulation of electricity utilities in this way'. Mr Mountain provided the following insight into the approach used in other countries:

The [European Union] asked member states recently to explain their regulatory frameworks. The Brits had a reason to jot down on a couple of pages how they regulate. In essence, it was, 'We consider the long-term interests of consumers in setting our regulatory framework.' The regulator has regard, as it ought to, to a wide range of factors—the cost of capital, the asset valuation—and makes decisions on those as a broad package. This is a holistic, complex business that has many levers to pull. It should have the ability to pull all of those levers and make a decision and not have constrained 'Look at this and don't look at that, and when you look at this you must do it like this and you must do it like that. And if you wish to

11 Mr Brian Green, Board Chairman, Energy Users Association of Australia (EUAA), *Proof Committee Hansard*, 18 February 2015, p. 21.

12 Mr Brian Green, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 21.

13 Total Environment Centre, *Submission 43*, p. 2.

14 Mr Bruce Mountain, *Submission 19*, pp. 23–24.

change it, then go through a rule change process separate to the existing form.'...In the [United States of America] they have some broader-level objectives, they have more policy objectives and they have a lot of history of what they have done, so there are legal arguments on historical decisions that are weighed in a regulatory framework, but that does not impinge on the authority of the regulator to make a decision.¹⁵

7.11 The chief executive of the AEMC, Mr Paul Smith, noted that the framework reflects the fact that it is multi-jurisdictional. The AEMC reports to the COAG Energy Council because 'the legislative power in relation to energy sits with the states and territories, so, in order for the rules that we make to have effect, that needs to be under legislation supported by the state and territory parliaments'.¹⁶ Whether this framework could be changed was questioned; Mr Mountain told the committee it was his understanding that the creation of the AEMC as a rule-maker was intended to alleviate state governments' concerns about the regulation of their network service providers by the AER, a Commonwealth body.¹⁷ Mr Mountain commented that 'it is perfectly understandable that states should want to circumscribe' the AER:

The income from electricity utilities is a major source of income for state governments, the single largest of their government owned businesses. The debt held by the network owned business is by far the biggest allocation of state government borrowing.¹⁸

7.12 Ms Michelle Groves, the chief executive officer of the AER, noted that the roles and structure of the various institutions is a policy decision. However, within this framework she noted that the bodies work cooperatively with 'fairly extensive memorandums of understanding between us to ensure there is close cooperation and no gaps between the work we each do and that each of us is informed by the other's work'.¹⁹

15 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 65.

16 Mr Paul Smith, Chief Executive, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 6.

17 Mr Bruce Mountain, *Submission 19*, p. 23.

18 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 62.

19 Ms Michelle Groves, Chief Executive Officer, Australian Energy Regulator (AER), *Proof Committee Hansard*, 18 February 2015, p. 7.

The AEMC's and AER's performance

7.13 This section considers the performance and accountability of the AEMC and the AER. Specific issues discussed include the AER's funding, the level of consumer input in the decision-making processes and governance of the AEMC and the AER, and the accountability frameworks that the two bodies are subject to.

Overall views on performance

7.14 The evidence received about the performance of the AEMC and AER was generally balanced, objective and recognised that the institutions were required to perform their tasks within a framework they did not establish. It is important to note that a number of stakeholders were quick to express confidence in the officers working at the various regulatory and rule-making institutions. For example, UnitingCare commenced its submission by 'recognising the calibre of staff' at the AER, AEMC and the Australian Energy Market Operator (AEMO). UnitingCare expanded on that comment with the following statement:

Experience of working with these organisations and their staff has always been very constructive and we strongly value the contribution that individual staff make to the organisation and to their endeavours to meet the National Energy Objective.²⁰

7.15 The independence of the regulator and the rule-making body was presented as being a fundamental strength of the system. For example, the AEMC emphasised how its commissioners are protected from external pressures:

In relation to the appointment of our commissioners, I think probably an analogy for a commissioner would be with a Director of Public Prosecutions or an Auditor-General. Once they are appointed, they are appointed for a specified term, and they can only be dis-appointed, in effect, for some sort of gross misconduct or something like that. Their terms cannot be ended in relation to the merits of particular decisions or if a minister had a view that a particular decision was not appropriate.²¹

7.16 The transparency of the regulatory system's objectives and processes was highlighted as another key strength. The AEMC noted that once a rule change proposal is lodged, whether the change is made is the AEMC's decision alone; that is, 'there is no further process whereby the state governments must approve or sign off or have any direct power to change a rule change once we have made it'.²²

20 UnitingCare Australia, *Submission 60*, p. 1.

21 Mr Paul Smith, Chief Executive, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 6.

22 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 6.

7.17 The AEMC highlighted other aspects of its operations that ensure the decision-making process is transparent. These include that:

- the objectives the AEMC assesses decisions against, such as the national electricity objective, are transparent given they are set out in legislation;
- any person or organisation other than the AEMC may lodge a rule change;
- generally two stages of consultation take place when the AEMC is undertaking a rule change process and responses to the consultation are published on the AEMC's website; and
- the AEMC publishes 'an extensive decision document...explaining the reasons and explaining how we have taken account of stakeholders' comments in those processes'.²³

7.18 The outcome of an AEMC review conducted at the request of the COAG Energy Council was also considered. While the AEMC acknowledged that the COAG Energy Council could ignore or delay action on recommendations that the AEMC made following a review, it emphasised that the framework ensures 'there is no veto by energy ministers'. The AEMC argued that any group interested in the AEMC's recommendations could submit them as a rule change proposal. An AEMC officer provided an example of this occurring in practice:

On power of choice, for example, the Total Environment Centre picked up part of our recommendations and beat ministers to it and sent in a rule change themselves based on our recommendations. So if energy ministers do not pick them up there is nothing that stops someone saying, 'I think that's a good idea. Here's a rule change to do it.' So...there is no veto by energy ministers.²⁴

7.19 Submitters provided comments specifically about the AER. Mr Bruce Mountain acknowledged that the AER 'has a difficult job to do' as it is tasked with 'making very tough decisions on the distribution of resources and taking on very powerful vested interests'.²⁵ While the AER's status as an independent statutory authority was acknowledged, it was also suggested that the AER has limited authority and this was a possible reason why optimal outcomes were not being achieved. To support this argument, Mr Bruce Mountain recited a long list of things the AER cannot do:

It cannot choose, for example, to fundamentally change the regulatory regime. It cannot say: 'I do not want to do a five-yearly price cap; I want to do an annual cap. I do not want to set caps on revenues and prices; I want to look at your actual expenditure. I want to treat government utilities differently from private firms.'...It cannot set the security and planning standards that the networks are told to build their lines to. That massively

23 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 6.

24 Mr Richard Owens, Senior Director, Transmission and Distribution Networks, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 10.

25 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 62.

impacts the expenditure program and is a major reason for the change in those programs...It cannot revalue assets in any terribly meaningful way. To some degree it can with most recent assets, but on the fundamental asset base it cannot. It cannot vary the indexation of the asset values over time, which, at the moment, are indexed by CPI. It cannot say, for example, 'I wish to not index them...It has incomplete control of the cost of capital. It has some level of control over it but it is incomplete. It has the prospect of review of individual decisions but it cannot review the total decision. It cannot take ownership into account as a major variable and it does not set prices or tariffs.'²⁶

7.20 Major Energy Users also emphasised that the AER is constrained in that it can only act within the National Electricity Rules (NER) and because network service providers 'only have to provide the information that is required by the NER, and in the format that the NER require'. It concluded that if the NER 'are deficient in a way that prevents the AER from exercising sensible regulation, then this is a flaw in the rule setting process rather than in the regulatory process'. Further, it argued that any shortcomings in the way network services providers interact with the AER, as well as the other issues being examined by this inquiry, are due to weaknesses in the NER (of which it considers there are many) rather than being a result of other causes such as how the AER regulates.²⁷

7.21 The Consumer Action Law Centre similarly argued that criticism of the AER is misplaced if it does not recognise the AER is limited by the rules it administers. The Centre remarked that:

The success of appeals by businesses suggests that the AER did endeavour to limit businesses' revenue, but many of its decisions were wound back due to unfavourable rules.²⁸

7.22 The Agriculture Industries Electricity Taskforce also noted that the AER has limited authority. Overall, as the AER is the regulator of regulations developed by the AEMC, the Taskforce considered that 'the AER has a subservient, constrained role'.²⁹

26 Mr Bruce Mountain, *Proof Committee Hansard*, 18 February 2015, p. 62. A similar point was made in the Agriculture Industries Electricity Taskforce' submission. See *Submission 20*, pp. 17–18.

27 Major Energy Users, *Submission 7*, p. 2.

28 Consumer Action Law Centre, *Submission 20*, p. 6.

29 Agriculture Industries Electricity Taskforce, *Submission 20*, pp. 17–18.

AER resourcing

7.23 During this inquiry, a variety of stakeholders observed that there were clear financial incentives for network companies to use their resources to overwhelm the regulator and challenge its decisions. Given this, whether the AER was resourced appropriately was a topic that was discussed. For example, in its submission, Cotton Australia questioned whether the AER had sufficient resources to consider and analyse the information it receives to ensure the determinations it makes are 'fair and balance the investment and expenditure needs of the networks, with the community's need for reliable, secure and affordable electricity supply'.³⁰

7.24 Ms Cally Wilson, the former employee of Energex who made public her concerns about data manipulation and other practices at Energex, told the committee:

I think the AER is very much understaffed and underfunded at present. If you look at the AER's budget versus a company such as Energex's, it is clearly not resourced enough to be able to take on such a large corporation. And Energex is only one of a multitude of corporations.³¹

7.25 When questioned about the AER's resources, its chief executive officer noted that generally all regulators would like more resources. However, Ms Groves added that the AER has 'fairly significant resources' in terms of its 'very experienced staff', ability to access independent consultants and its effective regulatory tools.³² Ms Groves also noted that the AER had established 'a technical advisers group'. This group is intended to provide the AER with:

greater industry expertise, particularly in power system engineering. The members of this group bring a wealth of knowledge and over 100 years of combined industry experience to the AER, and have significantly enhanced the internal expertise that we had already developed.³³

7.26 Finally, Ms Groves noted that the AER's capabilities have been enhanced as a result of the recent rule changes, as the AER can use 'the methods and tools that we think are appropriate...and are consistent with the sorts of tools and processes that energy economic regulators around the world use'.³⁴

7.27 The AER board has also been recently supplemented as, following the most recent appointments made in 2014, it now comprises three full-time members. Previously, the AER board had two full-time members and one part-time member.

30 Cotton Australia, *Submission 3*, p. 3.

31 Ms Cally Wilson, *Proof Committee Hansard*, 24 March 2015, p. 3.

32 Ms Michelle Groves, AER, *Proof Committee Hansard*, 18 February 2015, p. 4.

33 Ms Michelle Groves, AER, *Proof Committee Hansard*, 18 February 2015, p. 2.

34 Ms Michelle Groves, AER, *Proof Committee Hansard*, 18 February 2015, p. 4.

Consumer input

7.28 Some of the recent efforts to enhance the representation of consumer interests in the determination process, such as the creation of the AER's consumer challenge panel and the replacement of the AEMC's consumer advocacy panel with Energy Consumers Australia, were noted in Chapter 6. However, some submitters argued that consumers should be represented more explicitly in the AEMC's and AER's governance arrangements and decision-making processes. For example, the Total Environment Centre argued that the AEMC and the AER's board are made up of 'industry insiders with no consumer representation'.³⁵ The concern about the composition of the AEMC's and AER's governing bodies followed the criticisms outlined previously in this chapter that the two institutions are too focused on abstract perceptions of economic efficiency, rather than the actual experiences and preferences of consumers.

