

Select committee on electricity supply, demand and prices in
New South Wales

Electricity supply, demand and prices in New South Wales

Ordered to be printed 22 November 2018 according to
Standing Order 231

New South Wales Parliamentary Library cataloguing-in-publication data:

New South Wales. Parliament. Legislative Council. Select Committee on Electricity Supply, Demand and Prices in New South Wales.

Electricity supply, demand and prices in New South Wales / Select Committee on Electricity Supply, Demand and Prices in New South Wales [Sydney, N.S.W.] : the Committee, 2018. 201 pages ; 30 cm. (Report / Select Committee on Electricity Supply, Demand and Prices in New South Wales ; 1)

“November 2018”

Chair: Hon. Paul Green, MLC.

ISBN 9781922258656

1. Electric utilities—New South Wales—Costs.
2. Electric utilities—Rates—New South Wales.
3. Electric power consumption—New South Wales.
4. Electric power transmission—New South Wales.
 - I. Green, Paul.
 - II. Title.
 - III. Series: New South Wales. Parliament. Legislative Council. Select Committee on Electricity Supply, Demand and Prices in New South Wales. Report ; No. 1

354.4928509944 (DDC22)

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Terms of reference

1. That a select committee be established to inquire into and report on electricity supply, demand and prices in New South Wales, and in particular:
 - (a) the reasons for recent large increases in the price of electricity,
 - (b) the impact of the deregulation of electricity prices in 2014,
 - (c) alleged collusion and price gouging by energy retailers,
 - (d) the effectiveness or impact of any current regulatory standards and guidelines,
 - (e) options for future government oversight and responsibility in the re-regulation of electricity prices,
 - (f) the adequacy of planning to meet future electricity demand, including utilising high efficiency, low emissions coal technology as well as the use of nuclear, gas, solar and wind energies, and energy storage through batteries, pumped hydro and hydrogen, and improved transmission between regions,
 - (g) the adequacy of programs to assist low income earners, pensioners and senior card holders to afford electricity as well as the impact of additional fees, such as late payment fees, included in energy bills, and
 - (h) any other related matter.
2. That the committee report by the last sitting day in November 2018.¹

The terms of reference were referred to the committee by the Legislative Council on 10 August 2017.²

¹ The original reporting date was 9 March 2018 (*Minutes*, Legislative Council, 10 August 2017, p 1850). The reporting date was extended to the last sitting day in November 2018 (*Minutes*, Legislative Council, 7 March 2018, p 2315).

² *Minutes*, NSW Legislative Council, 10 October 2017, p 1.

Committee details

Committee members

The Hon Paul Green MLC	Christian Democratic Party	<i>Chair</i>
The Hon Robert Borsak MLC	Shooters, Fishers and Farmers Party	<i>Deputy Chair</i>
Mr Jeremy Buckingham MLC	The Greens	
The Hon Ben Franklin MLC	The Nationals	
The Hon John Graham MLC	Australian Labor Party	
The Hon Taylor Martin MLC	Liberal Party	
The Hon Adam Searle MLC	Australian Labor Party	
The Hon Matthew Mason-Cox MLC*	Liberal Party	

* Mr Mason-Cox was a participating member of the committee for the duration of the inquiry.

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Chair's foreword

I am pleased to present the committee's report into electricity supply, demand and prices in New South Wales. Rising electricity prices and the future security of our energy supply are pressing issues for the people of this state. Electricity, like shelter and water, is an essential service. It keeps the lights on at home and powers our businesses.

It is concerning to note that the Australian Competition and Consumer Commission (ACCC) provided evidence which showed that over the last 10 years retail electricity prices in New South Wales have increased 52 per cent in real terms.

During the course of the inquiry, the committee received evidence about the impact these price rises are having on consumers. The committee heard that some people are literally sitting in the dark because they can't afford their electricity bills. I was personally struck by the comments of one witness who has been forced to cut back on food for her family in order to pay her power bills.

It is also concerning that the ACCC found that electricity retail profit margins are very high in New South Wales compared to other jurisdictions both domestically and internationally.

Continued rises in electricity prices means that households may have to cutback or forgo other important services. Meanwhile businesses faced with rising energy costs will likely be constrained in their ability to invest, offer employment and support economic growth. This situation is unacceptable and unsustainable. Continuing energy cost increases are a slow leaking artery that will eventually be fatal, sadly not only to business, but also to economic and employment growth.

As a state we are blessed to have a variety of sources that can be used to generate electricity. However despite our abundance of energy sources, it is clear that the electricity market is not working in the best interests of all consumers. The electricity market is very complex and continues to be confusing, with a variety of factors that determine the final price paid by consumers. The committee found that certain retailers may have leveraged the complexity of the electricity market to charge higher prices. This report contains a number of recommendations that seek to minimise this complexity and empower consumers to get their electricity at the cheapest price possible.

The state's electricity market is in an undeniable period of transition. Renewables such as wind and solar will, over time, provide us with an increasing amount of our electricity. Additionally, the state's existing coal-fired power stations are scheduled to retire over the next decade and a half. It is critical that as this occurs, energy security, reliability and affordability must be ensured. Households, small businesses and farmers must not be thrown under the bus as a consequence of a lack of long-term planning and investment. Rural and regional families are already at a disadvantage, paying as much as 25 per cent more for their electricity than their city counterparts. The NSW Government must take an active role in helping to develop the necessary policy and infrastructure plan to secure our long-term energy future. People must be put first, before profits!

In the short-term, baseload power must be guaranteed to help minimise price spikes and supply issues. It is for this reason that the committee has recommended that the NSW Department of Planning and Environment expedite the assessment of AGL's coal-fired Bayswater Power Station upgrade project.

I believe technology neutrality is imperative if the market is to determine what future energy generation will be invested into. Subsidies should also be technology neutral to allow industry to put forward innovative opportunities. The NSW Government has a responsibility to ensure accessible, affordable and reliable energy above all things to the community. A community that is facing an increasing and unsustainable rise in their cost of living. Having the "you beaut" environmentally friendly, gold-standard electricity supply means nothing, when you are struggling to put food on the table, pay the mortgage or rent and educate your kids.

In New South Wales, there are three vertically-integrated providers that control 86 per cent of the retail market and generate 82 per cent of the state's electricity. A market this concentrated clearly needs to be subject to stringent monitoring in order to ensure that consumers are paying a fair price for their electricity and not paying for super profits to be made. This report makes a number of recommendations to ensure that the NSW Government adopts a more robust approach to market monitoring so that it has the information it needs to make better regulatory and policy decisions.

I would like to thank the many participants in this inquiry who provided a submission and appeared before the committee. I would also like to thank my colleagues on the committee for their commitment and hard work during the course of the inquiry. I also wish to thank the secretariat staff for their work in supporting the committee.



Hon Paul Green MLC
Committee Chair

Findings

- Finding 1** **8**
Given the significant increase in electricity bills in recent years, the committee finds that such a profit margin for at least the big vertically integrated retailers is excessive.
- The committee notes that in response to concerns about the level of profits being made by the private insurers involved in the Compulsory Third Party motor accident scheme in New South Wales, the NSW Parliament created a mechanism to oversight the level of profit being made and to ensure that excessive profits were returned to customers. The committee finds that there is no reason why such an approach should not be taken to the electricity retail sector, at least in respect to the big vertically integrated energy companies.
- Finding 2** **50**
The committee finds that having reviewed the range of analyses of electricity prices it prefers that of the ACCC due to the extensive use it has made of its compulsory information gathering powers to reach its conclusions.
- The ACCC finds that retail electricity prices over ten years in New South Wales have increased by 52 per cent in real terms.
- Finding 3** **61**
That it could be reasonably argued that the significant market share held by a small number of vertically integrated firms has undermined competition in the New South Wales electricity market and has led to higher electricity prices for consumers.
- Finding 4** **85**
That certain retailers may have leveraged the complexity of the electricity market to charge higher prices to disengaged consumers.
- Finding 5** **114**
That as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in flexible and dispatchable power is required to ensure secure, reliable and affordable energy.
- Finding 6** **116**
That the proposed change to the National Electricity Rules to require at least three years notice of closure for large generators, will help better manage the retirement of existing coal-fired generators as they reach the end of their life, by providing the market with sufficient time to replace the energy production that is being withdrawn.

Recommendations

Recommendation 1

8

That the NSW Government develop and implement a legislative mechanism to oversight the level of profit being made by the big vertically integrated energy companies and to ensure that excessive profits are returned to consumers.

Recommendation 2

38

That with respect to the recommendations of the Australian Competition and Consumer Commission's *Restoring electricity affordability & Australia's competitive advantage* report, the NSW Government:

- publicly disclose the recommendations that it supports
- works proactively with the Australian Government and State and Territory Governments through COAG Energy Council to ensure that these recommendations are implemented in a timely manner.

Recommendation 3

39

That a greater proportion of the revenue collected by the NSW Climate Change Fund be:

- expended on projects that either mitigate climate change or assist with the adaptation to climate change
- used to support vulnerable households and to assist them access renewable energy which is the cheapest form of energy.

Recommendation 4

51

That the NSW Government review the statutory powers given to the Independent Pricing and Regulatory Tribunal to ensure that it has access to the information needed to allow for a more robust monitoring of the New South Wales electricity market.

Recommendation 5

51

That as part of its market monitoring, the NSW Government place a greater emphasis on:

- the *actual* prices paid by electricity consumers and not the information provided by electricity retailers and other regulatory bodies
- retail profit margins and why these are significantly higher in New South Wales than other jurisdictions
- the outcomes of price dispersion and why some consumers are paying more for their electricity than other consumers.

Recommendation 6

61

That the NSW Government take all necessary steps including through the COAG process to limit electricity market participants from increasing their market share, through the acquisition of existing assets or businesses, above a prescribed amount that it deems appropriate.

Recommendation 7

75

That the NSW Government:

- establish measurable objectives for all household electricity support and rebate schemes

- monitor and measure the performance of all household electricity support and rebate schemes against their stated objectives and outcome measures.

- Recommendation 8** **84**
That the NSW Government investigate steps to develop a Consumer Data Right in the electricity sector as a matter of priority.
- Recommendation 9** **86**
That, in the event that the COAG Energy Council does not agree to the implementation of a default market offer in relevant National Energy Market jurisdictions, the NSW Government:
- abolishes retailer standing offers
 - introduces a lower-priced default offer which can be priced no higher than a level determined by an independent price regulator
 - requires that the advertising of discounts by retailers must be unconditional and referenced to the default offer rate
 - creates a legislative mechanism to oversight retail profits and to be able to require profits above a determined level to be returned to consumers
 - progresses development of a reference price.
- Recommendation 10** **91**
That the NSW Government develop an incentive scheme specific to the needs of regional businesses to encourage them to reduce electricity use and save on power bills.
- Recommendation 11** **106**
That the NSW Department of Planning and Environment expedite the assessment of AGL's coal-fired Bayswater Power Station upgrade project.
- Recommendation 12** **114**
That the NSW Government explores taking a 'reverse auction' approach to leveraging new investment in renewable energy and storage.
- Recommendation 13** **115**
That, if the COAG Energy Council does not agree to the national reliability obligation, then the NSW Government investigate options for implementing a similar mechanism in New South Wales.
- Recommendation 14** **115**
That the NSW Government should work with the COAG Energy Council and implement state-based policies to encourage energy storage, interconnection and demand management.
- Recommendation 15** **124**
That the NSW Government through the Emerging Energy Program support a range of secure, reliable and affordable energy options.
- Recommendation 16** **124**
That the NSW Government should direct the Independent Pricing and Regulatory Tribunal to provide a fair price for solar by factoring in the environmental and health benefits, similar to Victorian legislation.

- Recommendation 17** **124**
That the NSW Government should encourage and incentivise that solar power be installed on all new dwellings or business premises where practical.
- Recommendation 18** **131**
That the NSW Government work with electricity retailers to hasten the rollout of demand response products such as smart meters.
- Recommendation 19** **131**
That the NSW Government continue to support demand response programs beyond the three-year demand response trial it has co-funded with the Australian Renewable Energy Agency and the Australian Energy Market Operator.

Conduct of inquiry

The select committee was established by the Legislative Council with its terms of reference for the inquiry on 10 August 2017.

The committee received 247 submissions and conducted six public hearings at Parliament House in Sydney. The committee also conducted site visits to: the Australian Nuclear Science and Technology Organisation's (ANSTO) Lucas Heights facility; Origin Energy's Eraring Power Station; Beijing Jingneng Clean Energy and Goldwind Australia's Gullen Range Wind and Gullen Solar Farms; Snowy Hydro's Tumut 3 Power Station and Colongra Power Station; Cape Byron Power's Condong Power Station; and Neoen's Hornsdale Power Reserve, South Australia.

Inquiry related documents are available on the committee's website, including submissions, hearing transcripts, tabled documents and answers to questions on notice.

Chapter 1 The New South Wales electricity market

This chapter outlines the characteristics of the New South Wales electricity market and explains its place within the National Electricity Market. It also details the fundamental components of the electricity supply chain and introduces the key bodies responsible for the market's design, operation, regulation and oversight. The chapter concludes with a brief overview of electricity asset privatisation and price deregulation in New South Wales.

Electricity in New South Wales

- 1.1 Electricity, like shelter and water, is an essential service.³ In New South Wales, electricity is provided to over three million homes and businesses through a complex network of poles and wires⁴ commonly referred to as the grid.
- 1.2 The supply of electricity involves complex interactions between government bodies and private entities. These interactions occur in markets regulated and oversighted under a national co-operative approach between governments and involve national, regional and state-based regulators.
- 1.3 The electricity market is shaped by a range of interrelated factors that all contribute to how the market performs and the outcomes for consumers. This includes how those firms responsible for delivering electricity have evolved over time, the development of the electricity market (in terms of generation sources and regulatory systems), weather conditions that impact on demand, and exposure to international developments.
- 1.4 The majority of electricity consumed through the New South Wales grid is generated within the state⁵ and supplied through the National Electricity Market (NEM).⁶ The NEM brings together New South Wales (including the Australian Capital Territory) with four other state-based regions under a common market framework.
- 1.5 The other inter-connected NEM state-based regions are Queensland, Victoria, South Australia, and Tasmania. Western Australia and the Northern Territory do not participate in the NEM, largely due to the vast distance between them and the other participating states.⁷
- 1.6 Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator (AEMO), noted that 'New South Wales has a very important influence on national outcomes while dispatch and pricing in New South Wales also is strongly influenced by the national market'.⁸

³ Submission 40, St Vincent de Paul Society, p 2.

⁴ Submission 8, Energy Networks Australia, p 3.

⁵ Australian Energy Regulator, *AER electricity wholesale performance monitoring NSW: electricity market advice*, December 2017, p 8.

⁶ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 2.

⁷ Australian Energy Market Operator, *Fact Sheet: National Electricity Market*, p 1.