7.29 The EUAA argued that consumer representation on the governing bodies of both organisations is necessary 'to deliver improved governance and more balanced decision making for these institutions'.³⁶ Mr Robert MacKenzie, a director of Canegrowers Isis, focused on the AER and suggested that the AER needs energy user representation on its board so that it is 'able to give proper consideration to its pricing impact on customers'.³⁷

Accountability and assessment of performance

7.30 An effective regulatory system requires the decision-making institutions within it to have the ability and willingness to assess their past performance. Robust external scrutiny of the rule-makers and regulators is also required. The following paragraphs consider the accountability of the AEMC and the AER.

Ex-post performance assessment

7.31 Ex-post assessments of decisions can be particularly beneficial in the regulatory environment. Comprehensive assessments of past decisions can inform and improve future decision-making while also helping to foster a culture of continuous improvement. In turn, this may help the regulator's credibility among the entities it regulates and in the community more generally. In the context of electricity regulation, ex-post reviews could consider the assumptions made in the AER's benchmarking process in light of actual outcomes.

35 Total Environment Centre, *Submission 43*, p. 3.

36 Energy Users Association of Australia, *Submission 17*, p. 19.

37 Mr Robert MacKenzie, Director, Canegrowers Isis, *Proof Committee Hansard*, 16 February 2015, p. 27.

7.32 Given that perceived weaknesses with the AEMC's past decisions can be addressed by asking the AEMC to consider a rule change, which would necessitate an examination of its past decision, this issue appears to be more applicable to the AER. The AER was asked whether it compared its theoretical benchmarking model with what actually happened during the regulatory control period. In response, Mr Sebastian Roberts, a general manager at the AER, advised that when considering operating expenditure the AER uses data it has collected over eight to ten years to compare the costs across the different network companies. This information has been applied in the draft determinations for New South Wales and the Australian Capital Territory for the 2014–19 regulatory period, resulting in substantial cuts in operating expenditure proposals 'ranging up to 38 per cent'.³⁸

Current accountability framework

7.33 Both the AEMC and the AER are subject to clear accountability frameworks, however, reflecting the different jurisdictions in which they are established and how they are funded, they have separate lines of accountability.

7.34 The AEMC is accountable to the COAG Energy Council. The AEMC's chief executive explained that the AEMC provides reports to the Council twice a year on the AEMC's work program, activities and how the AEMC has fulfilled its mandate. The COAG Energy Council is also responsible for approving the AEMC's annual budget.³⁹

7.35 As an independent Commonwealth statutory authority, the AER is accountable to the Australian Parliament. Ongoing parliamentary oversight of the AER is undertaken through the scrutiny associated with the budget process and the requirement that an annual report on the AER's activities be presented to the Parliament. The AER falls under the Treasury portfolio and the responsible minister is currently the Minister for Small Business. The AER has been issued with a statement of expectations by the Australian Government and has responded with a statement of intent.⁴⁰

7.36 The AER is a constituent part of the Australian Competition and Consumer Commission (ACCC); consequently, the AER's staff, resources and facilities are provided by the ACCC. The ACCC and the AER present a combined annual report, although the AER prepared an additional annual report covering just its operations for the first time following the 2013–14 financial year. The AER attends the Senate Economics Legislation Committee's estimates hearings along with the ACCC.

38 Mr Sebastian Roberts, General Manager, Networks, AER, *Proof Committee Hansard*, 18 February 2015, p. 9.

39 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 7.

40 The AER's statement of intent may be viewed here: www.treasury.gov.au/~media/Treasury/Policy%20Topics/Public%20Policy%20and%20Government/Statements%20of%20Intent/Downloads/PDF/AER_Statement_of_Intent.ashx.

7.37 In addition to the AER's accountability to the Commonwealth, the multi-jurisdictional COAG Energy Council has also outlined its expectations of the AER. In March 2014, the COAG Energy Council issued a statement of expectations about the AER's roles and responsibilities, relationship with government and relating to issues of transparency and accountability. In response, the AER has published a statement of intent.⁴¹

7.38 The Consumer Action Law Centre noted that moves to enhance the framework for assessing the performance of regulators were occurring in other sectors. The Centre noted that the Financial System Inquiry recently recommended that the financial regulators (such as the Australian Securities and Investments Commission and the Australian Prudential Regulation Authority) be subjected to a regular performance review.⁴² Specifically, that inquiry recommended that a new Financial Regulator Assessment Board would review the performance of the financial sector regulators on an annual basis. The regulators' performance would be assessed against their statutory mandates and the priorities identified in their statements of intent.⁴³ Further, each of the regulators should undertake six-yearly capability reviews to 'ensure they have the required skills and culture to maintain effectiveness in an environment of rapid change'.⁴⁴

7.39 The COAG Energy Council is considering the effectiveness of the current accountability and governance framework. A review of the governance arrangements commenced in February 2015 and is due to report in September 2015. The review has been tasked with:

- considering the performance of current governance arrangements for energy markets; and
- providing advice on potential areas of improvement to the institutions and their oversight by the COAG Energy Council'.⁴⁵

41 AER, *Statement of intent 2014–15*, www.aer.gov.au/sites/default/files/AER%20Statement%20of%20Intent%20in%20response%20to%20the%20COAG%20Energy%20Council%27s%20Statement%20of%20Expectations_0.pdf (accessed 31 March 2015).

42 Mr Gerard Brody, Consumer Action Law Centre, *Proof Committee Hansard*, 18 February 2015, p. 57.

43 The Australian Government issues independent statutory authorities with public statements of expectations, which the authority responds to via a statement of intent.

44 Financial System Inquiry, *Final report*, November 2014, pp. 236, 239.

45 Department of Industry, *Submission 34*, p. 17; COAG Energy Council, *Review of governance arrangements for Australian energy markets: Terms of reference*, <https://scer.govspace.gov.au/files/2014/12/Governance-Review-terms-of-reference-FINAL1.pdf> (accessed 16 March 2015).

Proposed consolidation of rule-making and regulatory functions

7.40 One of the fundamental features of the current institutional framework is that the rule-making and regulatory functions are separated: one organisation (the AEMC) makes the rules while another (the AER) implements them. Several submitters expressed doubt about the merits of continuing this arrangement and suggested that the AEMC and AER should be amalgamated into one organisation. A starting point for this argument was that the approach in Australia's NEM was unique:

The EUAA believes that there is a fundamental problem with a governance structure that separates the design and implementation of the rules. As far as the EUAA is aware, no other country has applied this separation of powers.⁴⁶

* * *

Australia is, as far as I know, unique internationally in having separate institutions responsible for the design and implementation of regulation. This institutional bifurcation reflects part of the Commonwealth-state bargain that resulted in the transfer of the implementation of economic regulation from state commissions to the AER. The institutional separation of design and implementation and as part of this, the codification of regulation in the Rules, has constrained the AER as intended.⁴⁷

Arguments for and against the proposal

7.41 One rationale put forward for amalgamating the AEMC and the AER was based on perceived faults identified about the AEMC's approach and actions. The Consumer Action Law Centre argued that 'the AEMC were strong proponents of restricting the AER in its ability to regulate the network businesses through providing detailed prescription in the rules'. The Consumer Action Law Centre observed that 'it seems...that the public and political pressure to deliver consumer outcomes is placed on the AER as regulator, rather than the AEMC as rule-maker'. As a result, the Centre questioned whether a separate rule-maker was ultimately in the long-term interests of consumers; at the very least, the Centre argued that accountability is 'diluted between two different organisations'. The Centre considered that replacing the two separate institutions with one that both makes and administers the rules could potentially be an improvement as the new institution would be clearly accountable for regulatory outcomes.⁴⁸

46 EUAA, *Submission 17*, p. 19.

47 Mr Bruce Mountain, *Submission 19*, p. 23.

48 Consumer Action Law Centre, *Submission 20*, p. 7.

7.42 The Total Environment Centre commented that it 'was not always clear' why the AEMC and AER were separate. However, its criticism was directed at the approach both organisations have taken when exercising their functions. It argued that the AEMC 'operates under a very narrow interpretation of the long-term interest of consumers; everything is reduced to economic efficiency, when clearly consumers have non-economic interests as well'. In relation to the AER, the Total Environment Centre claimed that the regulator 'generally interprets its mandate very narrowly and prescriptively'.⁴⁹

7.43 A representative of the New South Wales Irrigators' Council suggested that the AEMC was 'one step removed' from the determination process, which may have allowed it to maintain 'a very black-and-white understanding of economic regulation'.⁵⁰

7.44 The committee also heard from submitters critical of how the separation of the AEMC and AER weakens the overall rule-making process and slows down efforts to improve the system. For example, Dr Gabrielle Kuiper from the Public Interest Advocacy Centre told the committee that her organisation was 'disappointed' that changes to demand management incentives had to wait until the AEMC makes a decision on a rule change. As a consequence, determinations currently being made by the AER, which will be in place for the next five years, will not address the changes sought by the Centre. Dr Kuiper explained:

...the AER has said in its draft determinations that it is proposing not to prepare a new demand management incentive scheme until such time as the AEMC has been through the rule change process on demand management. The AER's argument is that a revenue determination process is not a rule-setting process so we should wait for the AEMC. However, the question is: what recourse do consumers and consumer advocates have if the AEMC is not performing its functions in a timely manner?⁵¹

7.45 The amalgamation of the AEMC and the AER could support other changes to address what submitters considered were fundamental problems with the current framework, such as those regarding the regulation of state government-owned companies that were examined in Chapter 5. Mr Mountain argued that 'bifurcation between design and execution' of the rules does not make sense for private or government-owned distribution companies. However, he proposed that a combined AEMC and AER body would regulate only privatised networks; government-owned distributors could instead be regulated directly by their state government owners.

49 Total Environment Centre, *Submission 43*, p. 3.

50 Ms Stefanie Schulte, Policy Manager, New South Wales Irrigators' Council, *Proof Committee Hansard*, 17 February 2015, p. 25.

51 Dr Gabrielle Kuiper, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 16.

7.46 Mr Mountain concluded that under this model there would be no need for 'elaborate and bureaucratic rules-based arrangements'. Mr Mountain added that his proposal reflected 'the standard model for ownership-differentiated regulation prevalent in the United States and much of Europe'.⁵²

7.47 Arguments in favour of retaining the separation of the AEMC and the AER were presented mainly by the AEMC itself. The chief executive of the AEMC noted that rule-making and regulation are 'different functions' that, in his view, require 'different considerations, different analysis and different knowledge and skill'.⁵³ He added:

We feel that there can be some advantages, and there are some advantages, to a rule maker separate from the person administering the rules. We are not charged also with implementing the rules so we can have a look and say whether these are working effectively and take a view on how they are being applied in practice.⁵⁴

7.48 The chief executive officer of the AER, Ms Michelle Groves, added that the AER participates 'very strongly in AEMC processes', ensuring that when the AEMC is considering a rule change, it has the input of the regulator' who applies these sorts of rules on a day-to-day basis'. Ms Groves noted that ultimately any change to the institutional framework would be a decision for COAG.⁵⁵

Consideration of the AER and the AEMC by other inquirers

7.49 At this point, it is useful to note that other significant inquiries have considered the respective functions and responsibilities of the AER and the AEMC. When it explored the issue in 2013, the Productivity Commission (PC) provided the following summary of the arguments for and against amalgamating the AEMC and the AER:

In principle [combining the AER and the AEMC]...could promote closer interaction, communication and coordination between the 'regulators' and the 'rule makers', which could lead to better quality rules and decisions being made. Currently, lack of coordination and overlap of AEMC and AER activities has been seen as problematic...However, this option also raises potential conflicts of interest for the rule makers in the merged agency. For instance, they may be influenced to make rules that ease the task of the regulators in the agency, rather than being beneficial for the wider community.⁵⁶

52 Mr Bruce Mountain, *Submission 19*, pp. 23–24.

53 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 11.