⁸ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

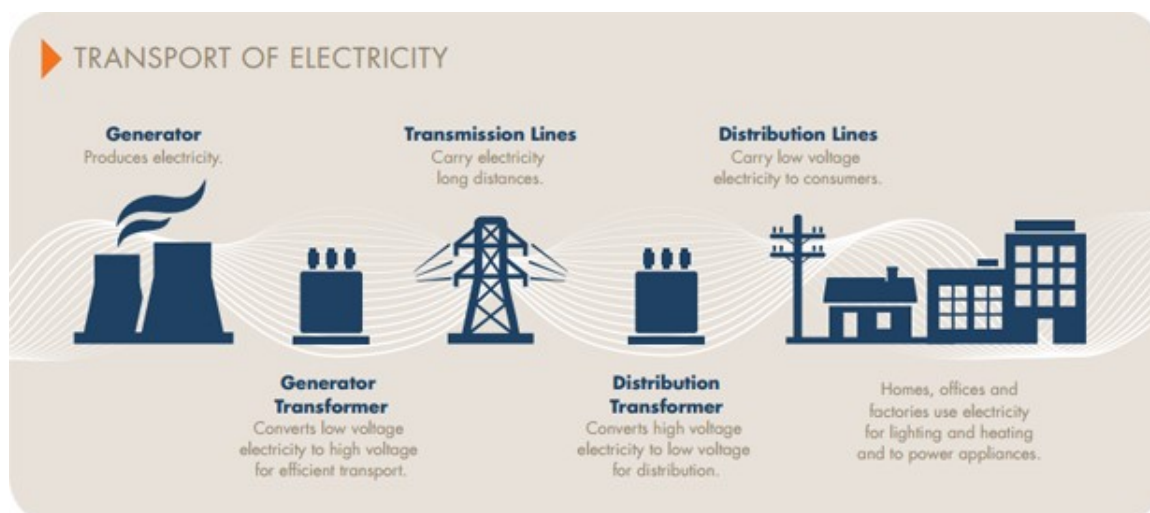
The electricity supply chain

1.7 The physical infrastructure involved in the production, transport and consumption of electricity is made up by four key components:

- generation
- transmission
- distribution
- consumption.⁹

1.8 Figure 1 shows how electricity is transported from the generator, where it is produced, through large transmission lines, on to smaller, local distribution lines and into our homes and businesses.

Figure 1 Electricity supply chain



Source: Australian Energy Market Operator, *Transport of Electricity*, <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM>

Generation

1.9 The electricity supply chain begins with the generator. Many different technologies are used to generate electricity in New South Wales. However, in New South Wales, thermal generation, coal and to a lesser extent gas, is the dominant generation technology.¹⁰

1.10 Thermal generation, works by burning fuel sources to like coal to propel and turbine, producing electricity.¹¹ This is then fed into the grid via a substation.

⁹ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 2.

¹⁰ Australian Energy Regulator, *AER electricity wholesale performance monitoring NSW: electricity market advice*, December 2017, p 7.

¹¹ Origin Energy, *How stuff works - electricity generation*, <https://www.originenergy.com.au/blog/lifestyle/how-stuff-works-electricity-generation.html>.

- 1.11** Although thermal generation is dominant in New South Wales, other technologies, such as hydro, wind and solar, are playing an increasingly important role. The majority of recent and planned investment in electricity generation in New South Wales is in wind and solar generation.¹² These, and other generation technologies, will be discussed in more detail in chapter 5.

Transmission

- 1.12** After being generated the electricity then enters the transmission network. Here, high-voltage transmission lines and underground cables transport electricity over large distances. These lines and cables connect the generator to large industrial consumers and smaller geographically-bound electricity distribution networks.¹³
- 1.13** The New South Wales transmission network is operated by Transgrid. It comprises 102 substations and over 13,000 kilometres of transmission lines and underground cables.¹⁴
- 1.14** Three high-voltage inter-state transmission points called interconnectors link the New South Wales network to neighboring NEM regions in Queensland and Victoria. This allows electricity to be traded between states.¹⁵

Distribution

- 1.15** To make it suitable for business and household consumption, high voltage electricity is converted to low voltage electricity at substations closer to homes and businesses.¹⁶ In New South Wales electricity is transported to consumers through one of three distribution networks, each serving a geographic region.¹⁷
- 1.16** The three Distribution Network Service Providers (DNSPs) are Endeavour Energy, Essential Energy and Ausgrid. Evoenergy (formally ActewAGL¹⁸) is the DNSP servicing the Australian Capital Territory.¹⁹
- 1.17** Ausgrid is the largest electricity distributor in New South Wales, reaching 1.7 million households and businesses across 22,000 square kilometres. Ausgrid covers Sydney, the Central Coast and Hunter Valley.²⁰

¹² NSW Chief Scientist and Engineer, *Final report from the Energy Security Taskforce NSW Chief Scientist & Engineer*, 19 December 2017, p 17.

¹³ Transgrid, *New South Wales Transmission Annual Planning Report*, 30 June 2018, p 4.

¹⁴ Transgrid, *New South Wales Transmission Annual Planning Report*, 30 June 2018, p 4.

¹⁵ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, pp 10-11.

¹⁶ Transgrid, *About Us*, <https://www.transgrid.com.au/who-we-are/about-us/Documents/About%20Us%20-%20TransGrid.pdf>, p 1.

¹⁷ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 32.

¹⁸ Media release, ActewAGL, 'Introducing Evoenergy', 22 September 2017.

¹⁹ Australian Energy Market Commission, *Final Report: 2017 Residential Electricity Price Trends*, 18 December 2017, p 113.

²⁰ Tabled document, Ausgrid, *Ausgrid and our customers; executive summary*, p 6.

- 1.18** The Essential Energy distribution network is the largest in New South Wales by area. It covers 95 per cent of the state and parts of southern Queensland, and serves more than 800,000 homes and businesses.²¹
- 1.19** Endeavour Energy operates the network in Sydney's Greater West, the Blue Mountains, Southern Highlands, the Illawarra and the South Coast. It serves almost one million customers and covers nearly 25,000 square kilometres.²²
- 1.20** The distribution component of the electricity grid (and sometimes the transmission component) is often referred to as the 'poles and wires'.²³
- 1.21** As outlined in the *Independent Review into the Future Security of the National Electricity Market*, chaired by Dr Alan Finkel, Australian Chief Scientist both the transmission and distribution networks are natural monopolies,²⁴ meaning each region in New South Wales is serviced by only one operator. While they were until recently owned by the State Government of New South Wales, a majority share of Ausgrid and Endeavour and the whole of Transgrid were leased for 99 years or sold. Essential Energy remains wholly owned by the NSW Government.

Consumption: the end user

- 1.22** Electricity consumption has traditionally followed a linear path from generator, through transmission and distribution lines, and onto the end consumer. The grid was originally built to accommodate such a way one-way supply chain. However, interactions between the consumer and grid are becoming increasingly two-way with the adoption of new technologies such as rooftop solar and batteries, turning traditional consumers of electricity into consumer-generators.²⁵
- 1.23** This transition poses challenges for the New South Wales electricity sector. Energy Networks Australia noted that without sufficient planning, the rapid increase in two-way electricity flows has the potential to overload elements of the grid.²⁶ Endeavour Energy asserted that greater automation and innovative pricing structures are required as customers demand more choice and control over their energy usage.²⁷

What is the National Electricity Market (NEM)?

- 1.24** The NEM is a real-time wholesale electricity market that facilitates the trade of electricity between generators, who produce electricity, and retailers, who sell it to end users.²⁸ It is the

²¹ Submission 11, Essential Energy, p 3.

²² Submission 243, Endeavour Energy, p 2.

²³ For example, Media release, The Hon Gladys Berejiklian MP, NSW Premier and The Hon. Dominic Perrottet MP, NSW Treasurer, 'Endeavour Lease Wraps Up Poles and Wires Transaction', 11 May 2017.

²⁴ Dr Alan Finkel, *Independent Review into the Future Security of the National Electricity Market*, June 2017, p 129.

²⁵ Submission 243, Endeavour Energy, p 8.

²⁶ Submission 8, Energy Networks Australia, p 11.

²⁷ Submission 243, Endeavour Energy, p 8.

²⁸ Australian Energy Market Operator, *Fact Sheet: National Electricity Market*, p 3.

longest geographically connected power system in the world.²⁹ It stretches from Port Douglas in Queensland to Port Lincoln in South Australia, and across the Bass Strait to Tasmania.³⁰ Within that area are five separate but interconnected regions, each trading at a separate market price.³¹ The NEM began operation in December 1998, with New South Wales and the Australian Capital Territory comprising one NEM region.³²

1.25 As electricity cannot be easily stored, the NEM is designed to instantaneously match supply to demand through a central dispatch process. Generators make bids to supply quantities of electricity at different prices, for certain periods of time. The national body charged with the market's daily operation, the Australian Energy Market Operator (AEMO), then directs (or dispatches) generators to produce the electricity required to meet current demand based on the lowest cost achievable within network constraints.³³

1.26 AEMO acts as a market intermediary paying generators for the electricity they supply and recovering that cost from electricity retailers, who on-sell the electricity to consumers.³⁴

New South Wales participants in the NEM

Wholesale: generators

1.27 Over 300 registered generators participate in the NEM wholesale electricity market.³⁵ The NSW Chief Scientist & Engineer's *Initial Report from the Energy Security Taskforce*, authored by the former NSW Chief Scientist & Engineer, Professor Mary O'Kane, notes that in New South Wales there are 24 large scheduled and semi-scheduled generators (these make bids in the central dispatch process) and 65 smaller non-scheduled generators (these do not make bids, but sell their electricity in the wholesale market).³⁶

1.28 As at December 2017, five black coal-fired generators accounted for 63 per cent of New South Wales' installed generation capacity and contributed approximately 88 per cent of the electricity produced by registered generators.³⁷ The coal-fired power stations in the state are:

- Liddell Power Station, owned by AGL Energy
- Bayswater Power Station, owned by AGL Energy

²⁹ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 2.

³⁰ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 22.

³¹ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 43.

³² Australian Energy Market Operator, *National Electricity Market*, <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM>.

³³ Australian Energy Market Operator, *Fact Sheet: National Electricity Market*, pp 2-3.

³⁴ Australian Energy Market Operator, *Fact Sheet: National Electricity Market*, pp 3.

³⁵ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 24.

³⁶ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 9.

³⁷ Australian Energy Regulator, *AER electricity wholesale performance monitoring: NSW electricity market advice*, December 2017, p 7.

- Eraring Power Station, owned by Origin Energy
- Mt Piper Power Station, owned by EnergyAustralia
- Vales Point Power Station, owned by Sunset Power operating as Delta Electricity.³⁸

- 1.29** As at December 2017, Hydro contributed about 5 per cent of the state's electricity output, gas comprised 4 per cent of output, while wind amounted to about 4 per cent of output.³⁹
- 1.30** Major hydroelectric generators in New South Wales include Snowy Hydro's nine power stations, Murray 1, Murray 2, Blowering, Guthega, Tumut 1, Tumut 2, Tumut 3, Jounama Small Hydro and Jindabyne Mini Hydro.⁴⁰
- 1.31** Gas-fired power stations include Uranquinty Power Station, owned by Origin Energy, Colongra Power Station, owned by Snowy Hydro, and Tallawarra power station, owned by EnergyAustralia.⁴¹
- 1.32** There are also 380,000 households in New South Wales with rooftop solar panels.⁴² The electricity generated by these systems is not traded in the NEM.⁴³

Retailers

- 1.33** Some large consumers of electricity buy directly from the wholesale market. However, most users, including homes and businesses, obtain electricity through a retailer who manages the purchase of wholesale electricity through the NEM on the customer's behalf.⁴⁴ Retailers bundle the wholesale costs with transmission, retail and climate charges and then charge the customer a retail tariff.⁴⁵
- 1.34** As of May 2018, there were 23 retail electricity businesses in New South Wales operating 28 brands.⁴⁶ The Australian Energy Regulator (AER) reported in its most recent *Annual Report on Compliance & Performance of the Retail Energy Market* that three retailers, AGL Energy, Origin Energy and EnergyAustralia, supply around 86 per cent of small retail customers in New South Wales⁴⁷ which is a decline from 89 per cent in the previous year.⁴⁸

³⁸ Australian Energy Regulator, *AER electricity wholesale performance monitoring: NSW electricity market advice*, December 2017, p 9.

³⁹ Australian Energy Regulator, *AER electricity wholesale performance monitoring NSW: electricity market advice*, December 2017, p 8.

⁴⁰ Snowy Hydro, *The Assets*, <http://www.snowyhydro.com.au/our-energy/hydro/the-assets/>

⁴¹ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 45.

⁴² Submission 145, NSW Government, p 3.

⁴³ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 24.

⁴⁴ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 25.

⁴⁵ Evidence, Mr Justin Hillier, Chief Financial Officer, Essential Energy, 18 June 2018, p 10.

⁴⁶ Australian Energy Market Commission, *Final Report: 2018 Retail Energy Competition Review*, 15 June 2018, p 268.

⁴⁷ Australian Energy Regulator, *Annual Report on Compliance & Performance of the Retail Energy Market: 2016-17*, 22 November 2017, p 14.

⁴⁸ Australian Energy Regulator, *Annual Report on Compliance & Performance of the Retail Energy Market: 2015-16*, 22 November 2016, p 13.

- 1.35** According to the NSW Chief Scientist & Engineer's *Initial Report from the Energy Security Taskforce*, generators and retailers often protect themselves from fluctuations in the wholesale price of electricity in the NEM through a range of hedging strategies. This can include entering into contracts with one another and by integrating retail and generation activities.⁴⁹ The former arrangements involves what are known as 'hedge' contracts⁵⁰ and the latter is often referred to as vertical integration.⁵¹ The committee heard considerable evidence regarding the implications of vertical integration and contracting arrangements in the New South Wales electricity market,⁵² which will be discussed in chapter 3.
- 1.36** Evidence before the committee was that the retail margin comprised nearly twenty percent of electricity bills. The retail profit in New South Wales was found by the ACCC to be 10 per cent.⁵³ Further it found that retail margins accounted for 29 per cent of the total increase in prices.⁵⁴ This is much higher than the profit margin for many other businesses.

Committee comment

- 1.37** The committee considers that given the significant increase in electricity bills in recent years, the profit margin for at least the big vertically integrated retailers is excessive.
- 1.38** The committee notes the response to concerns about the level of profits being made by the private insurers involved in the Compulsory Third Party motor accident scheme in New South Wales. The NSW Parliament created a mechanism to oversight the level of profit being made and to ensure that excessive profits were returned to customers. The committee finds that there is no reason why such an approach should not be taken to the electricity retail sector, at least in respect to the big vertically integrated energy companies.

⁴⁹ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 23.

⁵⁰ Australian Competition & Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report*, 22 September 2017, p 55.

⁵¹ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 47.

⁵² For example, Evidence, Mr Tony Wood, Energy Program Director, Grattan Institute, 31 October 2017 and Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017.

⁵³ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 8.

⁵⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 14.

Finding 1

Given the significant increase in electricity bills in recent years, the committee finds that such a profit margin for at least the big vertically integrated retailers is excessive.

The committee notes that in response to concerns about the level of profits being made by the private insurers involved in the Compulsory Third Party motor accident scheme in New South Wales, the NSW Parliament created a mechanism to oversight the level of profit being made and to ensure that excessive profits were returned to customers. The committee finds that there is no reason why such an approach should not be taken to the electricity retail sector, at least in respect to the big vertically integrated energy companies.

- 1.39** The committee supports the oversight of the profits being made by the big vertically integrated energy companies. The committee recommends that the NSW Government develop and implement a legislative mechanism to oversight the level of profit being made by the big vertically integrated energy companies and to ensure that excessive profits are returned to consumers.
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Recommendation 1

That the NSW Government develop and implement a legislative mechanism to oversight the level of profit being made by the big vertically integrated energy companies and to ensure that excessive profits are returned to consumers.

Legislative and policy framework

- 1.40** Under Australian constitutional arrangements, the regulation of energy is the responsibility of the various states and territories.⁵⁵ In New South Wales, the Department of Planning and Environment leads the development and delivery of the state's energy policy and legislation in support of the Minister for Energy and Utilities.⁵⁶
- 1.41** Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment noted the government's aim is to support affordable, reliable and clean energy for the people of New South Wales.⁵⁷
- 1.42** The NSW Government pursues its policy objectives on a state level, including by enabling retail market competition, monitoring prices and putting in place consumer protections as the energy market changes. It also pursues its objectives on a national level through the Council of

⁵⁵ NSW Department of Planning and Environment, *Electricity Legislation*, <https://www.energy.nsw.gov.au/energy-supply-industry/legislation-and-policy/electricity-legislation>.

⁵⁶ Evidence, Ms Katharine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 18 June 2018, p 2.

⁵⁷ Evidence, Ms Katharine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 18 June 2018, p 2.

Australian Governments (COAG) Energy Council and by supporting the three key national market bodies:⁵⁸

- Australian Energy Market Commission (AEMC)
- Australian Energy Market Operator (AEMO)
- Australian Energy Regulator (AER).

COAG Energy Council and the Energy Security Board

- 1.43** The COAG Energy Council is a ministerial forum for the Commonwealth, Australian states and territories and New Zealand and is the decision-making body with overarching responsibility for Australian gas and electricity markets.⁵⁹
- 1.44** According to its terms of reference, the COAG Energy Council provides a forum for collaboration between jurisdictions in the development and implementation of an integrated and coherent national energy and mineral resources policy.⁶⁰ This includes the design of the NEM.
- 1.45** Following the release of the *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review)⁶¹ in June 2017, the COAG Energy Council established the Energy Security Board (ESB). The ESB provides whole-of-system oversight for energy security and reliability and is coordinating the implementation of recommendations coming from the Finkel Review.⁶²
- 1.46** The ESB has recommended the implementation of the National Energy Guarantee (NEG), which proposed changes to the NEM and the relevant legislative and policy framework to support the provision of reliable, secure and affordable electricity.⁶³
- 1.47** The NEG has been designed to integrate energy and emissions policy with the aim of delivering these objectives at the lowest overall cost.⁶⁴ The NEG is discussed in more detail in chapter 5.

The National Electricity Law

- 1.48** The National Electricity Law (NEL) is the key enabling legislation for the NEM. The NEL is set out in a schedule to the *National Electricity (South Australia) Act 1996* (SA).⁶⁵ It is applied as

⁵⁸ Evidence, Ms Katharine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 18 June 2018, p 2.

⁵⁹ Evidence, Ms Katharine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 18 June 2018, p 2.

⁶⁰ Council of Australian Governments Energy Council, *COAG Energy Council Terms of Reference*, 12 April 2018, p 1.

⁶¹ Dr Alan Finkel, *Independent Review into the Future Security of the National Electricity Market*, June 2017.

⁶² Australian Energy Market Commission, *Final Report: 2017 Residential Electricity Price Trends*, 18 December 2017, p 73.

⁶³ COAG Energy Council, *Energy Security Board*, <http://www.coagenergycouncil.gov.au/council-priority/energy-security-board>.

⁶⁴ COAG Energy Council, *National Energy Guarantee*, (7 November 2017) <http://www.coagenergycouncil.gov.au/publications/energy-security-board-update>.

⁶⁵ *National Electricity (South Australia) Act 1996* (SA).

law in each jurisdiction that participates in the NEM. In New South Wales, the NEL is enacted by the *National Electricity (New South Wales) Act 1997*.⁶⁶

- 1.49** The NEL establishes the governance and enforcement framework and key obligations surrounding the NEM and the regulation of access to electricity networks. The NEL is supported by further regulations and the National Electricity Rules.⁶⁷

National Electricity Rules

- 1.50** The National Electricity Rules (NER)⁶⁸ set out rules for energy market participants to abide by and establishes their rights and responsibilities. They are made by the Australian Energy Market Commission (AEMC) and govern the operation of the NEM, including the economic regulation of electricity transmission and distribution networks.⁶⁹
- 1.51** Rule changes can be proposed to the AEMC by market participants.⁷⁰ The rules must be consistent with the National Electricity Objective,⁷¹ which states that the NEL should promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity.⁷²

National Energy Retail Law

- 1.52** The National Energy Retail Law (NERL) is schedule to the *National Energy Retail Law (South Australia) Act 2011* (SA).
- 1.53** In New South Wales, the NERL is applied through the *National Energy Retail Law (Adoption) Act 2012*. It provides specific rules for energy retailers operating in New South Wales, including requirements around how energy retailers market their offers, and responsibilities for retailers to help customers experiencing financial hardship.⁷³
- 1.54** The NERL sets out a role for the Independent Pricing and Regulatory Tribunal NSW (IPART) to monitor the performance and competitiveness of the retail market for small customers and provide an annual report to the Minister for Energy and Utilities.⁷⁴

⁶⁶ *National Electricity (New South Wales) Act 1997*.

⁶⁷ Australian Department of the Environment and Energy, *Energy Market Legislation*, <https://www.energy.gov.au/government-priorities/energy-markets/energy-market-legislation>.

⁶⁸ National Electricity Rules (SA), *National Electricity (South Australia) Act 1996* (SA).

⁶⁹ Australian Department of the Environment and Energy, *Energy Market Legislation*, <https://www.energy.gov.au/government-priorities/energy-markets/energy-market-legislation>.

⁷⁰ Australian Energy Market Commission, *Rule Changes*, <https://www.aemc.gov.au/our-work/changing-energy-rules>.

⁷¹ Australian Energy Market Commission, *National Electricity Rules*, <https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules>.

⁷² *National Electricity (South Australia) Act 1996* (SA), s. 7.

⁷³ Communication notice, Australian Energy Regulator, 'National Energy Retail Law commences in New South Wales', 1 July 2013.

⁷⁴ Independent Pricing and Regulatory Tribunal New South Wales, *Information Paper: 2017 NSW retail electricity market monitoring*, 23 May 2017, pp 1-2.

1.55 The NERL is supported by further regulations and the National Energy Retail Rules (NERR).⁷⁵

Key market bodies

1.56 In accordance with New South Wales' participation in NEM, certain responsibilities for the design, operation and regulation of the electricity market are conferred to national bodies through a variety of legislative arrangements. The three key market bodies responsible for the NEM and their roles are as follows:

- Australian Energy Market Commission (AEMC): develops the rules by which the market must operate
- Australian Energy Market Operator (AEMO): handles the day-to-day operations of the electricity and gas markets
- Australian Energy Regulator (AER): enforces the rules and makes judgements on the regulatory proposals of monopoly network operators.⁷⁶

Australian Energy Market Commission

1.57 The functions of the AEMC are set out in Section 6 of that the *Australian Energy Market Commission Establishment Act 2004* (SA). Ms Anne Pearson, Chief Executive, Australian Energy Market Commission explained that the AEMC is responsible for making and amending the National Electricity Rules to support the evolution of energy markets, and to deliver energy to consumers at the lowest possible cost:

Our role is to adapt and change the energy market framework as the circumstances require, either to address the big-picture questions affecting the future of the market or to deal with specific technical problems that arise from time to time that require a change to the rules. In fact, our core business is problem solving through consultation with all of our stakeholders so that energy services can be delivered to consumers at the lowest possible cost. We make and amend rules to support the evolution of energy markets and we monitor and review areas of the framework to help inform the policy decision-making of the COAG Energy Council.⁷⁷

Australian Energy Market Operator

1.58 AEMO is the national body with primary responsibility for the daily operation of the NEM. AEMO settles the financial transactions in the wholesale electricity market and provides a range of services that support the retail market.⁷⁸

⁷⁵ Australian Department of the Environment and Energy, *Energy Market Legislation*, <https://www.energy.gov.au/government-priorities/energy-markets/energy-market-legislation>.

⁷⁶ Australian Department of Environment and Energy, *National Electricity Market*, <https://www.energy.gov.au/government-priorities/energy-markets/national-electricity-market-nem>.

⁷⁷ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 2.

⁷⁸ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, 31 October 2017, p 19.

- 1.59** AEMO manages the central dispatch process in the NEM and monitors electricity consumption and the flow of energy across the power system to make sure it is secure and reliable.⁷⁹
- 1.60** AEMO also has a national planning role in the NEM and publishes a wide range of information on the operation of the market.⁸⁰

Australian Energy Regulator

- 1.61** The Australian Energy Regulator (AER) is the enforcement agency responsible for monitoring and enforcing the laws and rules for the NEM. A key responsibility of the AER is to make determinations regarding the revenue that network operators are able to recover from their customers.⁸¹
- 1.62** As noted in the Finkel Review, it is unlikely to be economically efficient for a competitor to duplicate the assets required to offer more than one network service in a given region. For this reason, electricity networks are considered natural monopolies and must be regulated to ensure efficient spending on infrastructure and to protect the long-term interests of customers.⁸²
- 1.63** Through a comprehensive public process, the AER assesses five-year revenue proposals for network business,⁸³ and sets the maximum revenue that can be recovered for efficient costs. The AER also approves yearly network tariffs, which set out how operators collect revenue from their customers.⁸⁴
- 1.64** In reference to the 2014-19 revenue period, the AER noted that revenue had been recovered by each New South Wales distribution network businesses—Endeavour Energy, Essential Energy, and Ausgrid—above the amount provided for in the AER's decision.⁸⁵ The AER pointed out that additional revenue can arise because of the difference between actual and forecast consumption in the regulatory period.⁸⁶
- 1.65** The AER noted that the over-recovered revenue is returned to customers in the subsequent regulatory period.⁸⁷

⁷⁹ Australian Energy Market Operator, *Fact Sheet: The National Electricity Market*, p 2.

⁸⁰ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, 31 October 2017, p 19.

⁸¹ Evidence, Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator, 17 November 2017, p 27.

⁸² Dr Alan Finkel, *Independent Review into the Future Security of the National Electricity Market*, June 2017, p 129.

⁸³ Submission 8, Energy Networks Australia, p 3.

⁸⁴ Submission 9, Ausgrid, p 1.

⁸⁵ Tabled document, Australian Energy Regulator, *letter to the Hon Adam Searle MLC*, tabled by the Hon Adam Searle MLC, 18 June 2018, pp 1-2.

⁸⁶ Tabled document, Australian Energy Regulator, *letter to the Hon Adam Searle MLC*, tabled by the Hon Adam Searle MLC, 18 June 2018, p 2.

⁸⁷ Tabled document, Australian Energy Regulator, *letter to the Hon Adam Searle MLC*, tabled by the Hon Adam Searle MLC, 18 June 2018, p 2.

- 1.66** The Public Interest Advocacy Centre (PIAC) noted that this is generally an 'effective way of ensuring inefficient network costs are not recovered from consumers'.⁸⁸ However, this is not a universally-held view.
- 1.67** The committee received evidence indicating that historical over-investment in network infrastructure may have resulted in consumers paying more than necessary for network services.⁸⁹
- 1.68** The AER is also statutorily required as of December 2016 to monitor the wholesale market on a regular and systematic basis and publically report on its performance at least every two years. In reviewing the market the AER is required to report on whether there is effective competition and whether there are features of the market that might compromise the efficient functioning. The AER's next report, which will be its first, is due December 2018.⁹⁰

Electricity price regulation, monitoring and oversight bodies

Independent Pricing and Regulatory Tribunal New South Wales

- 1.69** In accordance with the National Energy Retail Law,⁹¹ the Independent Pricing and Regulatory Tribunal (IPART) NSW operates as market monitor. IPART is responsible for reviewing the performance of the market annually and reporting to the Minister for Energy and Utilities on how competition is working.⁹²
- 1.70** Before New South Wales retail electricity prices were deregulated on 1 July 2014, IPART performed the role of industry regulator. Since 2011, IPART has also played a role in reviewing solar feed in tariffs for consumers with small-scale solar installations connected to the grid.⁹³ IPART sets a voluntary benchmark each year to help retailers in setting their tariffs and to help solar customers in deciding whether these tariffs are reasonable.⁹⁴
- 1.71** IPART is also the safety and reliability regulator for New South Wales electricity networks, monitoring compliance with the *Electricity Supply Act 1995* and the *Electricity Supply (Safety and Network Management) Regulation 2014*.

Energy and Water Ombudsman New South Wales

- 1.72** The Energy & Water Ombudsman NSW (EWON) is an independent, industry-funded ombudsman with a membership of 53 energy and water providers. Electricity retailers and

⁸⁸ Submission 7, Public Interest Advocacy Centre, p 10.

⁸⁹ For example, Evidence, Mr Ash Salardini, Chief Economist, NSW Farmers, 21 February 2018, p 45.

⁹⁰ Australian Energy Regulator, *AER electricity wholesale performance monitoring NSW: electricity market advice*, December 2017, p 4.

⁹¹ *National Energy Retail Law (NSW) No 37a*.

⁹² *National Energy Retail Law (NSW) No 37a*, s 9A(234A).

⁹³ Feed in tariffs represent the price paid for small solar energy being fed back into the grid.