54 Mr Paul Smith, AEMC, *Proof Committee Hansard*, 17 February 2015, p. 10.

55 Ms Michelle Groves, AER, *Proof Committee Hansard*, 18 February 2015, p. 7.

56 Productivity Commission (PC), *Electricity networks regulatory frameworks*, vol. 2, April 2013, p. 780.

7.50 The PC concluded that changes to the memorandum of understanding in place between the ACCC, AEMC and the AER might better address concerns about coordination and overlap in activities.⁵⁷

7.51 The PC also considered whether the AER should remain as part of the ACCC. While it decided that the AER should remain located within the ACCC,⁵⁸ this issue has arisen again as part of the independent competition policy review chaired by Professor Ian Harper. The Harper Review recommended that a single national access and pricing regulator should be established. It envisaged that such a body which would assume the AER's functions and the relevant functions of several other bodies, such as the ACCC's telecommunications access and pricing functions. In its final report, the Harper Review argued that providing the access and pricing regulator with responsibilities across multiple industries was a key feature of its proposal, as it 'would avoid the possibility of an industry-specific regulator being susceptible to "capture" by the regulated industry'.⁵⁹

7.52 Given the Harper Review took place while this inquiry was underway (the Harper Review's draft report was issued in September 2014), it is not surprising that some submissions commented on the proposal for a single pricing and access regulator. In its submission to this inquiry, the Consumer Action Law Centre argued against the proposed change, as it considered 'there is much consumer benefit from economic regulation working in tandem with consumer and competition regulation'.⁶⁰ It added that competition, consumer protection and economic regulation in the energy sector are functions that are 'inextricably linked and are based on an economic understanding that fair and effective markets are in the long-term interests of consumers'.⁶¹

Committee view

7.53 The timeliness of the process for making changes to the NER is of significant concern to the committee. The process appears drawn out at every step. An AEMC review may first need to provide evidence that a rule change is required. A rule change proposal then needs to be developed and lodged with the AEMC. The AEMC then needs to initiate the rule change process and conduct consultation before making a decision. Even rule change requests lodged by the COAG Energy Council do not appear to be dealt with expeditiously. Accordingly, the committee considers the rule change process should be more responsive.

57 PC, *Electricity networks regulatory frameworks*, vol. 2, p. 780.

58 PC, *Electricity networks regulatory frameworks*, vol. 2, p. 784.

59 Competition Policy Review, *Final report*, March 2015, p. 80.

60 Consumer Action Law Centre, *Submission 20*, p. 6.

61 Consumer Action Law Centre, *Submission 20*, p. 7.

7.54 The committee also considers that the AEMC should have a role in enhancing policy coordination more generally.

Recommendation 8

7.55 The committee recommends that the Australian Energy Market Commission is provided with the ability to initiate a rule change process without being required to receive a rule change request from an external party.

Recommendation 9

7.56 The committee recommends that the Australian Government pursue, through the COAG process, amendments to the National Electricity Law to require that the Australian Energy Market Commission must commence public consultation on a rule change request within a prescribed period of time if the rule change request has been lodged by the COAG Energy Council.

Recommendation 10

7.57 The committee recommends that the Australian Government pursue, through the COAG process, an agreement that any Commonwealth, state and territory energy policy schemes and measures that may have implications for the National Electricity Market or network efficiency must be referred to the Australian Energy Market Commission for formal advice regarding the likely effects on the long-term interests of consumers.

7.58 The committee carefully considered proposals to change the framework of rule-making and regulatory institutions involved in the National Electricity Market. Both the proposal to amalgamate the AEMC and the AER that many submitters advocated and the Harper Review's recommendation that a single national access and pricing regulator should be established are intriguing ideas. Given that the Australian Government is already considering the Harper Review's proposal, the committee draws the Government's attention to the issues outlined in this report about the performance of the AER and the implications of rule-making and regulatory functions being performed by different agencies. The committee also notes that should the Government decide to establish a single access and pricing regulator, it is essential that the agency's electricity regulation responsibilities are appropriately resourced and prioritised.

Recommendation 11

7.59 In light of the recommendation made by the Competition Policy Review (Harper Review) regarding a single national access and pricing regulator, the committee recommends that the Australian, state and territory governments consider:

- **the potential efficiencies and other advantages of a single national access and pricing regulator; and**
- **whether such a proposal would be in the long-term interests of consumers of electricity, given the need for a regulator with sufficient expertise to**

challenge, when required, well-resourced electricity network service providers.

7.60 Electricity regulation frameworks are marked by asymmetries: the regulated entity will always have more resources and better information compared to the regulator. However, as the AER's decisions have significant consequences for all households and businesses in Australia, the committee considers that the AER's standing should be improved by enhancing its expertise and capabilities. For example, the committee has recommended an increase in the number of AER board members and a review of the AER's resources.

7.61 Given the importance of the AER's decisions, the committee also considers there are enhancements that should be made regarding the oversight arrangements for the AER and how the AER receives feedback about its performance. The committee considers the accountability and performance of the AER could be increased by introducing public consultation on the statement of intent the AER prepares in response to the COAG Energy Council's statement of expectations. This consultation process would provide an opportunity for the AER to receive feedback from key stakeholders about its operations and priorities. In addition, the committee considers there are opportunities to enhance the parliamentary oversight of the AER. The committee will write to the Senate Economics Legislation Committee, which has responsibility for the ongoing oversight of the AER, to ask it to consider giving greater prominence to the AER as part of that committee's annual work program.

7.62 While the committee's recommendations in this area assume the continued existence of the AER, they are intended to apply generally to any agency that may assume the AER's functions. In particular, should the Australian Government decide to establish a single national access and pricing regulator as recommended by the Harper Review, the substance of the committee's recommendations should still inform the development of governance, funding and accountability arrangements for the new agency.

Recommendation 12

7.63 The committee recommends that the Australian Government commission an external review of the capability of the Australian Energy Regulator (AER). The review should consider:

- **the adequacy of the AER's financial resources;**
- **the effects of the 2014–15 budget cuts; and**
- **whether the AER has the skills and powers needed to perform its functions effectively.**

Recommendation 13

7.64 The committee recommends that the Australian Energy Regulator should facilitate public consultation on the statement of intent it develops in response to the COAG Energy Council's statement of expectations.

Recommendation 14

7.65 The committee recommends that the board of the Australian Energy Regulator should be reformed so that:

- the number of board members is increased from three to five;
- the requirement for a Commonwealth member and two state and territory members is abolished with future appointments based solely on merit;
- all appointments to the board are to be made by the Commonwealth;
- at least one board member is required to have knowledge of, or experience in, consumer affairs in energy matters; and
- at least one board member has expertise in decentralized energy systems and demand management.

Chapter 8

Demand-side participation and response to technological and market changes

8.1 This final chapter considers the response of the regulator, rule-maker and network businesses to emerging technologies, changes in how consumers use electricity and concerns about a 'death spiral'. After introducing these issues, the chapter examines in detail:

- embedded generation and the potential for local energy trading;
- whether the connection and pricing of network services is discriminating against households and businesses involved in their own electricity production;
- demand management; and
- calls for network tariff reform.

Introduction

8.2 As noted in Chapter 2, electricity prices, largely driven by network costs, have risen significantly while the demand for electricity has declined. This had led to concern about a death spiral; that is, high prices are causing demand to decline while also encouraging consumers and businesses to engage in their own generation activities. Remaining customers would be required to pay an increasing share of the network costs while network assets become under-utilised or stranded.

8.3 It is already evident that the ability to generate electricity through systems such as solar photovoltaic (PV) panels is changing how consumers are engaging with the electricity network. Emerging and future technologies, such as more effective battery storage, may change consumer behaviour more dramatically. This potential has gained some level of recognition at various levels of government, as evidenced by the following statement included in the Department of Industry's submission:

Emerging technologies will increase the range of methods for stakeholders across the sector to manage demand and address network constraints. This may begin to challenge the traditional concept of networks services being delivered by monopoly businesses. The Council of Australian Governments (COAG) Energy Council is looking into the economic regulatory frameworks to make sure it is well positioned for the future by 'stress-testing' its ability to efficiently adapt under a range of possible physical and technical changes.¹

1 Department of Industry, *Submission 34*, pp. 6–7.

8.4 The committee received evidence indicating that the energy industry has recognised the changes underway and that some network companies were considering how to respond. The chief executive officer of the Energy Supply Association of Australia (ESAA) noted that the 'energy supply system in Australia has already begun a rapid transformation to an unknown future, driven by new technologies and necessity'.²

8.5 Mr Alistair Parker, the general manager of asset management at AusNet Services, also commented that change to its network 'is happening fast [and]...it is happening now'. He explained that his company was already seeking to 'avoid investments that may prove to be regrettable in the future'. Mr Parker also discussed what was considered to be the worst-case scenario, where only half of the network was needed by 2050. He outlined his company's position on this potential outcome:

If we only need half our network in 2050, we are going to make sure we only have half the network left when we get there, if that makes sense. I do not think for our purposes we are assuming that we can continue to build and build and then one day it will be only one unfortunate person in paddock in Bendigo who is paying all our bills. We assume that we will wind down. We will have active asset management processes that will get us to the right size at the right time.³

8.6 Given the unpredicted decline in demand during previous regulatory control periods and the possible widespread deployment of disruptive technologies in the future, the committee was interested in whether modelling and forecasting of demand had improved. Of particular interest was whether network businesses and regulatory institutions would be more attuned to future market developments. Mr Terence Effeneay, the chief executive officer of Energex, advised that his company has 'taken on board the fact that our previous econometric models did not match this new future'. He added:

...those matters have been reviewed and revised and I am pleased to say that our model now does appear to be giving us outcomes which were consistent with the summer which we have just had; whereas previously that was not the case. But it was not just our model. The reality of it is that we were using the AEMO models; we were using the AER models. Nobody's models were picking up some of those changes that were occurring across the last five years; that is true.⁴

2 Mr Matthew Warren, Chief Executive Officer, Energy Supply Association of Australia (ESAA), *Proof Committee Hansard*, 18 February 2015, p. 25.

3 Mr Alistair Parker, General Manager Asset Management, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 36.

4 Mr Terence Effeneay, Chief Executive Officer, Energex, *Proof Committee Hansard*, 16 February 2015, p. 9.

8.7 The remaining sections of this chapter examine some of the key areas of potential change. The focus of this chapter is to consider the implications of change for consumers overall, electricity network businesses and the regulatory system.

Decentralised energy

8.8 The traditional model of electricity supply is based on a limited number of large generators connected to local distribution networks by large transmission networks. Gradually, there has been a rise in 'embedded generation', which is also known as distributed generation.⁵ These terms refer to generators embedded in the distribution network, rather than connected to customers by transmission networks. Smaller embedded generators include rooftop solar PV units, wind generating units, battery storage and batteries in electric vehicles that export power to the grid. Cogeneration and trigeneration are other examples of embedded generators.⁶

8.9 The Australian Energy Market Commission (AEMC) has noted that there are a range of benefits associated with embedded generation. These include that:

- consumers who install embedded generation units may have reduced electricity costs or improved reliability outcomes;
- embedded generation may 'help reduce the cost of power system augmentation, helping to reduce the overall cost of supply faced by consumers'; and
- growth in embedded generation may displace other more emissions-intensive generation and in doing so help to reduce the overall emissions related to the National Electricity Market (NEM).⁷

8.10 Embedded generation presents challenges to the existing electricity networks that were built to cater for centralised generation. This follows the discussion in Chapter 2 that in response to high prices, consumers would seek to use embedded generation to move 'off-grid'. If such decisions were widespread, network companies would have vast, expensive infrastructure that was serving a declining number of

5 Australian Energy Market Commission (AEMC), 'Fact sheet: Distributed generation', www.aemc.gov.au/getattachment/9aac3077-50e9-41a6-bff6-09bc30a00182/Distributed-generation.aspx (accessed 27 March 2015).