⁹⁴ Independent Pricing and Regulatory Tribunal NSW, *Solar feed-in tariffs: The value of electricity from small-scale solar panels in 2018-19*, June 2018, p 1.

distribution network operators are required by New South Wales legislation and AER regulation to join and fund EWON as a condition of operating in the state.⁹⁵

- 1.73** EWON's primary role is to investigate and resolve complaints from customers of electricity and gas providers in New South Wales.⁹⁶ EWON provides free advice and dispute resolution for customers who have not been able to resolve a complaint with their provider.
- 1.74** Ms Janine Young, Energy and Water Ombudsman NSW, noted that in 2018, EWON will resolve over 26,000 complaints, 'mostly energy, and mostly relating to affordability in some way'.⁹⁷
- 1.75** The Ombudsman noted that an increase in the price of electricity is often reflected in an increase in complaints to EWON and pointed out that complaints relating to affordability increased significantly between 2009 and 2014 and that complaints in 2016/17 were roughly half the volume of the peak in 2013/14.⁹⁸

New South Wales Electricity Price Commissioner

- 1.76** The role of the New South Wales Electricity Price Commissioner is set out in the *Electricity Network Assets (Authorised Transactions) Act 2015*. The act is the enabling legislation for the 99-year lease of 49 per cent the New South Wales electricity network businesses, TransGrid, Ausgrid and Endeavour Energy.⁹⁹
- 1.77** Current Electricity Price Commissioner, Professor Allan Fels, advised that the Commissioner has two roles under the law, both of which relate to network businesses. Namely to:
- advise the New South Wales Treasurer before the completion of the lease transactions on whether or not they were likely to cause an increase in network charges
 - annually assess and report on whether each of businesses subject to the transactions has complied with its obligations under the New South Wales electricity network price guarantee.¹⁰⁰
- 1.78** The network price guarantee requires that authorised network operators' total charges for 2018-19 are lower than what they were in 2013-14. It also requires network operators to guarantee that operators will promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers. It requires that operators comply with any Efficiency Benefit Sharing Scheme developed by the AER.¹⁰¹

⁹⁵ Evidence, Ms Janine Young, Energy and Water Ombudsman NSW, 8 May 2018, p 45.

⁹⁶ Submission 10, Energy and Water Ombudsman NSW, p 1.

⁹⁷ Evidence, Ms Janine Young, Energy and Water Ombudsman NSW, 8 May 2018, p 45.

⁹⁸ Submission 10, Energy and Water Ombudsman NSW, pp 1-2.

⁹⁹ *Electricity Network Assets (Authorised Transactions) Act 2015*; Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, p 53.

¹⁰⁰ Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, p 53.

¹⁰¹ *Electricity Network Assets (Authorised Transactions) Act 2015*, s. 8.1.

- 1.79** Professor Fels advised that he has found that for each network transaction the costs were not likely to result in an increase in network charges.¹⁰² He also noted that 'all the signs are that the companies will come in well below the amount that they are required' under the network price guarantee.¹⁰³
- 1.80** Professor Fels explained that other components of the network price guarantee closely mirror the National Electricity Objective contained within the National Electricity Law¹⁰⁴ and that the market bodies, particularly the AER, ensure compliance with the objective.¹⁰⁵
- 1.81** However, the committee notes that significant increases at both the wholesale and retail ends have significantly increased overall electricity bills in New South Wales and that this is at least partly due to privatisation of the generators and deregulation of the retail electricity market.

Australian Competition & Consumer Commission

- 1.82** The Australian Competition and Consumer Commission (ACCC) plays a role in the electricity market in the context of the *Competition and Consumer Act 2010* (Cth). In accordance with the act, the ACCC enforces the competition and consumer protection provisions in energy markets and assesses energy mergers and authorisations.¹⁰⁶
- 1.83** On 27 March 2017, the then Australian Treasurer, the Hon Scott Morrison MP, directed the ACCC to hold an inquiry into the retail supply of electricity and the competitiveness of retail electricity markets in the National Electricity Market. The ACCC's final report was released in June 2018.¹⁰⁷ The work of the ACCC is discussed in more detail in chapter 2, and referred to throughout this report.
- 1.84** In August 2018, the ACCC was directed by the Commonwealth Government to monitor and report on prices, profits and margins in the supply of electricity in the National Electricity Market. The ACCC's first report is due to government by 31 March 2019.¹⁰⁸

¹⁰² Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, p 53.

¹⁰³ Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, p 54.

¹⁰⁴ *National Electricity (South Australia) Act 1996* (SA), s. 7.

¹⁰⁵ Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, pp 53-54.

¹⁰⁶ Australian Competition & Consumer Commission, *ACCC role in energy*, <https://www.accc.gov.au/regulated-infrastructure/energy/accc-role-in-energy>.

¹⁰⁷ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: retail electricity pricing inquiry—final report*, June 2018.

¹⁰⁸ Media release, the Australian Competition and Consumer Commission, 'ACCC to monitor and report on electricity prices,' 21 August 2018.

Asset privatisation in New South Wales

1.85 A significant change to the nature of the NEM and its participants in New South Wales has been the privatisation of generators and major parts of the state-owned transmission and distribution network.¹⁰⁹

Lease/sale of network businesses

1.86 In 2015, the government began the partial privatisation of its electricity network businesses, enabled by the *Electricity Network Assets (Authorised Transactions) Act 2015*.

1.87 In November 2015, the New South Wales transmission network, operated by TransGrid, was effectively leased/sold to a consortium led by Hastings Funds Management (20 per cent) and Spark Infrastructure (15 per cent) on a 99-year lease.¹¹⁰

1.88 In October 2016, a consortium comprising IFM Investors and AustralianSuper entered a 99 year lease for 50.4 per cent of the AusGrid distribution network.¹¹¹

1.89 In May 2017, the government announced the lease of 50.4 per cent of the Endeavour Energy distribution network to an Australian-led consortium including Macquarie Infrastructure and Real Assets, AMP Capital on behalf of REST Industry Super, Canada's British Columbia Investment Management Corporation and the Qatar Investment Authority.¹¹²

1.90 Essential Energy remains government-owned.¹¹³ As previously noted, Essential Energy's distribution network is the largest in New South Wales by area, covering 95 per cent of the State.¹¹⁴

1.91 Mr Peter Adams, General Manager Wholesale Market, Australian Energy Regulator, advised that although the lease arrangements transfer the operation of some electricity network assets to the private sector, regulatory arrangements remain in place for their operation and recovery of revenue.¹¹⁵

¹⁰⁹ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 2.

¹¹⁰ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 100.

¹¹¹ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 100.

¹¹² Submission 243, Endeavour Energy, p 2.

¹¹³ Tabled document, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 2.

¹¹⁴ Submission 11, Essential Energy, p 3.

¹¹⁵ Evidence Mr Peter Adams, General Manager Wholesale Market, Australian Energy Regulator, 17 November 2017, p 27.

Sale of state-owned generation portfolio

- 1.92** Historically, the NSW Government has been the major investor in electricity generation infrastructure.¹¹⁶ Before privatisation, around 90 per cent of the state's generation capacity was publicly owned.¹¹⁷
- 1.93** Enabled by the *Electricity Generator Assets (Authorised Transactions) Act 2012*, the privatisation of the state-owned generation businesses was undertaken between 2012 and 2015.¹¹⁸
- 1.94** Many of the assets privatised in the sale of government-owned generation businesses were coal-fired power stations, built by the government and sold to existing market participants.¹¹⁹ The sales included:¹²⁰
- EnergyAustralia acquired Mt Piper and Wallerawang Coal-Fired Power Stations (Delta West) in 2013
 - Origin Energy acquired Eraring Coal-Fired Power Station and Shoalhaven Hydro Power Station (Eraring Energy) in 2013
 - AGL Energy acquired Bayswater and Liddell Coal-Fired Power Stations (Macquarie Generation) in 2014
 - Snowy Hydro acquired Colongra Gas-Fired Power Station (Delta Electricity) in 2014
 - Sunset Power acquired Vales Point Coal-Fired Power Station (Delta Electricity) in 2015
 - Trustpower acquired Green State Power in 2014. Green State Power's assets included:
 - Hume Hydro Power Station
 - Burrinjuck Hydro Power Station
 - Keepit Hydro Power Station
 - Blayney Wind Farm
 - 80 per cent of Crockwell Wind Farm.¹²¹
- 1.95** On 2 March 2018, the NSW Government announced the sale of its 58 per cent share in Snowy Hydro to the Australian Government.¹²²

¹¹⁶ NSW Chief Scientist and Engineer, *Final report from the Energy Security Taskforce NSW Chief Scientist & Engineer*, 19 December 2017, p 16.

¹¹⁷ Australian Competition & Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report*, 22 September 2017, p 103.

¹¹⁸ NSW Chief Scientist and Engineer, *Final report from the Energy Security Taskforce NSW Chief Scientist & Engineer*, 19 December 2017, p 16.

¹¹⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: retail electricity pricing inquiry—final report*, June 2018, p 45.

¹²⁰ Details for sales obtained from: NSW Parliamentary Research Service, *issues backgrounder: Privatisation in NSW: a timeline and key sources*, June 2017, pp 8-9; Australian Energy Regulator, *State of the Energy Market*, May 2017, pp 43-44.

¹²¹ Media Release, the Hon Andrew Constance MP, NSW Treasurer, 'NSW Government Welcomes Sale of Renewable Energy Assets', 24 June 2014.

¹²² Media Release, the Hon Gladys Berejiklian MP, Premier of NSW, 'Boon for the Bush: Regional NSW to Reap \$4.145 Billion in Snowy Transaction', 2 March 2018.

- 1.96** The committee notes that the sale of Vales Point power station for \$1 million has seen the value of that asset now assessed to be worth \$720 million. The electricity sold from that power station is at a significantly higher price than when the asset was in public hands.¹²³
- 1.97** Since the sale of Vales Point power station by the NSW Government for \$1 million, its new owners gave evidence to the committee that last year they made profits 'in the order of \$90 million'. They further gave evidence on notice that their profit in 2016-17 was \$30.6 million, and in 2015-16 was \$26.1 million. Since taking ownership they have taken \$39.9 million out of the company in a share buyback. The owners intend to keep the power station running well past the Government's previous indicative closing date.¹²⁴

Deregulation in New South Wales

Retail price deregulation

- 1.98** Full retail contestability was introduced for electricity and gas customers in 2002.¹²⁵ Small customers in New South Wales were able to choose from a regulated offer determined by IPART, or a standing offer or market offer with prices set by retailers in a competitive market.¹²⁶
- 1.99** The government later fully deregulated retail electricity prices on 1 July 2014. This allowed retailers to determine the prices of standard and market contracts and made IPART responsible for market monitoring.¹²⁷
- 1.100** The NSW Business Chamber advised that the decision to deregulate prices was based on findings by both IPART and the AEMC that the market was competitive.¹²⁸ The government was satisfied there was sufficient competition to ensure that retailers could not set prices above the costs of supply without the risk of losing customers to their rivals.¹²⁹
- 1.101** The Public Interest Advocacy Centre notes that although New South Wales retail energy prices have been un-regulated since 2014, 'there is still a regulatory framework that places obligations and limitations on market participants to try and ensure that only efficient costs are recovered from electricity consumers'.¹³⁰ However, it is fair to say that there was strong evidence before the committee that deregulation has led to higher not lower electricity bills for consumers across New South Wales.

¹²³ Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 29.

¹²⁴ Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 29; Answers to questions on notice, Delta Electricity, 17 July 2018, p 1; Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 30.

¹²⁵ Australian Energy Market Commission, *Final Report: 2018 Retail Energy Competition Review*, 15 June 2018, p 268.

¹²⁶ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From 1 July 2014 to 30 June 2015*, November 2015, p 6.

¹²⁷ Submission 39, NSW Business Chamber, p 6.

¹²⁸ Submission 39, NSW Business Chamber, p 6.

¹²⁹ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From 1 July 2016 to 30 June 2017*, November 2017, p 1.

¹³⁰ Submission 7, Public Interest Advocacy Centre, p 10.

- 1.102** This report will consider the impact that the deregulation of retail prices has had on consumers in chapter 2.

Network reliability standards

- 1.103** As monopoly assets, the electricity transmission and distribution networks are the most heavily regulated component of the electricity supply chain.¹³¹ In recent years, the government has made significant changes to network reliability standards that have had implications for network investment and consumer outcomes.
- 1.104** In 2007, the government revised the design, reliability and performance licence conditions for the distribution network service providers. Networks were required to meet strict reliability standards, to provide customers, on average, with power 99.98 per cent of the time.¹³²
- 1.105** According to several inquiry participants, such strict reliability conditions resulted in high levels of investment in network infrastructure, raising prices for consumers.¹³³ Energy Networks Australia points out that this, combined with other factors including the Global Financial Crisis and the need to replace aging infrastructure built in the 1960s and 1970s, led to significant increases in network costs for consumers between 2007 and 2012.¹³⁴
- 1.106** In 2014, the government revised the reliability and performance licence conditions 'to facilitate the delivery of a reliable and cost-effective supply of electricity'.¹³⁵ Ausgrid noted that these changes to licence conditions have 'helped us to minimise our investments over the last 3 years'.¹³⁶ Ausgrid assert that there has been in reductions in the network component of customers' bills.¹³⁷

Committee comment

- 1.107** Electricity markets are necessarily complex. In New South Wales, electricity is supplied to over three million homes and businesses. This is done via an intricate supply chain in which government bodies and private entities coordinate to instantaneously match supply to demand and bring electricity to the people of New South Wales.
- 1.108** As a participant in the National Electricity Market, the New South Wales electricity sector is largely operated by national bodies. The NSW Government, however, retains a key role in price monitoring and overarching energy policy.

¹³¹ Submission 7, Public Interest Advocacy Centre, p 10.

¹³² Submission 8, Energy Networks Australia, p 5.

¹³³ For example, Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018.

¹³⁴ Submission 8, Energy Networks Australia, p 4.

¹³⁵ NSW Government, *Reliability and Performance Licence Conditions for Electricity Distributors*, 1 July 2014, p 2.

¹³⁶ Submission 9, Ausgrid, p 4.

¹³⁷ Submission 9, Ausgrid, p 1.

- 1.109** Historically, the government has been the primary investor in electricity generation in the state and until recently, has owned and operated the key components of the supply chain, from generation to transmission and distribution.
- 1.110** Since 2012, the New South Wales electricity sector has undergone significant change with the privatisation of generation and network businesses and the deregulation of retail prices. This represented a fundamental shift in how electricity is supplied to customers across the state and has driven electricity prices significantly higher for consumers.
- 1.111** Such a fundamental shift in the delivery of an essential service must be subject to careful scrutiny in order to ensure that the best outcomes are achieved on behalf of New South Wales households and businesses.
- 1.112** The committee has received considerable evidence regarding the future of electricity supply in the state and the complexities of retail pricing. Subsequent chapters will outline the committee's recommendations for achieving reliable supply and a fair price of electricity for consumers and businesses in New South Wales.

Chapter 2 Electricity prices and deregulation

This chapter looks at how some of the complex components of the electricity supply chain can impact prices. It begins by identifying the key mechanisms for trading wholesale electricity in New South Wales and outlines how wholesale prices are set. The chapter then outlines the price components of retail electricity bills, namely network, wholesale, and retail costs as well as environmental schemes. Broader retail electricity pricing trends are then documented. Some of the drivers of rising electricity prices in New South Wales are also considered. The chapter concludes by looking at retail price deregulation, its impact on retail competition and margins, and the outcomes it has produced for consumers and market participants.