6 Cogeneration and trigeneration involve the generation of electricity and the use of the other energy produced as a result of the generation process. Cogeneration involves the generation of electricity and the use of the heat that is produced. Trigeneration also includes the production of cooling. In Australia, the cogeneration or trigeneration facilities in buildings generally use either natural gas or a form of biomass, such as sugar cane waste. Clean Energy Council, 'Cogeneration and trigeneration', www.cleanenergycouncil.org.au/technologies/cogeneration-trigeneration.html (accessed 27 March 2015).

7 AEMC, 'Fact sheet: Distributed generation'.

customers. As EnergyAustralia observed, those fewer customers would be 'left to pay the same quantum of network costs'.⁸

8.11 Some of the evidence taken by the committee suggested a sense of inevitability about the rise of embedded generation, particularly solar. A representative of the Electrical Trades Union told the committee:

Coming from far North Queensland, I cannot understand why the whole of far North Queensland cannot be self-sufficient on renewable electricity. There is so much opportunity. You have the transmission lines that run and you have an impact there—it was only a few years ago that there was a major failure of the transmission network which took out the whole of regional Queensland because of bird droppings. There are significant opportunities, but it would take significant investment in the short term for long-term gain.⁹

8.12 The Electrical Trades Union went on to add that many communities in regional areas are already off-grid. In addition to existing changes to how electricity is generated, technological advances such as improved and more cost-effective battery technology, which could vastly improve the benefits of solar by enabling the storage of electricity for use at night, have the potential to further encourage consumers to move off-grid. A representative of the union stated:

...regardless of whether it is metropolitan or regional...people are getting more and more solar PV and there are wind farms coming on et cetera, the generation mix overall is changing quite significantly and there is a lot more embedded generation at a household level and perhaps, with the advent of things like battery storage et cetera, that will happen at a neighbourhood or block level or suburb level. It is absolutely inevitable that the energy industry is going to change over the next five to 10 years significantly. It is already happening in studies by scientific organisations et cetera. We will be really re-evaluating the premise of a centralised network.¹⁰

8 EnergyAustralia, *Submission 23*, pp. 2–3.

9 Mr Stuart Traill, Queensland State Organiser, Electrical Trades Union, *Proof Committee Hansard*, 16 February 2015, p. 44.

10 Mr Lance McCallum, National Policy Officer, Electrical Trades Union, *Proof Committee Hansard*, 16 February 2015, p. 44.

Potential challenges and benefits for network businesses

8.13 In considering the response to embedded generation, some witnesses argued there were opportunities for network businesses. For example, Mr Gavin McMahon from the Central Irrigation Trust suggested that embedded generation could benefit network businesses by allowing networks to be structured differently and, if such generation 'had some reasonable paybacks', industries may even consider co-investment.¹¹

8.14 The committee received evidence that some distributors are considering changes to their networks; Ergon Energy stated that it is:

...reshaping its business model to create an open access platform that will enable us to actively coordinate and integrate distributed energy resources in a way that optimises our existing network assets and provides dynamic incentives (choice and control) to consumers. Ergon Energy plans to facilitate two-way flows of energy linking buyers and sellers in a time and location manner that creates value for customers and Ergon Energy. Ergon Energy believes this will achieve the best outcome for us and our customers by providing new revenue opportunities and ultimately reducing network costs.¹²

8.15 Given that electricity supply is an essential service, it is likely that the rise of embedded generation will present challenges for the network businesses. For example, Mr Alistair Parker, a general manager at AusNet Services, a Victorian distributor, highlighted the implications of the guaranteed service obligations imposed on network companies:

...if five people in a small community want to go off grid but one person wants to stay, we still have the obligation to supply that one person and we still have the obligation to keep that line safe for the most horrific days.¹³

8.16 Mr Parker added that some consumers are resistant to the idea of moving off-grid and relying on embedded generation. Mr Parker noted that education and increased understanding among consumers of their options may be needed, but that will take time.¹⁴

11 Mr Gavin McMahon, Chief Executive Officer, Central Irrigation Trust, *Proof Committee Hansard*, 19 February 2015, p. 7.

12 Ergon Energy, *Submission 24*, p. 12.

13 Mr Alistair Parker, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 39.

14 Mr Alistair Parker, AusNet Services, *Proof Committee Hansard*, 18 February 2015, p. 39.

Local energy trading

8.17 Stakeholders highlighted what they considered were flaws in the current treatment of embedded generation.

8.18 At present, the size of an embedded generator may be limited to meet the load needed by its owners as the excess energy is of little value. Mr Geoff Bragg, the New South Wales chairman of the Solar Energy Industries Association, explained that exported energy is currently 'worth next to nothing'. He explained that in New South Wales retailers are not obliged to pay anything for exported energy, and in other states only small amounts were paid.¹⁵

8.19 To illustrate how the system was not delivering the outcomes embedded generators wanted, Mr Bragg provided the following example of a PV system on a commercial property where the energy produced on the weekend when the factory is closed is effectively gifted to the retailer:

I can think of a 100-kilowatt PV installation we did on a furniture-manufacturing place. When you consume the energy on-site it is worth a lot to you—it is worth the full retail value of the energy: not the demand charges but the energy. However, if you cannot use that energy and you export it then in New South Wales it is up to the retailer if they pay you anything for that energy. What that means is that once you get into that small-to medium-commercial scale, energy retailers will pay nothing.

So all the energy that this factory's 100 kilowatts produces when it closes on Friday afternoon right through till Monday morning goes to the retailer for zilch—nothing. They get no credit whatsoever, because no commercial retailer—Origin, AGL; list them all—would offer them anything for the energy. It is a windfall for them as the retailers.¹⁶

8.20 In light of such outcomes, whether local energy trading could be facilitated was an issue explored in evidence. Mr Bragg concluded that there was an incentive to move toward a model where local electricity trading could take place, however, he observed that 'it requires the networks to go along with it'. Importantly, he explained that charges for the use of the network would need to be adjusted for a local network:

At the moment there is a distribution use of service [DUOS] charge...on the basis of the quantity of energy that moves through. That might change or be broken up into a local use of energy charge—so it is LUOS as opposed to DUOS—and it will be at a reduced rate. It is about calculating that rate—that is, the value—of just local energy trading. That is the tricky bit, and there are some very clever people working on it. It has been done in other countries, so it is not as if we are breaking new ground. It just has not been

15 Mr Geoff Bragg, New South Wales Chairman, Solar Energy Industries Association, *Proof Committee Hansard*, 17 February 2015, p. 33.

16 Mr Geoff Bragg, Solar Energy Industries Association, *Proof Committee Hansard*, 17 February 2015, p. 32.

done in our regulatory system. The sooner it happens the sooner you might have a vibrant distributed energy market where you actually encourage increasing demand rather than in what is otherwise a very shrinking market. If it is done renewably then it is not a negative thing. You can say that we have demand here and we can meet it with clean energy.¹⁷

8.21 In its submission, the City of Sydney argued that the 'current financial rewards for local electricity generation projects do not reflect their full value to electricity consumers or to society as a whole'. Potentially, the City of Sydney considered that changes to pricing to encourage embedded generation could result in lower prices for consumers by slowing the growth of expensive transmission and sub-transmission networks. The City also suggested that this outcome would reduce the 'tendency for overinvestment in network capacity upgrades (or for oversized replacement)'.¹⁸

8.22 The City of Sydney advised that it is working with other interested parties on a rule change request to introduce a system of reduced charges for sending electricity from local generators to local customers. The City expects to lodge this request to the AEMC in May 2015.¹⁹

Treatment of customers using solar photovoltaic systems

8.23 The terms of reference for inquiry included consideration of whether the arrangements for the connection and pricing of network services discriminate against households and businesses that are involved in their own electricity production. Submitters that addressed this issue generally focused on solar PV systems, although divergent views were received on whether the owners were being discriminated against. Responses addressed the prices and service received by PV customers; these issues are considered separately in the following paragraphs.

Price

8.24 The committee received many submissions and letters from consumers with solar PV systems. One document received by the committee as a submission was a collection of letters collected by Solar Citizens, which is a community-based organisation that aims to increase the use of solar power. These letters expressed concern about the level of, and changes to, feed-in-tariffs compared to the standard price of electricity. Some consumers who have installed solar panels also noted they were unsure about their rights in relation to changes in feed-in-tariffs.²⁰ For example, one consumer wrote that they receive:

17 Mr Geoff Bragg, Solar Energy Industries Association, *Proof Committee Hansard*, 17 February 2015, p. 33.

18 City of Sydney, *Submission 67*, p. 5.

19 City of Sydney, *Submission 67*, p. 5.

20 *Submission 65.1*, p. 1.

...eight cents per KW generated yet [are charged] four times that to use a KW. This is grossly unfair given it is these companies that failed to update their own infrastructure to cope with the increased use of solar. We should be on a gross feed in tariff or at best be paid a lot more for what we generate.²¹

8.25 Another example was provided by Mr Alan Wilson, who wrote:

As a pensioner I looked to means of reducing my electricity bills and I installed 3 kilowatt solar panels once the smart metres came to our street.

I am disappointed to find that with the ridiculously low payment of 8 cents per kilowatt for electricity I generate plus the supply fee of \$1.00 per day makes the repayment of my investment a very lengthy proposition. As the retailers have to pay a much higher figure to buy power from the wholesaler/producer, why is the power that I generate worth so much less?²²

8.26 Similarly, the City of Sydney noted that private and public buildings with solar PV systems are paying energy companies disproportionate prices for importing electricity compared to the price received from energy companies for exporting electricity. The City considered this is 'a major barrier inhibiting the uptake of solar PV', and that until this mismatch is addressed, the amount of installed solar PV 'will be well below what is theoretically possible'.²³

8.27 However, other stakeholders firmly rejected the presumption that PV consumers were discriminated against based on price. The ESAA wrote that the AEMC has confirmed that owners of embedded generators, such as PV systems, 'are in fact over compensated, receiving a subsidy from other electricity users'. To illustrate this, the ESAA provided the following example:

...a household that installs a 2.5kW PV system has its network costs reduced by around \$200 a year, but only provides a saving to other customers of \$80. Other households are left to cover the \$120 difference through higher prices. It should be noted that users with energy intensive appliances (airconditioners etc.) are also receiving a cross-subsidy.

The subsidy arises as prices are currently largely energy based (kWh), while network costs are largely due to capacity/maximum demand (kW). As a PV owner typically reduces their energy consumed without having a commensurate impact on their maximum demand, it results in their bills reducing by more than the value of the energy they produce.²⁴

21 *Submission 65.1*, p. 94.

22 Mr Alan Wilson, correspondence published in *Submission 65*, p. 229.

23 City of Sydney, *Submission 67*, p. 7.

24 ESAA, *Submission 25*, p. 3.

8.28 Mr Matthew Warren, the chief executive officer of the ESAA, advised that he has a solar PV system at his residence. He observed that 'solar households are often big users of the network':

While we think we do not use much electricity, we are exporting and importing electricity, and we are quite active users of the network, so we need to pay our fair share of that network. Then there is the capacity component. As I said, 30 per cent of network investment is to meet those summer peaks, and we saw those record levels last year in Victoria and South Australia. So it is appropriate to charge for capacity usage.²⁵

8.29 The Energy Networks Association (ENA) advised that the amount of the cross-subsidy solar PV customers receive has been estimated at between \$120 and \$163 a year. It added that these cross-subsidies 'are currently far less than, for instance, the cross-subsidies caused by the use of air conditioning units at peak times'.²⁶

8.30 The New South Wales Irrigators' Council (NSWIC) also did not consider that PV customers have been discriminated against. The NSWIC argued the large uptake of solar PV systems demonstrates that the demand for these units was underestimated and the feed-in-tariffs were too high. The NSWIC similarly noted the AEMC's analysis of cross-subsidies and suggested that the cost of solar generated energy being fed into the system is 'only partially paid by those who have installed solar PV units'. The NSWIC concluded:

These arguments show that a well-intended policy initiative has created significant distortions in the market and led to unintended cost implications for third parties.²⁷

8.31 The submission from the Department of Industry noted the tension between the position of embedded generators and other energy consumers. The department explained that COAG has agreed that:

- 'residential and small business consumers with grid connected micro generation should have the right to export energy to the electricity grid'; and
- payments for exported electricity should reflect 'the value of that energy to the market and network, taking into account the time of day during which energy is exported'.²⁸

25 Mr Matthew Warren, Chief Executive Officer, ESAA, *Proof Committee Hansard*, 18 February 2015, p. 30.

26 Energy Networks Association (ENA), *Submission 31*, p. 11. The cross-subsidy estimates were based on studies by the AEMC and Oakley Greenwood.