Wholesale electricity prices

- 2.1 The National Electricity Market (NEM) contains a wholesale 'spot market' where generators are paid for the electricity they produce, retailers pay for the electricity their customers consume, and power supply and demand is matched instantaneously.
- 2.2 Prices in the wholesale spot market can fluctuate significantly. Retailers and generators use electricity hedging contracts as a form of insurance against fluctuating spot prices. This enables them to lock in a portion of their long term costs and revenue at a fixed rate.
- 2.3 The wholesale costs for retailers, which are ultimately passed on to consumers, are made up of the cost of purchasing electricity through the NEM as well as costs related to hedging strategies.

The wholesale electricity spot market

- 2.4 The NEM spot market facilitates the trade of electricity between generators and retailers. Here, the output from all generators is aggregated and scheduled at five minute intervals to meet demand. All electricity supplied to the market is sold at the 'spot' price. The Australian Energy Market Operator (AEMO) is charged with the daily operation of the NEM spot market.¹³⁸
- 2.5 Every five minutes, electricity generators submit bids to AEMO, signaling how much electricity they propose to produce and at what price they are willing to sell it. AEMO then ranks these bids in ascending order of bid price. Generators are then progressively scheduled into production to meet demand, starting with the cheapest cost generator.¹³⁹
- 2.6 The last, most expensive bid dispatched by AEMO is the marginal bid and sets the 'dispatch price' for that five minute period. Six five-minute dispatch prices are averaged over 30 minute blocks to arrive at the trading or 'spot price' for that interval.¹⁴⁰ All generators dispatched within

¹³⁸ Australian Energy Market Commission, *Fact sheet: How the spot market works*, 28 November 2017, pp 2-3.

¹³⁹ Australian Energy Market Commission, *Fact sheet: How the spot market works*, 28 November 2017, p 2.

¹⁴⁰ Submission 3, Solar Citizens, pp 7-8.

the 30 minute trading interval receive the spot price for their generated electricity, regardless of how they bid.¹⁴¹

- 2.7** The spot market has a per-megawatt hour price cap (currently \$14,200/MWh) and price floor (currently -\$1000/MWh). This is set by Australian Energy Market Commission (AEMC) in accordance with the National Electricity Rules.¹⁴² According to the Australian Energy Regulator (AER), there is no requirement that participants' offers reflect their specific costs. Participants will take into account a range of other factors, including contract obligations with retailers and their own retail load.¹⁴³
- 2.8** AEMO pays the spot price to generators and recovers that cost from retailers based on the electricity consumed by their customers.¹⁴⁴ Each of the five NEM regions has its own regional spot price.¹⁴⁵
- 2.9** Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, advised that in 2016-17 black coal generators set the price in New South Wales 63 per cent of the time.¹⁴⁶ However, Mr Mathew Warren, Chief Executive of the Australian Energy Council, noted that gas-fired generators were increasingly setting the spot price in New South Wales.¹⁴⁷

The contract market

- 2.10** Not all wholesale electricity is simply traded at the spot price. Generators and retailers often protect themselves from fluctuations in spot prices through a range of hedging strategies. This includes entering into forward contracts for the sale of all or a portion of the electricity generated.¹⁴⁸
- 2.11** According to AEMO, contract markets are an integral part of the NEM's market design as they 'contribute to reliability by hedging uncertainty and [assist] with risk management'. There are two main contract trading methods, namely via Australian Securities Exchange (ASX) Energy or through over-the-counter (OTC) bilateral contracts.¹⁴⁹

¹⁴¹ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 28.

¹⁴² Australian Energy Market Operator, *Fact sheet: The National Electricity Market*, p 3.

¹⁴³ Australian Energy Regulator, *AER electricity wholesale performance monitoring NSW, electricity market advice*, December 2017, p 6.

¹⁴⁴ Submission 3, Solar Citizens, p 5.

¹⁴⁵ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 28.

¹⁴⁶ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

¹⁴⁷ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 20.

¹⁴⁸ Tabled document, Professor Mary O'Kane, NSW Chief Scientist & Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 23.

¹⁴⁹ Answers to questions on notice, Australian Energy Market Operator, 4 December 2017, p 8.

- 2.12** ASX Energy is an exchange trading platform that facilitates anonymous trades between parties, through participating central clearinghouses.¹⁵⁰ Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator, said that as the regulator, the AER has access to the quantities, volumes and prices for electricity that is traded through the ASX:¹⁵¹
- As a market monitor, we have access to those quantities, volumes and prices that are traded through the ASX. We report on that on our website. We can see trends, what the market is expecting future prices to be, how much volume has been trading and those sorts of things.¹⁵²
- 2.13** In contrast, OTC contracts are negotiated bi-laterally. A consequence of this is that little information is disclosed publicly.¹⁵³ Mr Adams advised that 'as the market monitor, [the AER does] not have access to bilateral contracts'.¹⁵⁴
- 2.14** Mr Swift noted that the 'vast majority' of energy generation is under contract.¹⁵⁵ He also advised that it is not possible know the exact percentages of electricity that are traded through the NEM's spot market and what percentages are under contract. However, he did suggest that 'the mid to high 90s seems to be the indicative number of actual energy that, when it goes through the spot market, has already had a price set on it'.¹⁵⁶
- 2.15** Chapter 3 contains further discussion on the opacity of the contract market and the need for greater transparency.

Retail electricity prices

Retail electricity bills

- 2.16** Most consumers do not purchase energy directly from the wholesale market. Instead, they buy their electricity from a retailer who manages the purchase of wholesale electricity on the customer's behalf. This is a simpler way for consumers to deal with a complex market. It also helps insulate them from wholesale price fluctuations.¹⁵⁷

¹⁵⁰ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 106.

¹⁵¹ Evidence, Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator, 17 November 2017, p 42.

¹⁵² Evidence, Mr Peter Adams, General Manager, Wholesale Markets at the AER, 17 November 2017, p 42.

¹⁵³ Tabled Document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 114.

¹⁵⁴ Evidence, Mr Peter Adams, General Manager, Wholesale Markets at the AER, 17 November 2017, p 42.

¹⁵⁵ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017 p 30.

¹⁵⁶ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 31.

¹⁵⁷ Evidence, Ms Imogen Hartcher-O'Brien, Director, Consumer Policy and Engagement, Australian Energy Regulator, 17 November 2017, p 28.

- 2.17** Data is produced and published by a number of government, independent and market bodies regarding all aspects of electricity pricing. This can present difficulty in determining authoritative data sources. In relation to estimates of wholesale costs, for example, the Australian Competition and Consumer Commission (ACCC) notes that 'due to differences in approach and the assumptions made, studies on comparable time periods and NEM regions have tended to give somewhat different results'.¹⁵⁸
- 2.18** Similarly, Appendix 1 shows the range of comparable data sets for the breakdown by cost component of retail electricity prices in New South Wales from the following bodies:
- Australian Competition and Consumer Commission¹⁵⁹
 - Independent Pricing and Regulatory Tribunal NSW¹⁶⁰
 - Australian Energy Regulator¹⁶¹
 - Australian Energy Market Commission.¹⁶²
- 2.19** The ACCC made extensive use of its compulsory information gathering powers under the *Competition and Consumer Act 2010* (Cth) in its recent inquiry into the retail electricity pricing. Mr Bethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, noted that this sets the ACCC's work and conclusions apart from those of other agencies:
- [W]e had access to compulsory information gathering powers under the Competition and Consumer Act and that is a key difference between the work we have done and the work of other agencies. Other agencies sometimes are able to compel information but other times have to rely on voluntary information.¹⁶³
- 2.20** Accordingly, wherever possible, this report uses data from the ACCC's recent inquiry as the authoritative source of information of this nature.
- 2.21** The ACCC shows that retail residential bills are made of the following supply chain components:
- Network – 43 per cent
 - Wholesale – 33 per cent
 - Retail costs – 8 per cent

¹⁵⁸ Australian Competition and Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report, 22 September 2017*, November 2017, p 60.

¹⁵⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 8.

¹⁶⁰ Citing Frontier Economics data from July 2017: Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From 1 July 2016 to 30 June 2017*, November 2017, p 21.

¹⁶¹ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 129.

¹⁶² Australian Energy Market Commission, *Final Report: 2017 Residential Electricity Price Trends*, 18 December 2017, p 96.

¹⁶³ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 13.

- Retail margin – 10 per cent
- Environmental schemes – 6 per cent.¹⁶⁴

2.22 These supply chain costs are packaged by retailers and passed on to consumers.¹⁶⁵

2.23 The Public Interest Advocacy Centre notes that many factors determine the cost passed on to consumers and asserted that retailers have discretion about how costs are recovered:

Each component of the bill has various factors which determine the total cost passed on to consumers. Under the current framework, the retailer has discretion of how at least some of these costs are apportioned to individual consumers' bills – both how it is apportioned between different classes of customer and also how it is recovered through the fixed (c/day) and the variable (c/kWh) components of a retail bill.¹⁶⁶

Retail price trends

2.24 A number of inquiry participants stated that electricity prices in New South Wales have increased significantly in the past ten years.¹⁶⁷

2.25 Mr Mullen of the ACCC advised that in New South Wales, prices rose 52 per cent in real terms over the past 10 years.¹⁶⁸

2.26 The National Council of Social Services (NCOSS) asserted that over that decade, prices have doubled, to a point where 'even the average household electricity bill in NSW [now] exceeds \$2,200'.¹⁶⁹

2.27 The Combined Pensioners and Superannuants Association of NSW noted Australian National University data showing that 'in NSW electricity prices have increased over 66 per cent in real terms between 2006 and 2016'.¹⁷⁰

2.28 Figure 2 shows price increases in Australian capital cities since 1990, as reported by the ACCC in September 2017.¹⁷¹

¹⁶⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 8.

¹⁶⁵ Evidence, Mr Justin Hillier, Chief Financial Officer, Essential Energy, 18 June 2018, p 10.

¹⁶⁶ Submission 7, Public Interest Advocacy Centre, p 3.

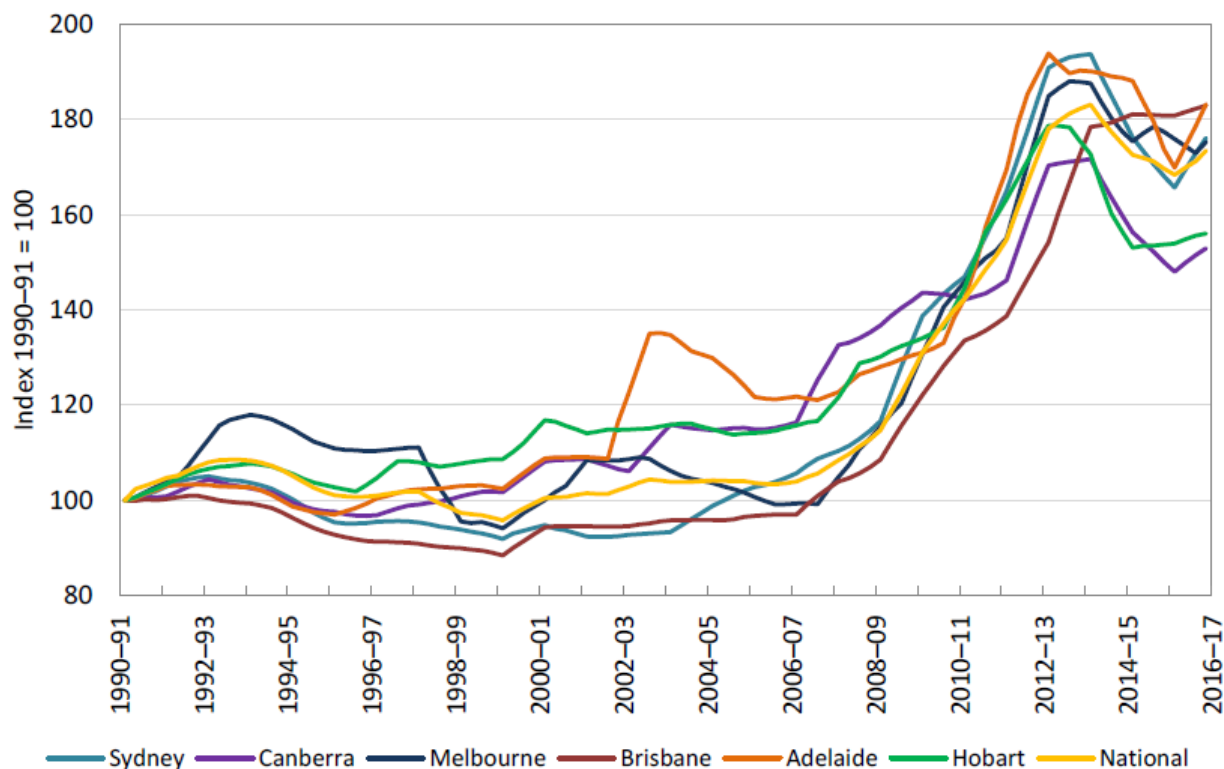
¹⁶⁷ For example, Submission 41, Combined Pensioners and Superannuants Association, p 4; Submission 42, NSW Council of Social Services, p 5.

¹⁶⁸ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

¹⁶⁹ Submission 42, NSW Council of Social Services, p 5.

¹⁷⁰ Submission 41, Combined Pensioners and Superannuants Association, p 4.

¹⁷¹ Australian Competition and Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report, 22 September 2017 from 1 July 2016 to 30 June 2017*, November 2017, p 12.

Figure 2 Retail price index (inflation adjusted) - Australian Capital Territories

Source: Australian Competition and Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report*, 22 September 2017, p 12.

2.29 Further analysis of retail prices in reference to retail price deregulation is discussed later in this chapter.

Drivers of rising electricity prices in New South Wales

2.30 Although each component of an electricity bill comprises various supply chain inputs which determine the total cost passed onto consumers, a number of inquiry participants identified the following three issues as being the primary causes of electricity price increases:

- a trend in network cost increases over the decade to 2015¹⁷² due largely to over-investment and stringent reliability standards¹⁷³
- increases in wholesale prices in recent years due to a tighter supply and demand balance as large coal-fired generators retire without sufficient replacement capacity¹⁷⁴
- deregulation of the retail electricity market.¹⁷⁵

¹⁷² For example, Submission 11, Essential Energy, p 4.

¹⁷³ For example, Submission 8, Energy Networks Australia, p 4; Evidence, Mr Ash Salardini, Chief Economist, NSW Farmers, 21 February 2018, p 45.

¹⁷⁴ For example, Submission 145, NSW Government, p 1.