27 New South Wales Irrigators' Council, *Submission 5*, p. 11.

28 Department of Industry, *Submission 34*, p. 16.

8.32 The department noted that, as indicated by the AEMC analysis, there 'is a risk that current arrangements may provide a higher return to households and businesses engaged in self generation than envisaged by these principles'. The department advised that the AEMC 'is pursuing changes to these pricing rules to improve the reflection of these network cost signals to consumers considering grid connected self-generation'.²⁹

Service received by solar PV system customers

8.33 Another issue is the attitude of network companies to PV systems as evidenced by the service provided when consumers seek to install these systems.

8.34 The Solar Energy Industries Association explained that customers who have installed a solar system and need to upgrade and connect the necessary new meters have found it difficult to deal with distribution network service providers. Generally, it is claimed that the network business failed to specify the requirements or process for the meter upgrade and the process was drawn out over several months.³⁰ The Association added that the process of connecting an installed solar system to the electricity network 'is not clear and seems to change from case to case'. It concluded that delays of four to five months in connecting an already installed system 'are difficult to fathom unless the organisation responsible for approving the connection [the distribution network service provider]...is against a solar system being installed'.³¹

8.35 Ms Claire O'Rourke, the national director of Solar Citizens, noted the letters Solar Citizens compiled for the committee contained a number of common themes about mistakes made by energy businesses that financially disadvantaged customers with solar panels. These errors included:

- 'unfair or hidden charges' that the customer was not aware of at the time of installation;
- an increase in service charges following the installation of a solar PV system; and
- high quotes for the installation of poles and wires in rural areas.³²

29 Department of Industry, *Submission 34*, p. 16.

30 The Solar Energy Industries Association provided two recent examples where commercial customers who had installed a solar system had to wait over four and five months respectively for the metering upgrade. See Solar Energy Industries Association NSW, *Submission 15*, p. 3.

31 Solar Energy Industries Association NSW, *Submission 15*, p. 3.

32 Ms Claire O'Rourke, National Director, Solar Citizens, *Proof Committee Hansard*, 17 February 2015, p. 62.

8.36 Mr Geoff Bragg from the Solar Energy Industries Association acknowledged that there are technical issues with the connection of PV to the grid, and that often upgraded infrastructure is required. However, he emphasised that the cost of this upgraded infrastructure is imposed on the proponent of the PV project. Mr Bragg contrasted this with the attitude of network businesses when faced with the need to upgrade infrastructure when a customer wants to use more energy, rather than generate their own. Mr Bragg provided the following example:

I can think of a residential customer recently who would like to put a large PV system on, but their supply transformer in a rural location is not big enough. If they want to put in a bigger transformer they will have to pay for that, at considerable cost—\$20,000 or \$30,000—which would write off the viability of the PV project. However, if they go to the distribution network and say, 'I'd like to put two more air-conditioners on the other side of my house they will come out, at a very subsidised cost, and put in a bigger transformer to supply.' This is the way that it works in reality on the ground.³³

Recent changes and future options

8.37 The submissions from the AEMC and the Department of Industry highlighted changes intended to improve the standing of customers involved in embedded generation.

8.38 The department's submission considered the issue of potential discrimination that embedded generation customers may face. The department highlighted the COAG Energy Council's National Energy Customer Framework (NECF) that commenced progressively in certain states from July 2012. The department stated that under the NECF, 'residential and small business energy customers are supported by a range of robust customer protections'. These protections include measures that govern the interactions retailers and distributors have with customers, such as minimum terms and conditions for retail and connection contracts'.³⁴

8.39 The AEMC noted that two rule changes made in 2014 'established a new framework for the efficient connection of embedded generators to distribution networks'. The AEMC provided the following explanation of what the new rules seek to achieve:

The new rules provide a clearer, more transparent connection process with defined timeframes, and require distributors to publish information to assist embedded generators. They also provide embedded generator proponents with more choices about how to connect. The rules aim to reduce barriers that embedded generator proponents have faced in attempting to connect to distribution networks. Removal of such barriers is in the long-term interest

33 Mr Geoff Bragg, Solar Energy Industries Association, *Proof Committee Hansard*, 17 February 2015, p. 30.

34 Department of Industry, *Submission 34*, p. 16.

of consumers who benefit from efficient investment in embedded generation via reduced network requirements.³⁵

8.40 While the AEMC's rule changes received some support, the City of Sydney argued that several issues remained unresolved. The City argued:

- the option of applying as a wholesale connection will not benefit most small-scale connection applicants;
- there 'remains a very marked asymmetry of power in the relationship between connection applicants and electricity networks'; and
- the reasonableness of connection costs has not been addressed.³⁶

8.41 The City of Sydney considered that connection package offers from distribution network businesses should be standardised to cover major classes of embedded generation, such as reciprocating gas engines and solar installations. The City added that under these packages:

The cost of distributors 'learning on the job' or bringing network practices up to scratch should be borne by (or at least shared with) distribution networks. If necessary, distribution networks should allocate additional resources to the process and allow for this in the costs of operation for which they seek approval from AER.³⁷

8.42 The City of Sydney also considered that the costs imposed on applicants should be limited so that they did not exceed 'the costs that would be incurred by a network that was appropriately designed and reasonably equipped to meet current and emerging network challenges'. Finally, the City added that additional resolution mechanisms for connection applications are needed.³⁸

Demand management

8.43 An effective demand-side response to pressures on the network can be provided if consumers are provided with incentives to reduce their consumptions during critical peak periods. Demand management refers to arrangements that allow consumers to commit to doing this and where the customers are compensated for doing so. The Public Interest Advocacy Centre explained that critical peak demand events generally occur 'on hot days, when household air conditioner use is at its highest'. If demand management can reduce demand, potentially peak demand could be significantly reduced. It follows that, over time, increases in overall network costs

35 AEMC, *Submission 41*, p. 10.

36 City of Sydney, *Submission 67*, p. 7.

37 City of Sydney, *Submission 67*, p. 7.

38 City of Sydney, *Submission 67*, p. 7.

for consumers should be lower as 'network capacity to meet peak demand is the key driver of network expenditure'.³⁹

8.44 The Queensland Consumers' Association explained that it has advocated for many years, largely unsuccessfully, for demand management measures to be a high priority. The Association particularly focused on direct load control.⁴⁰ It argued that there are 'large potential benefits...from voluntary direct load control of household air conditioners', however, failure to adequately respond to this has resulted in higher electricity prices. It explained that the need for voluntary direct load control of household air conditioners:

...became apparent several years ago when the use of air conditioners began to expand very rapidly. Yet industry and governments failed to quickly develop and implement policies to overcome impediments to the use of direct load control of air conditioners. The Association considers that this was a major public policy failure.

The failure nationally to use direct load control sufficiently to address the problem has resulted in a massive increase in peak demand in many states, especially late in the afternoon on very hot days, and in the network augmentation and replacement investments needed to meet it. These investments have in turn substantially pushed up power prices to consumers.⁴¹

8.45 The Total Environment Centre noted that demand management is 'an obvious way to constrain retail prices in the future', given network building to 'meet projected (though often not actual) increases in peak demand' has been one of the major drivers of higher electricity prices. However, the Total Environment Centre argued that demand management has been 'poorly utilised by networks in Australia'.⁴² The Centre concluded that the poor uptake of demand management is due to:

- a lack of incentives in the National Electricity Rules (NER) for network businesses to undertake demand management as a profitable alternative to capital expenditure; and

39 Public Interest Advocacy Centre, *Submission 18*, p. 19.

40 Direct load control technologies allow remote control of electrical appliances in a home (or a business) to manage electricity demand. A common form is where a consumer agrees (as a result of taking up a product offer from a retailer or distribution business) for remote cycling or 'on-off' switching of certain appliances/equipment for short periods of time. Such technologies have been used for household hot water systems since the 1960s. AEMC, *Power of choice review—giving consumers options in the way they use electricity: Final Report*, November 2012, www.aemc.gov.au/Media/docs/Final-report-1b158644-c634-48bf-bb3a-e3f204beda30-0.pdf (accessed 30 March 2015), pp. 74–75.

41 Queensland Consumers' Association, *Submission 47*, p. 1.

42 The Centre explained that in other jurisdictions demand management can be used to reduce up to ten per cent of peak demand, however, in Australia the figure is around one per cent. Total Environment Centre, *Submission 43*, p. 4.

- the Australian Energy Regulator (AER) not exercising its discretion to encourage network businesses to give a greater focus to demand management in their regulatory proposals.⁴³

8.46 The ENA noted that network businesses have been undertaking demand management activities 'in the context of the network responsibilities to find the most cost effective and efficient solutions to address demand growth within the context of network investment'. The ENA explained that, for network augmentation to be offset by demand management, network security considerations require 'that the loads controlled are reliably removed from peak periods'. Despite this challenge, peak demand has been reduced by demand management 'through initiatives such as managing peak hot water systems, rebates for efficient air conditioners, direct load control of major appliances and pricing agreements with large customers'.⁴⁴

8.47 Demand management was considered by the AEMC in its 2012 'power of choice' review. That review 'was focused on improving consumer engagement in the market and facilitating more active consumer participation'.⁴⁵ The *Power of choice* report noted that the NER allow the AER to develop and apply a separate incentive scheme for demand management, referred to as the demand management and embedded generation connection incentive scheme (DMEGCIS). However, the AEMC concluded that a more comprehensive demand management incentive scheme needs to be applied to distribution network businesses. The *Power of choice* report recommended that amendments to the NER be developed to:

...reform the application of the current demand management and embedded generation connection incentive scheme so that it:

- (a) provides an appropriate return for [demand side participation] projects that deliver a net cost saving to consumers; and
- (b) better aligns network incentives with the objective of achieving efficient demand management.

This would include creating separate provisions for an innovation allowance.⁴⁶

8.48 The AEMC drafted a rule change that would add more principles and criteria to the DMEGCIS.⁴⁷ Public consultation on a rule change request related to the DMEGCIS commenced in February 2015.⁴⁸

43 Total Environment Centre, *Submission 43*, p. 4.

44 ENA, *Submission 31*, p. 16.

45 AEMC, *Submission 41*, p. 3.

46 AEMC, *Power of choice review—giving consumers options in the way they use electricity: Final Report*, November 2012, www.aemc.gov.au/Media/docs/Final-report-1b158644-c634-48bf-bb3a-e3f204beda30-0.pdf (accessed 30 March 2015), p. 205.

47 AEMC, *Power of choice review: Final Report*, pp. 205–06.

8.49 The ENA and specific network businesses, such as Ergon Energy, expressed their support for a review of demand management, as recommended by the AEMC.⁴⁹ However, some stakeholders expressed frustration at the delay in action being taken on demand management via the AEMC process. For example, Dr Gabrielle Kuiper from the Public Interest Advocacy Centre suggested that the AEMC was 'not performing its functions in a timely manner'. Dr Kuiper added that her organisation was disappointed the AER's recent draft determinations stated that the AER would not be proposing a new demand management incentive scheme until the AEMC process on demand management is completed.⁵⁰ The Total Environment Centre similarly noted that the AER has been unwilling to introduce an effective incentive scheme pending the AEMC's decision on a rule change.⁵¹

8.50 When asked why the AER is not going to set demand management performance targets for distribution network businesses, an AER officer confirmed that 'at least one of the New South Wales businesses wanted us to apply a stronger incentive regime for demand-side management'. However, the AER's position is that within 'the policy framework, those issues are still, at a broader level, being looked at'. The officer provided the following explanation:

We felt that it would be rather pre-emptive of us to support specific types of those things before the rule framework had been amended. I think the AEMC is just about to begin its processes to change the rules and to allow other types of incentive schemes to apply in this area. We agree with those things, however we felt that the rule framework needs to be enhanced first.⁵²

Network tariff reform

8.51 Tariff structures can influence consumers to consider their energy usage and to become involved in embedded generation, change their consumption patterns or undertake energy efficiency measures. This section considers the evidence received on moves toward higher fixed network charges before considering more general calls for network tariff reform.

48 The consultation follows rule change requests based on the AEMC report that were lodged by the Total Environment Centre (November 2013) and the COAG Energy Council (December 2013). AEMC, 'Rule changes: Demand Management Incentive Scheme', www.aemc.gov.au/Rule-Changes/Demand-Management-Embedded-Generation-Connection-I (accessed 30 March 2015).

49 Ergon Energy, *Submission 24*, p. 12; Energy Networks Association, *Submission 31*, p. 16.

50 Dr Gabrielle Kuiper, Senior Policy Officer, Energy and Water Consumers' Advocacy Program, Public Interest Advocacy Centre, *Proof Committee Hansard*, 17 February 2015, p. 16.

51 Total Environment Centre, *Submission 43*, p. 5.

52 Mr Chris Pattas, General Manager, Networks, Australian Energy Regulator, *Proof Committee Hansard*, 18 February 2015, p. 11.

Fixed charges

8.52 The committee received complaints about certain existing network tariffs. Changes to fixed or service charges was a common grievance, particularly for customers who had installed their own embedded generation such as a solar PV system. The Total Environment Centre argued that moves to increase fixed daily charges reflected the vested interest network businesses have in 'maintaining their status as protected monopolies, rather than being open to competition from new technologies and services'. The Centre argued that increases in fixed daily charges were occurring in the face of declining consumption and in an attempt to restrict competition from PV systems.⁵³

8.53 The rationale for increased fixed charges was provided by Mr Ian McLeod, the chief executive of Ergon Energy. Mr McLeod argued that tariffs structures have historically been largely based on volume, whereas the network 'is generally a fixed cost'. While expounding this argument, Mr McLeod compared household electricity costs to other regular costs a household faces:

It is like having your house. You go on holidays and you still have to pay for your loan, you still have to pay for the connections to it and all those sorts of things.⁵⁴

8.54 Increased fixed charges are also affecting agricultural businesses. Like other organisations representing energy users, the Agriculture Industries Electricity Taskforce expressed suspicion that higher fixed charges were intended to make it more difficult for people to reduce their electricity bills by reducing the amount of electricity they consume from the grid. However, the Taskforce also directly countered the argument that fixed costs should be recovered by fixed charges:

We believe they have confused sunk (historic) costs with (current) fixed charges. There is no basis in the theory of electricity pricing for sunk costs to be recovered through fixed charges.⁵⁵

Demand-based tariffs

8.55 Changes to demand-based tariffs for large businesses were also criticised, particularly by agricultural businesses. The Agriculture Industries Electricity Taskforce stated that demand charges are a 'major concern' for its members. It explained that there is:

...little that our members can do to reduce demand charges by moving their peak demands to times that are likely to be more advantageous to the system and hence beneficial for other energy consumers as well. This is

53 Total Environment Centre, *Submission 43*, p. 4.

54 Mr Ian McLeod, Chief Executive, Ergon Energy, *Proof Committee Hansard*, 16 February 2015, pp. 12–13.

55 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 22.

completely contrary to the insistence of the networks that they are pursuing 'cost reflective' tariffs.⁵⁶

8.56 Mr Michael Murray from Cotton Australia explained that 'irrigators who rely on electricity to harvest in accordance with their licence conditions are particularly penalised by the move to demand-based tariffs'. He continued:

In New South Wales, many of our growers are already on these grossly inappropriate tariffs, while in Queensland a transition process is underway which will force many onto demand tariffs by 2020. We modelled the impact on irrigators in the St George district of Queensland, and demand-based tariffs for water harvesters will typically increase bills by 200 to 300 per cent. In one example, an irrigator currently on tariff 62 with a bill of around \$150,000 a year would have been slugged with a bill of \$450,000 for that same year while using exactly the same number of kilowatts of electricity—that is, with no change in usage—just in the way that the tariff is structured. Clearly our fibre producers cannot absorb such dramatic increases in costs. There desperately needs to be a reform in how network revenues and tariffs are determined.⁵⁷

8.57 In the absence of change, Mr Murray suggested that an irrigator facing an increase in an electricity bill from \$150,000 to \$450,000 is likely to 'simply replace his electric motors with diesel ones'.⁵⁸

8.58 The committee also heard that sugar mills in Queensland will be required to change to a new tariff over the next five years. It is expected that this tariff will result in tariffs for those businesses that are 40 per cent higher than the current tariffs. Ms Sharon Denny from the Australian Sugar Milling Council explained:

Currently, most of our members are on tariff 22. That tariff is being phased out over the next five years and they will be moved to tariff 48. Now, that tariff 48 has a range of additional charges inside it that our mills do not see under tariff 22, although we anticipate that some of those charges will start to flow through into tariff 22 as well. At today's prices, with QCA price determination, the difference between tariff 22 and tariff 48 for our mills would be a 40 per cent price increase; but in five years' time, obviously, that price increase will be higher again. That is just the best comparison we can do today with what we know of published figures.⁵⁹

56 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 22.

57 Mr Michael Murray, Policy Manager, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 20.

58 Mr Michael Murray, Cotton Australia, *Proof Committee Hansard*, 17 February 2015, p. 20.

59 Ms Sharon Denny, Senior Executive Officer, Government and Business Development, Australian Sugar Milling Council, *Proof Committee Hansard*, 16 February 2015, p. 21.

8.59 Mr Warren Males of Canegrowers added that although some of these tariffs have been described as 'obsolete', they were only obsolete because the distributor has decided they do not support the continued existence of particular tariffs. Mr Males advised that efforts to engage with the distributor about a tariff appropriate for food and fibre production have been undertaken, however, the distributor (which in this case is Ergon) has not been receptive.⁶⁰

General calls for network tariff reform

8.60 There appeared to be general agreement that network tariff reform was desirable. The perspective of policymakers was provided by the Department of Industry, which argued that network tariff reform 'is crucial to drive behaviours that minimise network costs and support more efficient network utilisation'. The department noted that industry are driving reforms in this area, however, it suggested that governments can:

- encourage industry to take action on opportunities provided by new rules;
- support efforts to improve customer understanding of tariff reform; and
- ensure that appropriate consumer protections support vulnerable consumers.⁶¹

8.61 The Energy Users Association of Australia (EUAA) argued that current approaches to network pricing are 'not cost reflective'. In particular, the EUAA claimed that the current pricing methodologies used by networks 'lack transparency, produce highly variable outcomes for consumers, and do not reflect the increasing diversity in how consumers use energy'.⁶²

8.62 Electricity networks and their industry associations also desired network tariff reform. The ENA called for a 'comprehensive reform program for electricity distribution network tariffs and enabling metering'. The ENA explained that use of the networks varies due to 'increasingly diverse load profiles', depending on the use of air conditioning, energy efficient devices and practices, solar panels and other technologies. Despite this:

...most Australian electricity distribution network tariffs rely on volumetric charges (cents per kilowatt hour) which do not vary by time. They bear little relation to drivers of network cost, resulting in unfair cross-subsidies between customers today and a failure to signal the costs of increased network investment which would be required in the future.⁶³

60 Mr Warren Males, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, p. 22.

61 Department of Industry, *Submission 34*, pp. 6–7.

62 Energy Users Association of Australia (EUAA), *Submission 17*, p. 16.

63 ENA, *Submission 31*, p. 11. See also Ergon Energy, *Submission 24*, p. 12.

8.63 The ENA envisaged that network tariff reform would result in customers paying tariffs that 'are more cost-reflective rather than paying a flat or "average" rate based on their electricity usage'. These tariffs would enable customers to make better informed decisions about their use of electricity network services and whether to invest in technology to help manage their consumption.⁶⁴ The ESAA noted tariffs that contained a 'capacity/demand' element will ensure that customers with embedded generation 'are appropriately paid for the services they provide' and that customers who 'impose significant costs on the grid pay for these costs'.⁶⁵

8.64 A submission from the president of the Hastings Branch of Climate Change Australia, Mr Harry Creamer, called for a shift from flat-rate tariffs to time-of-use tariffs. Mr Creamer noted this would enable households to be charged according to loads they impose on the network, although it would require a national roll-out of smart meters.⁶⁶ However, Mr Creamer added:

...it would be extremely unfair to charge consumers based on the single highest demand figure recorded per day, as some retailers are suggesting. Governments, businesses and regulators must be clear that the total amount of revenue will not change.⁶⁷

8.65 The City of Sydney supported network tariff reform that better reflects the contribution made by embedded generators. The City submitted that the setting of network tariffs and charges should 'take into account the relative use of system resources in an efficiently designed and managed system'. The City argued that 'using less system resources to supply energy to customers should be rewarded with a lower overall tariff'.⁶⁸

8.66 While many submitters expressed support for some type of tariff reform, at least one group had reservations given the nebulous nature of the concept. Based on the recent experiences of its members with changing tariffs, the Agriculture Industries Electricity Taskforce expressed concern that network companies may be calling for tariff reform as part of an effort to maintain their dominant position in the electricity market. The Taskforce stated:

64 ENA, *Submission 31*, p. 11.

65 ESAA, *Submission 25*, p. 3.

66 Smart meters are intended to allow customers to better understand and manage their electricity usage. Smart meters are the standard meter in Victoria, but are not common elsewhere in Australia. The ESAA noted that some of the pricing structures for reflecting the cost consumers impose on the network would require smart meters (ESAA, *Submission 25*, p. 3). The rollout of smart meters has not been without controversy, with some people concerned about their cost, safety and concern about adverse health effects (see Stop Smart Meters Australia, *Submission 52*).

67 Mr Harry Creamer, *Submission 29*, p. 3.

68 City of Sydney, *Submission 67*, p. 6.

We understand that the AEMC intends to make changes to the National Electricity Rules to mandate that tariffs should be 'cost reflective'. We do not know what this will mean in practice, but we are concerned that networks will use 'tariff reform' as an opportunity to undermine the prospects for energy efficiency and distributed generation, both of which are competitive threats to their business.⁶⁹

8.67 The Consumer Action Law Centre noted that the AEMC has recently worked on network tariff arrangements with the view to reducing existing cross-subsidies, so that 'those that create a burden on the system (i.e. those with high air conditioner use)...pay for that burden'. Under the changes, network tariffs must be based on long-run marginal cost. Network businesses must also consider the impact of changes on consumers and must develop price structures that consumers can understand. However, the Centre noted that the AEMC's decision on this issue limited the role of the AER in relation to network tariffs and left 'significant discretion to the network businesses'. The Centre pointed out that 'while each network tariff must be based on long-run marginal cost, network businesses will have flexibility about how they measure long run marginal cost'.⁷⁰

8.68 Although the Total Environment Centre is of the view that high fixed daily charges are inconsistent with the principle of long-run marginal cost, it warned that the rule change will not prevent network companies from seeking to maintain their revenue by increasing fixed charges.⁷¹

8.69 Finally, the EUAA noted that the benefits of more efficient cost-reflective pricing through tariff reform were dependant on other issues with electricity regulation being addressed. Mr Mark Grenning, a member of the EUAA board, explained that if the inefficient investment included in the asset base is not addressed, then regardless of the tariffs in place consumers will still be required to pay high prices because of past gold-plating and stranded assets.⁷²

Committee view

8.70 Australia has a large and expensive electricity network built as a result of decades of centralised generation. The evidence taken during this inquiry revealed that stakeholders are increasingly starting to consider whether the current system of networks, and the regulations governing it, can be sustained. In the coming years, this network arrangement may no longer effectively deal with how a significant amount of electricity is generated and distributed. Sustained high network costs and improvements in technology, such as advances in battery storage, may result in a

69 Agriculture Industries Electricity Taskforce, *Submission 21*, p. 22.

70 Consumer Action Law Centre, *Submission 20*, p. 7.

71 Total Environment Centre, *Submission 43*, p. 4.

72 Mr Mark Grenning, EUAA, *Proof Committee Hansard*, 18 February 2015, p. 17.

market that demands a smaller, more local, network rather than the expansive networks based on centralised generation.