¹⁷⁵ Tabled document, Carbon and Energy Markets (CME), *Australia's retail electricity markets: who is serving whom?*, August 2016, p 24.

2.31 According to AGL, the AEMC, the ACCC and IPART have all released recent reports which identify network costs (until 2015) and wholesale costs (from approx. 2016-17) as the primary drivers of electricity price increases.¹⁷⁶

2.32 However, several inquiry participants pointed out that other supply chain components have also contributed to high prices. ERM Power, for example, noted that the drivers pushing up end-user electricity prices are multiple, with all parts of the supply chain contributing, from generators to networks and retailers:

There is no simple way to explain the sharp rise in electricity prices over recent years. A range of impacts are responsible in some way, some of which can be traced back to decisions made a decade or more ago. There are drivers pushing up end-user electricity prices in all parts of the supply chain: generators, transmission and distribution networks and retailers.¹⁷⁷

2.33 Associate Professor Tim Nelson, AGL Chief Economist, similarly noted that there are drivers of cost increases across the supply chain:

An unpredicted rise in wholesale prices over the past few years, following the lack of notice given before closures of coal-fired power stations, rising gas and coal prices, increasing network charges and other green costs, have all contributed to this price increase.¹⁷⁸

2.34 Mr Mullen commented that the ACCC had found that each stage of the supply chain had contributed to price rises. He noted that in New South Wales retail electricity prices have risen 52 per cent over the last ten years in real terms. He advised that of this increase, the following supply chain inputs accounted for:

- Network – 42 per cent
- Wholesale – 22 per cent
- Green scheme/environmental – 5 per cent
- Retail costs – 2 per cent
- Retail margins – 29 per cent.¹⁷⁹

Network costs

2.35 Network costs include the charges related to the maintenance and operation of the regulated transmission and distribution businesses, or the 'poles and wires'. They are charged to the consumer through a tariff, bundled in their retail bill.

¹⁷⁶ Submission 232, AGL, p 2.

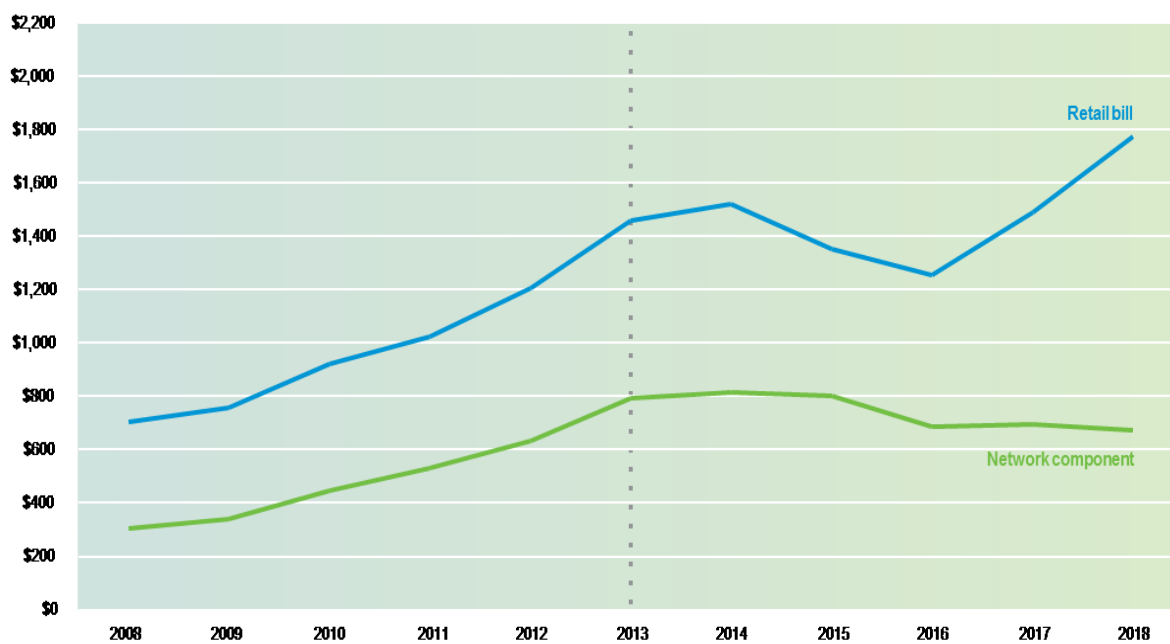
¹⁷⁷ Submission 234, ERM Power, p 3.

¹⁷⁸ Evidence, Associate Professor Tim Nelson, Chief Economist, AGL, 18 June 2018, p 28.

¹⁷⁹ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

- 2.36** Network costs have been the greatest contributor to rises in retail electricity prices over the past 10 years. They accounted for 42 per cent of the total price rise.¹⁸⁰ At 43 per cent, network costs also represent a significant portion of a typical customer's retail bill.¹⁸¹
- 2.37** Energy Networks Australia noted that between 2007 and 2012, a number of factors led to significant increases in network charges. This includes:
- investment to provide the network infrastructure required to meet high forecast demand, driven by the uptake of energy intensive appliances such as air-conditioners
 - the need to replace ageing infrastructure coming to the end of its working life
 - the need to meet government-mandated reliability standards
 - the higher cost of sourcing the funds required for investment as a result of the global financial crisis.¹⁸²
- 2.38** Several inquiry participants advised that the network share of a retail bill has been falling in recent years.¹⁸³ For example, Ausgrid asserts that since 2013, the network component has been relatively flat or declining¹⁸⁴ as per Figure 3 below.

Figure 3 Network component of retail electricity bills



Source: Answers to questions on notice, Ausgrid, 18, July 2018, p 2.

¹⁸⁰ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

¹⁸¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 8.

¹⁸² Submission 8, Energy Networks Australia, p 4.

¹⁸³ For example, Submission 6, TransGrid, p 4; Submission 8, Energy Networks Australia.

¹⁸⁴ Answers to questions on notice, Ausgrid, 18 July 2018, p 1.

- 2.39** The NSW Government advised that it has established a network price guarantee, which requires network costs in bills to be lower in 2019 than they were in 2014. According to the government this has led to an approximate 3 per cent reduction in network costs for consumers in 2017/18.¹⁸⁵
- 2.40** The NSW Electricity Price Commissioner, Professor Allan Fels, is responsible for monitoring the government's network price guarantee. He advised that 'all the signs are that the companies will come in well below the amount that they are required'.¹⁸⁶

Inequitable network charges

- 2.41** Some inquiry participants raised concerns that the current network tariff structure is inequitable. Essential Energy, for example, noted that the current cost recovery mechanism shifts network prices from customers who can afford solar PV systems and efficient appliances to those that cannot. Essential Energy also argued that regulatory reform is required to facilitate more equitable outcomes:

Under the current regulatory framework, costs are shifted from customers who can afford to install renewable energy systems and/or adopt energy efficient appliances to those who cannot afford to and remain reliant on the grid but have less capacity to pay increasing network charges. Regulatory reform is required to secure long term market sustainability and customer affordability and equity.¹⁸⁷

- 2.42** The ACCC's interim report stated that current tariff structures mean that some customers pay more than their fair share of network costs and advocated for a transition to cost reflective pricing. The ACCC explained that network costs are generally recovered based on a customer's overall usage and that this does not represent the real cost to the network of that consumer, which is derived from usage during peak demand times:

The design of network tariffs, particularly for small customers, largely link charges to a customer's overall usage. But it is a customer's peak (rather than overall) usage that drives the majority of network costs. For example, the AEMC has noted that installing an air conditioner (which typically runs during peak periods) adds \$1000 to annual network costs, but the household only pays \$300 of this through higher bills. The remaining cost is met through higher charges on other users. This effect has also been seen with the uptake of solar PV systems which reduce the overall consumption of a solar customer, but with a much smaller impact on their peak consumption.¹⁸⁸

Wholesale costs

- 2.43** Wholesale costs refer to the cost to retailers of purchasing electricity through the NEM as well as costs related to hedging contracts.

¹⁸⁵ Submission 145, NSW Government, p 4.

¹⁸⁶ Evidence, Professor Allan Fels, NSW Electricity Price Commissioner, 8 May 2018, p 54.

¹⁸⁷ Submission 11, Essential Energy, p 8.

¹⁸⁸ Australian Competition and Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report*, September 2017, p 114.

- 2.44** ACCC data indicates that wholesale costs account for 22 per cent of the total price rise in retail electricity prices over the past 10 years.¹⁸⁹
- 2.45** According to a number of inquiry participants wholesale cost rises have been the key driver of increases in retail electricity prices since 2015-16.¹⁹⁰
- 2.46** The NSW Business Chamber noted AEMO analysis indicating that between 2015 and 2017, wholesale electricity prices increased by 130 per cent.¹⁹¹ The NSW Minerals Council claimed that wholesale electricity prices in New South Wales have more than doubled in recent years.¹⁹²
- 2.47** Anxiety around possible tightening supply-demand balance in the NEM was identified as a key factor in rising wholesale prices. The government explained that the sudden closure of several coal powered stations meant that gas had to play a larger role in electricity generation, at least for a period of time. This occurred at the same time the eastern Australian gas market connected to the international market meaning greater competition for gas and thus an increase in electricity prices:

With the sudden closure of interstate [coal] generators, the national market has move into a tighter supply and demand balance. Concurrently, the rise in gas prices linked to the development of the export LNG sector has increased the cost of gas-fired generation. Without sufficient time for the market to respond to the closures, gas-fired generation has been required to play a more significant role in generating electricity and hence has raise the price of power.¹⁹³

- 2.48** As has been noted in an earlier report of the Legislative Council, Australia produces far more gas than it needs for its combined domestic household and industrial needs. Our country could provide cheap gas energy for homes and businesses while still supporting a profitable export market. Market failure and the desire for corporate profit first, however, has oversold our gas overseas, causing difficulties in obtaining gas at reasonable prices. This has not only caused gas bills to increase but has also contributed to high electricity prices.¹⁹⁴
- 2.49** Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, observed that there are a range of reasons for high wholesale prices. This included the closure of older power stations, investment in renewable energy sources not always filling the shortfall, the increased need for gas as input to electricity generation, and carbon policy uncertainty that is constraining investment:

There are a range of reasons for these price increases in this area. Some of the key ones are old power stations are closing down; investment is being driven by the renewable energy target [RET] rather than the physical needs of the power system, so this new

¹⁸⁹ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

¹⁹⁰ For example, Submission 39, NSW Business Chamber, p 1; Submission 145, NSW Government, p 1; Submission 235, 1st Energy, p 1; Submission 232, AGL, p 2.

¹⁹¹ Submission 39, NSW Business Chamber, pp 1-2.

¹⁹² Submission 244, NSW Minerals Council, p 6.

¹⁹³ Submission 145, NSW Government, p 1.

¹⁹⁴ Select Committee on the Supply and Cost of Gas and Liquid Fuels in New South Wales, *NSW Legislative Council, Supply and cost of gas and liquid fuels in New South Wales*, (2015).

investment is not always filling the gap—it is not always providing the power when and where it is needed; gas-fired generation is being used to meet demand more often and, as a consequence, gas prices are setting the electricity spot price more often and gas prices have increased in recent times. Finally, investors are waiting to find out what emissions reduction policy will be in place for the energy sector post 2020 before they take a risk and build anything too much that is not supported by government.¹⁹⁵

- 2.50** While coal-fired power was once a reliable source of energy it is now becoming increasingly unreliable. This has been revealed by the frequent outages by one of more turbines at the ageing Liddell power station, unplanned outages at other coal-fired stations and the difficulties surrounding Mt Piper's coal supply brought to public attention when the Springvale coal mine near Lithgow looked as if it could not continue producing coal in 2017.
- 2.51** As new coal-fired power stations are very expensive, no energy company has any plans to invest in one and financial institutions have indicated they would not provide finance to support any proposed coal-fired station. Even were one or more new coal-fired stations built, the levelled cost of the produced electricity to consumers would make electricity bills even higher than they presently are.
- 2.52** As renewables are the cheapest form of new-build electricity generation, as our ageing fleet of coal-fired power stations reach the end of their lives in the next decade or so, the future of our energy supply will increasingly be from renewable sources.

Case study – coal supplies and their impact on wholesale prices

As previously discussed, the sudden closure of large coal-fired rapidly pushed the national market into a tighter supply and demand balance, resulting in high-cost gas-fired generators being called upon more often.

Mr Ben Skinner, General Manager Policy, Australian Energy Council, explained that this also put pressure on the fuel supplies of New South Wales coal-fired power stations. The tighter supply and demand balance meant that existing coal power stations were required to increase their output to meet demand. As the closures were sudden, coal supplies were not always adequate to sustain increased generation and some power stations needed to ration their fuel supply.¹⁹⁶

Mr Skinner explained that in this situation, coal-fired generators increased their bidding prices to reflect the scarcity of coal supply, which was reflected in higher prices:

The question is: What is the value of that coal right now? If they were to continue to say, "Release it at a low price," then it would simply all be exhausted in no time at all. Then they would have to re-enter the market and they would be paying very high prices indeed. Therefore, they are actually rationing that by simply raising the price of their bids to the opportunity cost of that coal. That is how the market was designed to work and it accurately reflects what has now become a more scarce commodity.¹⁹⁷

¹⁹⁵ Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, pp 2-3.

¹⁹⁶ Evidence, Mr Ben Skinner, General Manager Policy, Australian Energy Council, 17 November 2017, p 20.

¹⁹⁷ Evidence, Mr Ben Skinner, General Manager Policy, Australian Energy Council, 17 November 2017, p 20.

Former NSW Chief Scientist and Engineer, Professor Mary O'Kane, noted that some coal-fired power stations were unable to quickly replenish fuel supplies for a number of reasons. Professor O'Kane said that contributing factors include the fact that some coal supply is forward contracted into the export market as well as transporting issues.¹⁹⁸

Professor O'Kane said that it is 'important to note that the Australian Energy Market Operator technically watches the fuel but we [the NSW Energy Security Taskforce] are not convinced that the reporting arrangements were as stringent as they need to be'.¹⁹⁹

In the Energy Security Taskforce's final report, authored by the NSW Chief Scientist and Engineer, a recommendation was made that New South Wales develop a register of back-up generation fuel supplies as one of a number of measures to ensure essential services and sensitive loads are managed more effectively in an energy emergency.²⁰⁰

Cost of environmental policies and 'green schemes'

- 2.53** The costs associated with various Commonwealth and state government environmental policy and 'green schemes' are bundled in retail bills along with other supply chain costs and passed on to consumers.
- 2.54** As outlined by the ACCC, broadly speaking, environmental costs across the NEM fall into the following categories:
- National schemes under the Renewable Energy Target (RET)
 - Large-scale Renewable Energy Target (LRET)
 - Small-scale Renewable Energy Scheme (SRES)
 - State-based schemes
 - State certificate and efficiency schemes
 - Premium solar feed-in tariff (FiT) schemes.²⁰¹
- 2.55** ACCC data referred to by the St Vincent de Paul Society suggests that these costs of both national and state based schemes account for approximately 6 per cent of a retail customer's bill.²⁰²
- 2.56** Green schemes account for 5 per cent of the total price rise in retail electricity prices over the past 10 years.²⁰³

¹⁹⁸ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 9.