8.71 The committee considers that, given the concern that electricity networks are entering a 'death spiral', policymakers and regulators need to closely monitor developments in the electricity market to ensure network businesses do not discriminate against customers who seek to engage in embedded generation. It is also important that the customers who continue to be supplied with electricity in the conventional manner, particularly customers who cannot afford to invest in their own electricity generation system, are not forced to pay an increasing share of network costs as a result of other customers going 'off-grid'.

8.72 Given the likely changes in the energy market, the committee considers it is important that the regulatory framework is flexible so it can respond quickly in a way that ensures networks operate in the long-term interests of consumers. Identifying and removing impediments to change must be a priority of energy policymakers and regulators. Developments in the market, particularly due to 'behind-the-meter' electricity generated by customers, need to be acted on in a timely manner once anticipated or identified.

Recommendation 15

8.73 The committee recommends that the Australian, state and territory governments increase and prioritise efforts to ensure that networks are prepared to efficiently respond to changes in the energy market, in light of:

- **the increased uptake of small-scale solar generation;**
- **emerging energy storage technologies;**
- **the anticipation of customers going 'off-grid';**
- **the anticipation of further disruptive technologies; and**
- **the certainty of value destruction as a result of current business models.**

Recommendation 16

8.74 The committee recommends that, as cost-reflective network pricing is introduced, the COAG Energy Council ensure appropriate steps are taken so network companies' tariff and non-tariff based demand management programs are strengthened to assist consumers to transition to cost-reflective tariffs.

Recommendation 17

8.75 The committee recommends that the Australian Energy Regulator expedite its implementation of the current demand management incentive scheme rule change in all open network revenue determinations.

Recommendation 18

8.76 The committee recommends that the COAG Energy Council remove any barriers to networks implementing cost-reflective network prices to ensure efficient use of demand management and embedded generation is rewarded.

**Senator Anne Urquhart
Chair**

Additional comments from Coalition Senators

1.1 In reference to Recommendation 1, Coalition Senators further recommend that the review also consider options for excluding current—as well as future—imprudent capital expenditure from a network service provider's regulatory asset base (RAB).

1.2 Coalition Senators further consider that state governments should be accountable for the value of state-owned networks. Responsible ministers should endorse values determined for state-owned networks by the AER.

Senator Anne Ruston
Deputy Chair

Dissenting Report from the Australian Greens

1.1 The committee heard compelling, consistent evidence about the depth of the regulatory and institutional failures of the National Electricity Market (NEM) and the inexcusable gouging of consumers. Yet the committee report recommends no substantial remedy to address these failures. While the Australian Greens do not oppose the recommendations, we dissent from the report on the basis that it represents a failure of political will at a time when reform is essential to facilitate innovation, bring down greenhouse gas emissions and reduce power bills for Australian households and businesses.

1.2 This report does nothing to face up to the energy revolution now overtaking traditional energy generation, transmission and distribution or to the challenges presented by addressing global warming or the opportunity to create jobs, new investment and deliver tremendous innovation through reform. The transmission and distribution systems are in a death spiral and battery technology makes business as usual untenable.

1.3 The outrage that committee members often expressed throughout the hearings when learning about how network companies have gouged the current system has not been converted into recommendations that would prevent its reoccurrence into the future. While the content of the majority report does clearly outline the problems and the case for change, much like the Abbott Government's review into the Renewable Energy Target, the recommendations go against the actual findings of the report.

1.4 After the Select Committee into Electricity Prices released its report and recommended significant changes to our network system in 2012, then Prime Minister Julia Gillard warned network companies to stop gouging their customers, and urged state governments through COAG to act or federal action would be taken by the end of 2012 to beef up the Australian Energy Regulator's powers.¹ She failed to act in spite of a clear statement of intent to do so.

1.5 This report now represents the second lost opportunity to confront the problems laid out before the Australian public as a record number of Australians are unable to pay their electricity bills.² Any claims by either the government or opposition to say they want to 'tackle cost-of-living issues head-on' following this report will be empty rhetoric.

1 Phillip Coorey and Anna Patty, 'Gillard threatens to use shock therapy on electricity prices', *Sydney Morning Herald*, 8 August 2012.

2 See recent reports by the NSW Independent Pricing and Regulatory Tribunal, Victoria's Essential Services Commission and the South Australian Council of Social Service.

1.6 When there is no courage for substantive action to be directed at network companies such as those in Queensland and NSW whose respective profit margins³ of 47 per cent and 42 per cent are directly obtained from households and businesses, it is clear the pretence that the NEM is geared towards the interests of consumers is exposed. The NEM has been captured by political and/or powerful vested interests as lucrative revenue raising tax generator. If ever a tax needed axing, it's this one.

1.7 This is because State Governments of Labor or Liberal persuasion either want to maximise the value of network companies for future privatisation proceeds and/or deliberately use the complexity of the pricing determination process to implement clandestine taxation on its citizens. They argue that profits can be paid as dividends to pay for education, health et cetera, but in reality those profits are the proceeds of a regressive tax which impacts lower income households harder than anyone else.

1.8 The institutional arrangements of the AER and the AEMC were designed by the states for the states allowing them to derive revenue from their rule-making and pricing determinations. For example, the current Chair of the AEMC, Mr John Pierce was appointed directly from his position as the NSW Treasury Secretary. The financial benefits that have flowed to NSW since the design and inception of the NEM have been considerable.

1.9 While recommendation 14 of the report will go some way in addressing state influence over making rules and setting allowances that benefit themselves, it does not directly remove the conflicts of interests that are embedded throughout the current institutional arrangements.

1.10 The excessive profits of NSW and Queensland networks are not because of 'inefficiencies' or some other privatisation clarion call, it is because the current institutional structure lends itself to political (and subsequently bureaucratic) capture.

1.11 State-owned entities are treated by the AER as competitively neutral in a regulated monopoly. This enables them to claim commercial rates of borrowing when they enjoy lower interest rates commensurate with their state's credit rating. They also receive allowances for taxes that they do not pay. Consumers pay for these costs. This is wrong.

1.12 The significant source of revenue that state-owned networks provide to their state governments should not be determined within a web of regulatory complexity and concealed political influence. The ultimate responsibility for increased network costs that are passed on to consumers should lie with the State government that benefits from those funding decisions. Then the public will be able to decipher who is responsible for decision-making that affects their electricity bill.

3 Mr Bruce Mountain, *Submission 19*, p. 10.

Recommendation 1

1.13 NSW and Queensland network companies should not be privatised. However, publicly owned networks should be prevented from participating in the AER Pricing Determination processes. The costs that are ultimately passed on to households and businesses must be approved by the relevant State Minister.

1.14 The recent excessive rise in fixed costs borne by electricity users during a period of declining aggregate electricity demand and increasing infrastructure investment presents some very serious challenges. These high costs have impacts both on social service policy and our economic competitiveness. Mr Dale Holliss of the Bundaberg Regional Irrigator's Group provided evidence that this problem had the potential to destroy the viability of entire communities that depend on irrigated agriculture,⁴ which is fast being rendered uncompetitive by electricity costs as outlined by Mr Warren Males of the Australian Sugar Industry Alliance:

[Our current Network System] is failing electricity consumers and it is directly and adversely affecting the international competitiveness of the export-oriented Australian sugar industry. Electricity tariffs for irrigation use are up 96 per cent, compounded over seven years. Sugar prices over the same period—at least, I should say, over the last 18 months—have fallen by more than 50 per cent. So we have electricity prices up by almost 100 per cent and sugar prices down by 50 per cent. Since the framework was first introduced, electricity prices in Australia have been increasing at a faster rate than anywhere else in the developed world. This is a bizarre turn of events for the energy-rich Australian economy.⁵

1.15 The over-investment that has occurred in the previous five-year regulatory period to 2013 has built a class of future stranded assets whose write-downs will either be borne by network companies or electricity users, plus it represents massive opportunity costs. The \$44.7 billion⁶ spent by network companies over those five years could have provided every Australian household and business with access to a world-class National Broadband Network.

1.16 For instance, the unique valuation treatment of network assets allows the net values to be indexed by the Consumer Price Index. This maintains the 'real' value of the assets despite evidence that their economic valuation is considerably below this, especially when the asset has reached the end of its useful life. It is households and businesses that pay for this perverse accounting allowance. Who designed this absurdity and why will we allow it to continue?

4 Mr Dale Holliss, Bundaberg Regional Irrigators Group, *Proof Committee Hansard*, 16 February 2015, pp. 37–38.

5 Mr Warren, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group, Australian Sugar Industry Alliance, *Proof Committee Hansard*, 16 February 2015, p. 26.

6 Sourced from the AER's regulatory information notices. \$29.9 billion was capital expenditure, \$14.8 billion was operational.

1.17 The evidence heard by the committee and the content of the majority report outlines that an extreme burden has been placed on everyone who receives an electricity bill and there is nothing that they can do to avoid these costs, except for leaving the grid entirely. Which people will do so as soon as batteries come down the cost curve.

1.18 Therefore, it is incumbent on law and policy makers to rectify the very serious problems from previous overinvestment by forcing a revaluation on the regulated asset base of network companies. State governments will have to decide whether to write down the asset base and transfer the debt to state debt to be serviced by all taxpayers or continue to gouge consumers for the state government's previous greed. Selling off is a worst case scenario as sweeteners will be required to seal the deal and that will lock in higher consumer prices and lock out the innovation that drawing a line under the mess and beginning from scratch would facilitate.

1.19 Corporations law requires that companies must recognise impaired assets by writing down their asset values when needed. If a network monopoly were to voluntarily reduce its asset values to reflect their economic worth, it would radically reduce its profitability and reduce electricity prices which would free up desperately needed income particularly for low-income households and businesses. Naturally networks will never do this voluntarily.

1.20 While there are very serious consequences with state entities forcing the revaluation of assets, it has become clear that this is the least, worst option available for the long-term interests of both network companies and Australian businesses and households. Although the Australian Greens fully appreciate the possibility of an increase in the cost of capital for network companies because of the perceived increase in risk, this amount will be insignificant in comparison to the savings that Australians will experience on their electricity bills as the previous overspend is rectified. Furthermore, the regulatory allowances have already compensated network businesses for this risk, and as noted, their actual profitability has far exceeded regulatory allowances.

1.21 Asset revaluations would also strengthen the longer-term position of network companies as assets that are vulnerable to both demand reduction and customers leaving the grid would be identified and rectified. This would not only give investors more confidence in the true state of the network's asset position but it would reduce the impact of the 'death spiral' on networks customer base as the solar and battery storage era erodes it.

Recommendation 2

1.22 That the Australian Energy Regulator be given the power to revalue the regulated asset base of network service providers.

1.23 Australia's electricity system is currently undergoing a radical technological revolution. The era of centralised power being carried hundreds of kilometres to its customer is coming largely to a close. The rise of locally generated, stored and distributed energy is inevitable. Network companies need to adjust to this transformation. If they resist it, or do not change, their refusal to adapt will destroy their businesses.

1.24 As noted in the report, Australia's electricity demand will continue to decline. This means the existing financial incentives that encourage expansion of the regulated asset base are fundamentally flawed and will continue to exacerbate what is already a severe problem of creating unmanageable infrastructure spending distortions.

1.25 In order to reverse this train-wreck, new incentives have to be laid out for networks to provide innovative services that match the technological transformations occurring around them. Building more and more infrastructure is not a sustainable business model for networks into the future.

1.26 This technological transformation in energy systems is being driven by the absolute necessity of minimising the reach and depth of global warming. Our national electricity system, as the biggest national contributor to emissions has to be recalibrated to help achieve Australia's objectives at reducing pollution as well as creating economic opportunities from the innovation that has already proven to be so potent.

1.27 To create this new suite of rule-making that will foster innovation and reduced demand, the objects of the NEM legislation must be expanded to cover an environmental objective, namely reducing emissions. This objective would inform subsequent rule-making and financial incentives.

1.28 Regulatory and commercial arrangements need to be adapted to facilitate the development of decentralised energy systems. Tariff structures must be adopted that correctly charge for the development and use of networks so that distributed generation and storage and local demand response is properly valued. This would have huge financial benefits for households, industries such as sugar mills, large commercial buildings that stand ready to generate and trade their own electricity.

1.29 Fundamental redirection of what we want our grid to do will enable the integration of decentralised energy into the existing grid and offer a hope for network companies to operate profitably and innovatively into the future. Such changes are necessary to accommodate the inevitability of further rapid change in technologies, consumer behaviour and government policies to escalate our response to global warming.

Recommendation 3

1.30 That the objectives in the National Electricity Market laws include an environmental objective that would require the National Electricity Market to facilitate achievement of the UNFCC Greenhouse Gas Emissions targets agreed to by Australia. A new object would inform rule making and co-ordinate Australia's efforts to reduce emissions in the electricity sector at the same time as guaranteeing a secure supply of electricity in an affordable way.

1.31 Australia is unique globally in bifurcating the design and implementation of regulation in separate regulatory authorities. This impedes innovation and adaptation and has led to inertia, ossification, poor regulatory design and implementation. The disastrous outcomes in network service provider profits and costs bears testament to the flaws of this current arrangement.

1.32 In light of the Harper Review recommendation and the many reasons outlined in Chapter 7 of the report, the natural conclusion is for the AEMC and AER to be collapsed into a single organisation.

Recommendation 4

1.33 In light of the recommendation made by the Competition Policy Review (Harper Review) regarding a single national access and pricing regulator, and in light of the committee's concerns about the current institutional arrangements the committee recommends that the Australian Energy Market Commission and the Australian Energy Regulator be collapsed into a single body.

**Senator Christine Milne
Senator for Tasmania
Leader of the Australian Greens**

**Senator Larissa Waters
Senator for Queensland**

Appendix 1

Submissions, tabled documents, additional information and answers to questions taken on notice

Submissions

- 1 Central Irrigation Trust
- 2 Mr Simon Tesoriero
- 3 Cotton Australia
- 4 Big Picture Tasmania
- 5 New South Wales Irrigators' Council
- 6 Mr R A Mackenzie
- 7 Major Energy Users, Inc
- 8 Name Withheld
- 9 Bell Bay Aluminium
- 10 Professor David Johnstone
- 11 Mr K G Blake
- 12 South Australian Council of Social Service
- 13 Mr A C Maw
- 14 Energex Limited
- 15 Solar Energy Industries Association Inc NSW
- 16 Mr Bruce Robertson
- 17 Energy Users Association of Australia
- 18 Public Interest Advocacy Centre Ltd
- 19 Mr Bruce Mountain
- 20 Consumer Action Law Centre
- 21 Agriculture Industries Electricity Taskforce
- 22 Electrical Trades Union Australia
- 23 EnergyAustralia
- 24 Ergon Energy
- 25 Energy Supply Association of Australia
- 26 Jemena, Citipower, Powercor Australia and AusNet Services
- 27 Australian Aluminium Council
- 28 The Renmark Irrigation Trust
- 29 Mr Harry Creamer, Climate Change Australia - Hastings Branch
- 30 Economic Regulation Authority, Western Australia
- 31 Energy Networks Association
- 32 Australian Sugar Industry Alliance
- 33 Mr Peter Vun
- 34 Department of Industry

35 Ms Anne Kallies, Ms Fiona Haines and Mr Dylan McConnell
36 Australian Energy Regulator
37 Merri Creek Residents Group Inc
38 Mr John Herbst
39 Canegrowers Isis
40 Bundaberg Regional Irrigators Group
41 Australian Energy Market Commission
42 Alcoa of Australia Limited
43 Total Environment Centre
44 Ms Elaine O'Shannessy
45 Mr Jerome Creaney
46 Avondale Water Board
47 Queensland Consumers Association
48 Name Withheld
49 Name Withheld
50 Name Withheld
51 Mr Peter Flounders
52 Stop Smart Meters Australia
53 Mr John B Howard
54 Mr Alan Manson
55 VETO Energex Towers Organisation
56 Energy Efficiency Council
57 Mr Baden Conroy
58 Mr Peter Hocking
59 Mr Ange Kenos
60 UnitingCare Australia
61 Mr Brian Murray
62 Ms Patricia Ross
63 Ms Pauline Crozier
64 Confidential
65 Solar Citizens
66 Confidential
67 City of Sydney
68 Ms Cally Wilson
69 Confidential

Tabled documents

Energex – *Our five year future plan—Regulatory Proposal Summary 2015–2020* (public hearing, Brisbane, 16 February 2015)

Energex – *Our five year future plan—Regulatory Proposal Overview 2015–2020* (public hearing, Brisbane, 16 February 2015)

Ergon Energy – *A Quick Guide to Our Plans: Regional Queensland's Future Electricity Service* (public hearing, Brisbane, 16 February 2015)

Solar Citizens – opening statement (public hearing, Sydney, 17 February 2015)

Energy Users Association of Australia – 'Summary of submissions and AER response' (public hearing, Melbourne, 18 February 2015)

Additional information

Tasmanian Government – letter, dated 15 January 2015, from the Hon Matthew Groom MP, Minister for Energy

Electrical Trades Union of Australia – *Electricity Privatisation in Australia—A record of failure*

Electrical Trades Union of Australia – The McKell Institute, *Nothing to gain, plenty to lose: Why the government, households and businesses could end up paying a high price for electricity privatisation*, December 2014

South Australian Council of Social Service – Additional information received from St Kitts Associates, Demand Management – *The Way Forward 2005/06 to 2009/10*

Essential Services Commission Victoria – letter and documents provided in response to a request from Senator Milne

Answers to questions taken on notice

Consumer Action Law Centre – Answer to a question taken on notice (public hearing, Melbourne, 18 February 2015)

Bruce Mountain – Answer to a question taken on notice (public hearing, Adelaide, 19 February 2015)

Energex – Answer to questions taken on notice (public hearing, Brisbane, 16 February 2015)

Jemena, Citipower, Powercor Australia and AusNet Services – Answers to questions taken on notice (public hearing, Melbourne, 18 February 2015)

Energy Supply Association of Australia – Answer to a question taken on notice (public hearing, Melbourne, 18 February 2015)

Ergon Energy – Answers to questions taken on notice (public hearing, Brisbane, 16 February 2015)

Australian Energy Regulator – Answers to written questions on notice

Australian Energy Regulator – Answers to written questions on notice

Appendix 2

Public Hearings

Monday, 16 February 2015 – Brisbane

Energex Limited

Mr Terry Effeney, Chief Executive Officer

Ergon Energy Corporation Limited

Mr Ian McLeod, Chief Executive

Australian Sugar Milling Council

Ms Sharon Denny, Senior Executive Officer, Government and Business Development

Australian Sugar Industry Alliance

Mr Warren Males, Head, Economics, Canegrowers; and Chairman, Sugarcane Gene Technology Group
Mr Dominic Nolan, Joint Secretary

Canegrowers Isis Ltd

Mr Robert Mackenzie, Director
Mr Geoffrey McCarthy, Director

Bundaberg Regional Irrigators Group

Mr Dale Holliss, Company Secretary

Avondale Water Board

Mr Peter Maidment, Chairman

Electrical Trades Union

Mr Lance McCallum, National Policy Officer
Mr Stuart Traill, Queensland State Organiser

VETO Energex Towers Organisation

Mr Paul Casbolt, President
Ms Laurie Koranski, Spokesperson

Energy Networks Association

Mr John Bradley, Chief Executive Officer
Mr Garth Crawford, Executive Director, Economic Regulation

Queensland Consumers' Association

Mr Ian Jarratt, Vice President

Tuesday, 17 February 2015 – Sydney**Australian Energy Market Commission**

Ms Chantelle Bramley, Senior Director, Strategy and Economic Analysis
Mr Richard Owens, Senior Director, Transmission and Distribution Networks
Mr Paul Smith, Chief Executive

Public Interest Advocacy Centre Ltd

Mr Oliver Derum, Senior Policy Officer, Energy and Water Consumers'
Advocacy Program
Dr Gabrielle Kuiper, Senior Policy Officer, Energy and Water Consumers'
Advocacy Program

Cotton Australia

Mrs Angela Bradburn, Policy Officer
Ms Felicity Muller, Policy Officer
Mr Michael Murray, Policy Manager

New South Wales Irrigators' Council

Ms Stefanie Schulte, Policy Manager

Solar Energy Industries Association Inc

Mr Geoff Bragg, New South Wales Chairman

Bell Bay Aluminium

Mr Ray Mostogl, General Manager

Professor David Johnstone (private capacity)**Total Environment Centre**

Mr Mark Byrne, Energy Market Advocate

Mr Bruce Robertson (private capacity)**Solar Citizens**

Ms Claire O'Rourke, National Director

Wednesday, 18 February 2015 – Melbourne**Australian Energy Regulator**

Ms Michelle Groves, Chief Executive Officer
Mr Chris Pattas, General Manager, Networks
Mr Sebastian Roberts, General Manager, Networks

Energy Users Association of Australia

Mr Phillip Barresi, Chief Executive Officer
Mr Brian Green, Board Chairman
Mr Mark Grenning, Board Director
Mr Jonathan Wood, Board Director

Energy Supply Association of Australia

Mr Kieran Donoghue, General Manager Policy
Mr Matthew Warren, Chief Executive Officer

Jemena, AusNet Services, CitiPower and Powercor

Mr Brent Cleeve, General Manager Regulation, CitiPower and Powercor
Australia
Mr Robert McMillan, General Manager Regulation, Jemena
Mr Alistair Parker, General Manager Asset Management, AusNet Services

Energy Efficiency Council

Mr Robert Murray-Leach, Chief Executive Officer
Dr Phil Blythe, Managing Director, GreenSync
Dr Paul Troughton, Director of Regulatory Affairs, EnerNOC

Consumer Action Law Centre

Mr Gerard Brody, Chief Executive Officer
Ms Janine Rayner, Senior Policy Officer, Energy

Mr Bruce Mountain (private capacity)

Thursday, 19 February 2015 – Adelaide**Agriculture Industries Electricity Taskforce**

Mr Tom Chesson, Key Member
Mr Gavin McMahon, Chief Executive Officer, Central Irrigation Trust
Mr Bruce Mountain, Director, Carbon and Energy Markets
Mr Barry Schier, General Manager, Renmark Irrigation Trust

South Australian Council of Social Service

Ms Jo De Silva, Senior Policy Officer
Mr Andrew Nance, Director, St Kitts Associates

Uniting Communities South Australia

Mr Mark Henley, Manager Advocacy and Communications

Tuesday, 24 March 2015 – Canberra

Ms Cally Wilson (private capacity)