¹⁹⁹ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 9.

²⁰⁰ NSW Chief Scientist and Engineer, *Final report form the Energy Security Taskforce*, 19 December 2017, pp 65-66.

²⁰¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 212.

²⁰² Submission 40, St Vincent de Paul Society, p 3.

²⁰³ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

- 2.57** The first components of the Commonwealth RET scheme, the LRET, requires retailers to purchase renewable energy certificates from accredited generators, who create the certificates based on the volume of electricity they generate. The second component, the SRES, requires retailers to purchase or create certificates that reflect the installation and generation of solar hot water or small, rooftop solar PV generation. Retailers surrender these certificates to government in proportion to the energy their customers consume.²⁰⁴
- 2.58** At a state level, solar FiT schemes involve payments to consumers with solar PV installations for the energy they feed back into the grid. In reference to the now-closed solar bonus scheme, Mr Mullen commented that 'New South Wales had a very generous feed-in tariff scheme for solar photovoltaic, which added costs'.²⁰⁵
- 2.59** The ACCC's final report noted that the subsidy paid to consumers with rooftop solar for their energy they fed back into the grid exceeded its value. The ACCC said that such schemes were very popular and resulted in the associated high costs being spread across all electricity users, including those without solar installations:
- Under these schemes, the subsidy paid to consumers for the energy produced by their systems outweighed, by many multiples, the value of that energy. Take up of the schemes exceeded all expectations, in part due to dramatic declines in solar PV installation costs. The substantial cost of the schemes continues to be spread across all electricity users.²⁰⁶
- 2.60** In New South Wales, the relevant solar FiT scheme, the Solar Bonus Scheme, ceased on 31 December 2016. However, still active in New South Wales is the NSW Climate Change Fund (the Fund), which collects finances through network charges, as was previously the case for the Solar Bonus Scheme.²⁰⁷
- 2.61** As noted above some concerns have been raised regarding the inequitable nature of network charges with the costs being disproportionately borne by consumers who do not have rooftop solar systems.
- 2.62** Mr Rod Howard, Chief Operating Officer, Endeavour Energy (one the state's three distribution network operators), advised that the monies obtained for the Fund account for approximately 9 per cent of the network charges paid by retail consumers.²⁰⁸
- 2.63** In 2016/17 approximately \$290 million in revenue was collected via the NSW Climate Change Fund.²⁰⁹

²⁰⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 212.

²⁰⁵ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 16.

²⁰⁶ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p v.

²⁰⁷ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 218.

²⁰⁸ Evidence, Mr Rod Howard, Chief Operating Officer, Endeavour Energy, 18 June 2018, pp 24-25.

²⁰⁹ NSW Office of Environment and Heritage, 'NSW Climate Change Fund - Annual Report 2016–17', November 2017, p 4.

2.64 The NSW Minister for Energy and Utilities, the Hon Don Harwin MLC, noted in Parliament that the NSW Climate Change Fund is directed towards addressing climate change, including through energy efficiency measures:

Expenditures are being made from the Climate Change Fund for the exact purpose of addressing the issue of climate change. That expenditure can be done in a number of ways, including through energy efficiency measures and other specific works to enable us to deal with rising water levels and flooding impacts, for example.²¹⁰

2.65 In its report the ACCC stated that the 'While the goals in [the Climate Change Fund] might be appropriate, as it stands it is unclear what the amounts collected from NSW electricity users through their electricity charges are being used for'.²¹¹

2.66 A number of inquiry participants suggested that the NSW Climate Change Fund charges incurred by consumers through network tariffs should be removed or that the funds should be redistributed. For example, Tracy McLeod Howe, Chief Executive Officer, NSW Council of Social Service, argued that the funds should be directed towards vulnerable communities:

NCOSS joins with the Public Interest Advocacy Centre, the Combined Pensioners and Superannuants Association, Community Power Agency, Solar Citizens and others in calling for the New South Wales Government to use the funds set aside in the Climate Change Fund to prioritise vulnerable households and communities.²¹²

2.67 Mr Craig Memery, Policy Team Leader, Energy and Water at the Public Interest Advocacy Centre (PIAC), noted that PIAC advocates for redirecting the monies allocated to the Fund to vulnerable households and communities to 'ensure that they have the information and tools that they need to be able to benefit and not be left behind in the energy transition'.²¹³

2.68 The NSW Minerals Council, on the other hand, called for complex state climate policy and schemes be removed in favour of a national approach:

An integrated national approach to energy and climate policy will deliver electricity and emissions reductions most efficiently. There remains a complex array of individual state policies and schemes that should be abolished in favour of a truly national approach, or otherwise risk distorting and complicating the system and incurring higher costs.²¹⁴

2.69 In August 2018, the NSW Government announced energy efficiency measures that would see revenue from the Fund used to provide efficiency upgrades in rental homes. The announcement included a \$24.5 million package for upgrades to more than 20,000 rental homes to enable low-

²¹⁰ Hansard, NSW Legislative Council, 21 June 2018, p 41 (The Hon Don Harwin MLC).

²¹¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 219.

²¹² Evidence, Ms Tracy McLeod Howe, Chief Executive Officer, NSW Council of Social Service, 21 February 2018, p 13.

²¹³ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018, p 4.

²¹⁴ Submission 244, NSW Minerals Council, p 7.

income renters to benefit from energy efficient lighting, heating, and hot water systems. The government said that the upgrades will help renters save up to \$400 a year on their energy bills.²¹⁵

- 2.70** The package also provides assistance to certain households to encourage the uptake of energy efficient lighting and air conditioning. It is estimated that this could result in an annual saving of \$500 per household.²¹⁶

Retail costs

- 2.71** The retail component of electricity bills is generally divided into retail costs and retail margin. This covers retailers' operating costs, such as billing and marketing, and a profit margin for the risk associated with providing retail services.²¹⁷ As with other supply chain costs, this is bundled into a retail electricity bill and passed onto consumers.

- 2.72** Some participants asserted that the impact of retail costs is limited. AGL, for example, noted that retail costs and margins still account for only a small part of the average New South Wales consumer's bill.²¹⁸

- 2.73** Mr Johnathan Briskin, Executive General Manager, Retail at Origin Energy, said that compared to other cost components, retail costs and margins (as well as green schemes) represent a modest increase over the past 10 years:

The main factor in electricity price increases over the past 10 years has been the higher regulated electricity network charges which make up around 50 per cent of an average customer's bill. Green schemes, retail cost and margin together make up 20 per cent of a customer's bill, but these represent more modest increases over the same period. The most recent impact on rising energy prices has been a spike in wholesale cost in 2017 across the eastern states.²¹⁹

- 2.74** Other participants pointed out that the retail component has been rising in recent years. The NSW Business Chamber, for example, asserted that the cost of retail in an average household bill increased by 34 to 53 per cent between 2007-08 and 2015-16 and that retail profit margins are increasing in New South Wales.²²⁰

- 2.75** The Grattan Institute noted that the ACCC has found that the retail component of the average New South Wales residential bill had increased by \$183 in real terms over the past decade.²²¹

²¹⁵ Media release, the Hon Gladys Berejiklian, MP, NSW Premier, the Hon Niall Blair MLC, Minister for Trade and Industry, the Hon Don Harwin MLC, Minister for Resources, Minister for Energy and Utilities, the Hon Gabrielle Upton MP, Minister for the Environment, 'Bills Slashed with Energy Efficiency Measures,' 20 August 2018.

²¹⁶ Submission 145, NSW Government, p 4.

²¹⁷ Submission 8, Energy Networks Australia, p 4.

²¹⁸ For example, Submission 232, AGL, p 2.

²¹⁹ Evidence, Mr Jonathan Briskin, Executive General Manager Retail, Origin Energy, 8 May 2018, p 2.

²²⁰ Submission 39, NSW Business Chamber, p 3.

²²¹ Submission 43, Grattan Institute, p 5.

- 2.76** According to ACCC data, retail costs account for 2 per cent of the total price rise in retail electricity prices over the past 10 years. The comparative figure for retail margins is 29 per cent of the rise.²²²
- 2.77** Mr Mullen advised that in its final report, the ACCC compared the net margin of retailers in NEM regions to international jurisdictions. The ACCC found that Victoria, followed by New South Wales had the highest net retail margins of all the jurisdictions that were compared.²²³
- 2.78** A number of participants discussed the retail component of electricity prices specifically in relation to the impact, in terms of both price and competitive outcomes, of retail price deregulation in New South Wales in 2014. This is discussed in more detail later in this chapter.

The ACCC's blueprint for electricity market reform

- 2.79** On 27 March 2017 the then Australian Treasurer, the Hon Scott Morrison MP, directed the ACCC to hold an inquiry into the retail supply of electricity and the competitiveness of retail electricity markets in the National Electricity Market.
- 2.80** In June 2018, the ACCC's released its final report. The ACCC commented that the approach to policy, regulatory design and promotion of competition in the electricity sector has not worked well for consumers and that the NEM needs to be reset. The report sets out the ACCC's plan for doing this.²²⁴
- 2.81** Mr Mullen explained the task set out for the ACCC and outlined the comprehensive information gathering exercise undertaken to arrive at its conclusions regarding the state of the retail electricity market and its recommendations for improving consumer outcomes. Mr Mullen noted that the inquiry's final report is the ACCC's blueprint for solving a complex array of problems in the electricity market, which the ACCC is working with governments and industry to implement:

Our task was to explore the entire supply chain and the contributions that each stage of that chain made in prices for electricity customers. In undertaking this task, we made extensive use of compulsory information gathering powers available to us under the Competition and Consumer Act. We issued over 100 notices throughout the inquiry, mainly to retailers but also to generators in the industry. This gave us access to nearly 50,000 internal documents from retailers and generators and extensive datasets, which we used in the inquiry. We held extensive public consultation as well, including receipt of over 150 submissions, attendance by around 250 people at public forums in Brisbane, Sydney, Melbourne and Adelaide, and many meetings with industry, government agencies, consumer groups and businesses.

²²² Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

²²³ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 16; Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 26.

²²⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p iv.

...Our report has made 56 recommendations, which we see as the blueprint for solving these problems. We are now working with governments and industry to implement a package of reforms.²²⁵

- 2.82** The final report included 56 recommendations aimed at addressing issues across all components of the electricity supply chain. They can be broadly categorised into four categories of recommendation aimed at:
- boosting competition in generation and retail
 - lowering costs in networks, environmental schemes and retail
 - enhancing consumer experiences and outcomes
 - improving business outcomes.²²⁶
- 2.83** The NSW Minister for Energy and Utilities, the Hon Don Harwin MLC, has indicated that the government will be closely reviewing the ACCC report and will fashion an appropriate response.²²⁷
- 2.84** Some key ACCC recommendations that are pertinent to New South Wales are referred to throughout this report.

Committee comment

- 2.85** The committee heard repeatedly that retail electricity prices in New South Wales have increased significantly over the past 10 years. It is particularly concerning to note the Australian Competition and Consumer Commission (ACCC) finding that prices in this state have risen 52 per cent (in real terms) in the last decade and that has seen the average New South Wales Electricity bill increase over ten years by \$366 after inflation.²²⁸
- 2.86** There are various cost components that make up a retail electricity bill with each of these influenced by a complex array of variables. Determining what is driving price increases is a difficult task, given the underlying causes can be complex, interrelated and multiple. While some factors have had a greater impact on end-user prices than others, it is clear to the committee that a number of factors across the entire electricity supply chain are contributing to the high cost of electricity.
- 2.87** The committee recognises the thorough analysis done by the ACCC in its recent inquiry into retail electricity prices and welcomes its comprehensive set of recommendations that seek to restore the competitiveness of the retail electricity market and improve outcomes for consumers.

²²⁵ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

²²⁶ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, pp xvii - xxv.

²²⁷ Hansard, NSW Legislative Council, 19 June 2018, p 22 (the Hon Don Harwin MLC).

²²⁸ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 13.

- 2.88** The committee acknowledges the complexity of implementing the ACCC's recommendations as this will require cooperation across state and Commonwealth governments and numerous market, regulatory and stakeholder groups. This committee urges all respective parties to build on the work of the ACCC so that improved electricity market outcomes can be realised by all participants.
- 2.89** The committee notes that the NSW Government has indicated that it will closely review the ACCC report. Where the government identifies ACCC recommendations that are in the best interests of the state's electricity consumers, these should be implemented without delay. It is recommended that the NSW Government publicly disclose the ACCC recommendations it supports and then work proactively with the Australian Government to ensure that these recommendations are implemented in a timely manner.

Recommendation 2

That with respect to the recommendations of the Australian Competition and Consumer Commission's *Restoring electricity affordability & Australia's competitive advantage* report, the NSW Government:

- publicly disclose the recommendations that it supports
- works proactively with the Australian Government and State and Territory Governments through COAG Energy Council to ensure that these recommendations are implemented in a timely manner.

-
- 2.90** This committee believes that the NSW Climate Change Fund (the Fund) should be better targeted towards assisting vulnerable households. The committee notes that monies for the Fund are collected through network charges and that some concerns have been raised regarding whether such charges are borne equitably by all consumers. It is also concerning to note that the ACCC had reservations regarding what the Fund is actually being used for. In this spirit, the Climate Change Fund should be expended on projects that either mitigate climate change or assist with the adaptation to climate change.
- 2.91** The committee welcomes the government's commitment to using the Fund to promote electricity efficiency upgrades in rental homes. However the monies allocated to this initiative represent only a small portion of the total revenue collected for the Fund, which is paid for by New South Wales electricity consumers. The committee asserts that more support needs to be given to vulnerable households using the revenues collected by the Fund. It is recommended that a greater proportion of the revenue collected by the NSW Climate Change Fund be used to support vulnerable households and to assist them access renewable energy which is the cheapest form of energy.

Recommendation 3

That a greater proportion of the revenue collected by the NSW Climate Change Fund be:

- expended on projects that either mitigate climate change or assist with the adaptation to climate change
 - used to support vulnerable households and to assist them access renewable energy which is the cheapest form of energy.
-

Impact of retail price deregulation

- 2.92** The NSW Government deregulated retail electricity prices on 1 July 2014. This introduced a fully competitive retail electricity market in which retailers are free to determine the prices of retail service offers.
- 2.93** A number of inquiry participants discussed the impact that deregulation has had on the retail electricity market (positive or otherwise) and the flow on effects for consumers.
- 2.94** A common concern was whether genuine competition has emerged in the deregulated retail market and the extent to which deregulation has influenced consumer price outcomes. A number of different positions were presented regarding the relative merits of deregulation.

Competition in the deregulated retail market

- 2.95** Some inquiry participants pointed to the emergence of new participants and retail products as a key indicator of strong competition in the retail market. Momentum Energy explained that deregulation has removed the barrier to entry for new participants:

Deregulation of electricity prices has removed the risks to retailers of a regulated price which does not reflect the actual costs of procuring energy and serving customers. This has removed one of the barriers to entry into NSW and created an environment in which competition can prosper.²²⁹

- 2.96** The ACCC observed that:

In retail markets, privatisation generally resulted in the transfer of a large customer base to each of a small number of retailers... This model of competition has not delivered a dynamic and competitive market in which many retailers compete vigorously, driving efficiencies and providing innovative products to attract and retain a broad range of customers.²³⁰

- 2.97** The government noted that IPART has found that that deregulation has provided consumers with a greater choice and opportunities to switch between providers in searching for a better deal. The government observed that retailers are providing discounts to attract new customers and that these may disappear if the market was re-regulated:

²²⁹ Submission 236, Momentum Energy, p 3.

²³⁰ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p xi.

IPART's monitoring shows that there is growing choice in electricity and gas providers and offers, with opportunities for consumers to save by switching from high-priced standing offers. This shows the benefit of deregulation, which has encouraged discounting by retailers in order to attract new customers. Re-regulation could put at risk the benefits that IPART has identified, and erode the opportunity for consumers to make savings and find a deal more suited to their particular needs.²³¹

- 2.98** Other participants, however, questioned whether the existence of new participants and retail products necessarily equates to better outcomes for consumers. The NSW Business Chamber argued that despite the existence of numerous retailers and offers, the NEM was not a fully competitive market:

The ACCC found that while the retail market has some characteristics of a competitive market, it is missing some vital signs of a well-functioning competitive market. Retail markets across the NEM have numerous retailers with a range of offers, relatively high rates of switching, and significant price dispersion. However, they do not have low levels of market concentration, low margins and prices, nor a range of innovative tariff types and service options.²³²

- 2.99** Also pointing to work by the ACCC, Energy Networks Australia asserted that despite some positive indicators of competition evident in the retail market, the price outcomes for consumers are unclear:

It is difficult to establish clear information about the extent of actual competition between electricity retailers in each market. A number of commentators have recognised that while the ostensible indicators of competition (e.g. customer churn) appear positive - the actual price outcomes for customers are opaque.²³³

Price outcomes for consumers since deregulation

- 2.100** The price outcomes for consumers since retail deregulation and the extent to which they are directly attributable to the deregulation of retail prices was contested by inquiry participants.
- 2.101** Some participants pointed out that prices declined in the period immediately following retail deregulation. AGL, for example, highlighted IPART's review of the performance and competitiveness of the New South Wales retail electricity market, noting that 'on average, residential customers are paying 2 per cent more for electricity since 2013-14 which is a real decrease in prices of 5 per cent'.²³⁴
- 2.102** AGL pointed to a number of other performance indicators highlighted by IPART—including the number of small retailers in the market and their rising market share—and concluded that 'deregulation of retail prices in 2014 has had a positive impact on competition in NSW electricity market with no adverse impacts on customers and prices'.²³⁵

²³¹ Submission 145, NSW Government, p 4.

²³² Submission 39, NSW Business Chamber, p 5.

²³³ Submission 8, Energy Networks Australia, p 7.

²³⁴ Submission 232, AGL, p 2.

²³⁵ Submission 232, AGL, p 2.

- 2.103** Other participants asserted that retail prices have been increasing since deregulation. NCOSS, for example, highlighted findings from the AEMC's 2017 *Retail Energy Competition Review for NSW*. NCOSS noted that in New South Wales, 'electricity retailer margins had increased from 2014-15 to 2015-16, the period directly covered by the full deregulation of retail electricity prices, which were also shown to have increased'.²³⁶

Different outcomes for different customers

- 2.104** A trend noted by inquiry participants is that price outcomes since deregulation have varied significantly between consumers. The Grattan Institute explained that the difference between the highest and lowest retail offers available—known as 'price dispersion'—has increased since deregulation and that this means some consumers are paying more for their electricity:

It is noticeable that price dispersion – the difference between the highest and lowest offers available in the market – has increased significantly since deregulation. The difference in annual bill for an average consumer appears to be more than \$1000 between the lowest and highest offer in the market. Those on the highest offers will be paying a lot more for their electricity than they were in 2013/14.²³⁷

- 2.105** Similarly, NCOSS pointed to ACCC findings demonstrating that price dispersion is resulting in vulnerable consumers paying higher prices for the same services as other more engaged consumers who are paying less. NCOSS argued that vulnerable consumers are unable to effectively navigate the market meaning they generally miss out on discounted offers, while more informed consumers are able to find cheaper prices, resulting in price dispersion that disadvantages low-income customers:

In their interim report, the ACCC has also highlighted the current common practice of discounting, and the significant 'price dispersion' that has resulted from this. Essentially this price dispersion is a form of price discrimination, and involves selling the same services to different groups of consumers at different prices. In the context of the electricity retail market in NSW, this is characterised by significant discounts being available to informed and engaged customers, while less engaged customers (more likely to be vulnerable people with low incomes) are left paying higher prices for identical services. NCOSS supports the concerns raised by the ACCC that in the current retail electricity market such price dispersion is effectively penalizing many vulnerable and low income consumers who are either unable to effectively navigate the market, understand the impact of the available offers, or choose and maintain their contracts effectively.²³⁸

- 2.106** Some participants asserted that price dispersion was an indication of healthy competition.²³⁹ AGL, for example, claimed that reducing price dispersion would lessen competition and negatively impact low-income consumers:

Reducing price dispersion is likely to reduce competition and have a detrimental impact on low-income customers. Research by AGL economists shows that price dispersion provides significant benefits to the family formation household demographic where

²³⁶ Submission 42, NSW Council of Social Services, p 7.

²³⁷ Submission 43, Grattan Institute, p 4.

²³⁸ Submission 42, NSW Council of Social Services, p 9.

²³⁹ For example, Submission 232, AGL, p 5; Submission 39, NSW Business Chamber, p 39, p 4.

vulnerability is highest due to low income per person and higher than average energy consumption.²⁴⁰

Retail margins since deregulation

2.107 A number of inquiry participants commented on the margins of retailers since deregulation and the impact this has had on prices for consumers. Some participants claimed that margins are in line with a competitive market, while others claimed that retail margins are increasing to the detriment of consumers.

2.108 The St Vincent de Paul Society (the Society) raised concerns about high retail margins in New South Wales. The Society pointed to ACCC and Grattan Institute research showing that deregulation has not resulted in lower prices in either New South Wales or Victoria:

The Society wishes to echo a long-standing concern among consumer advocates, including the Public Interest Advocacy Centre, that the retail margins in the NSW electricity market are considerably higher than is efficient to recover costs.

The ACCC found that retail margins had increased significantly in NSW since FY2008 compared with other states. Research on the NEM conducted by the Grattan Institute concluded that “competition in electricity retailing hasn't delivered what was promised: lower prices for consumers. The failure is worst in Victoria, the state with the most retailers and the longest experience of deregulation. Profit margins appear to be higher than in other sectors – and more than double the margin that regulators considered fair when they set retail electricity prices.”²⁴¹

2.109 In contrast, EnergyAustralia, pointed to analysis from IPART, the ACCC and the AEMC to argue that retail margins are not indicative of a lack of competition:

IPART analysed whether the most recent price change reflected the change in costs, and IPART considered what happened to retail costs and margin. They found no strong evidence that the margins being earned by electricity retailers in NSW suggests that the level of competition is not developing effectively. Retail margins are in line with the earnings before interest, tax, depreciation and amortization [EBITDA] margins earned by a large sample of listed retailers across a range of different retail sectors in Australia, Canada, the United States and the United Kingdom.

Likewise, the ACCC in its Preliminary Report into the electricity market found that retail operating costs have not increased since price deregulation. The AEMC noted that between 2014-15 and 2015-16 the gross margins for the big 3 retailers decreased overall across New South Wales.²⁴²

2.110 According to Mr Ed McManus, Chief Executive, Meridian Energy and Powershop, retail margins were contracting in New South Wales in the 12 months to May 2018, a period over which wholesale prices had increased. Mr McManus argued that while competition in the retail market could be improved, it is working:

²⁴⁰ Submission 232, AGL, p 5.

²⁴¹ Submission 40, St Vincent de Paul Society, p 5.

²⁴² Answers to questions on notice, EnergyAustralia, 4 June 2018, p 4.

Of course there is a market concentration in most States, but it is diminishing slowly over time. What Mr Pfeiffer has said is also true. In New South Wales in the past 12 months retail margins have contracted. The ACCC report is going to come out. I do not know what is in it, but you will see. I think it is a generally widely held view in the industry that retail margins have contracted, for the reason Mr Pfeiffer outlined. Wholesale costs have gone up. We have not passed all that through to our customers, which is the right thing to do. Perhaps I am not being as specific as you would like. Has the market got problems? Yes. Is it completely broken? I do not think so. Is competition working? Yes. Could it be working slightly better? Of course. That is the same in any industry. I have not read all the submissions, but there are certainly some things that could be done to slightly improve competition but there are downsides.²⁴³

- 2.111** Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, advised that retail margins can vary between retailers. He stated that retailers with a large customer base generally have significantly higher margins than their smaller counterparts:

If you are seeking to acquire a customer, those profits will be much lower because the price the [smaller] retailer needs to offer will be much lower. When most regulators look at the very large retailers they assess the ongoing costs of business at about \$100 per customer per year. We assessed the [smaller] retailer's charge to be \$420. Therefore, the gap between the two is an estimate of the profit margin of the large retailers which have the customers and which are not making discounted offers or incurring expenditure to win new customers. In short, the retail business for the incumbent large retailers is very profitable.²⁴⁴

- 2.112** Mr Tony Wood, Energy Program Director, Grattan Institute, agreed that smaller retailers are forced to operate at slim margins in order to compete with larger businesses:

In most sectors of the economy if we introduce competition what tends to happen is that the competitors are forced to drive up costs because they are competing on price the closer you get to the commodity. When you are competing on price the only way you are going to do that is to drive up costs, and scale matters in retail. That, of course, has played to the benefit of the three larger retailers because they can survive. When the small retailers are on a wafer-thin margin the big retailers are probably doing quite nicely.²⁴⁵

- 2.113** However, the three large vertically integrated providers in New South Wales each said that retail margins have been decreasing.²⁴⁶ Mr Briskin, for example, pointed out that Origin Energy's margins are compressing, largely due to competitive factors:

From Origin's perspective, I probably cannot comment on the industry as a whole, but I will take the ACCC's report. They have done a comprehensive review, but our margins are compressing. If I look into the current year, competition is driving it down. The number of customers now switching to discount offers, the cost of that has certainly

²⁴³ Evidence, Mr Ed McManus, Chief Executive, Meridian Energy and Powershop, 8 May 2018, p 27.

²⁴⁴ Evidence, Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, 18 June 2018, pp 39-40.

²⁴⁵ Evidence, Mr Tony Wood, Energy Program Director, Grattan Institute, 31 October 2017, p 42.

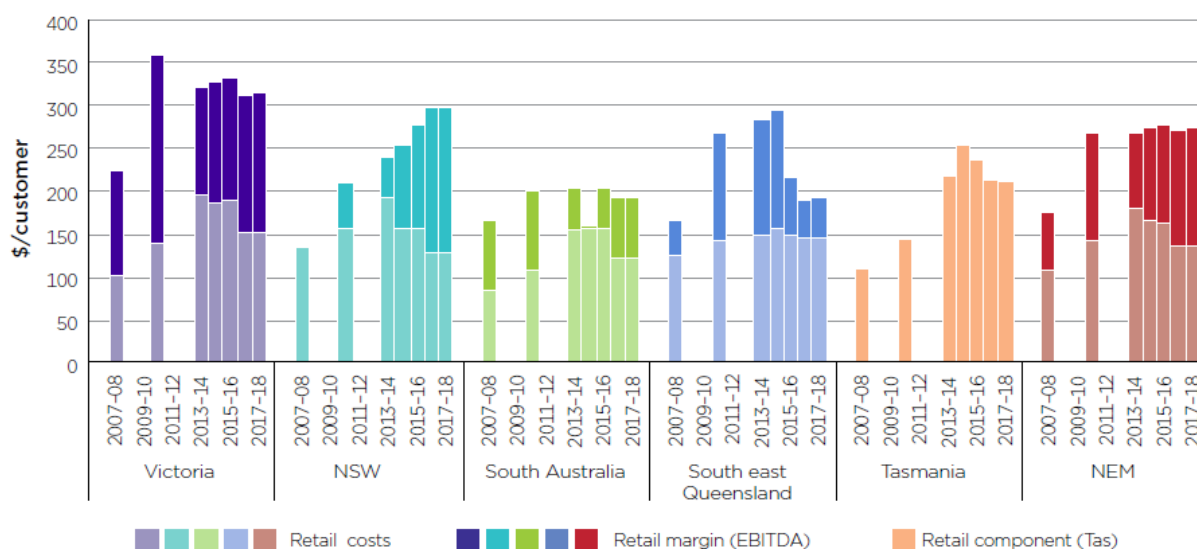
²⁴⁶ Evidence, Ms Melissa Reynolds, Chief Customer Officer, AGL Energy, 10 October 2018, p 44; Evidence, Mr Jonathan Briskin, Executive General Manager, Retail, Origin Energy, 10 October 2018, p 44; Evidence, Mr Chris Ryan, Customer Executive, EnergyAustralia, 10 October 2018, p 44.

increased. Even if I look at the impact of absorbing the recent increase in network costs, it is a cost of \$80 million to our business. When we guided market at our full-year result, we guided the market down across our in due market's business.²⁴⁷

The ACCC's findings

- 2.114 The ACCC reports 'margins increasing significantly' in New South Wales²⁴⁸ and points out that 'retail margins in Victoria and NSW are some of the highest around the world'.²⁴⁹ Figure 4 shows the retail costs and retail margins reported by New South Wales retailers since 2007-08 in dollars-per-customer terms.²⁵⁰

Figure 4 Comparison of retail costs and retail margins for residential customers (\$ per customer) by state 2007–08 to 2017–18



Source: Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 37.

- 2.115 Mr Mullen confirmed that in its final report, the ACCC compared the net margin of retailers in NEM regions to international jurisdictions. It concluded that Victoria, followed by New South Wales had the highest net margins of all jurisdictions analysed.²⁵¹
- 2.116 The ACCC reports that 'Australian electricity prices, gross margins and net margins are among the highest in the world'.²⁵²

²⁴⁷ Evidence, Mr Briskin, 10 October 2018, p 44.

²⁴⁸ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 145.

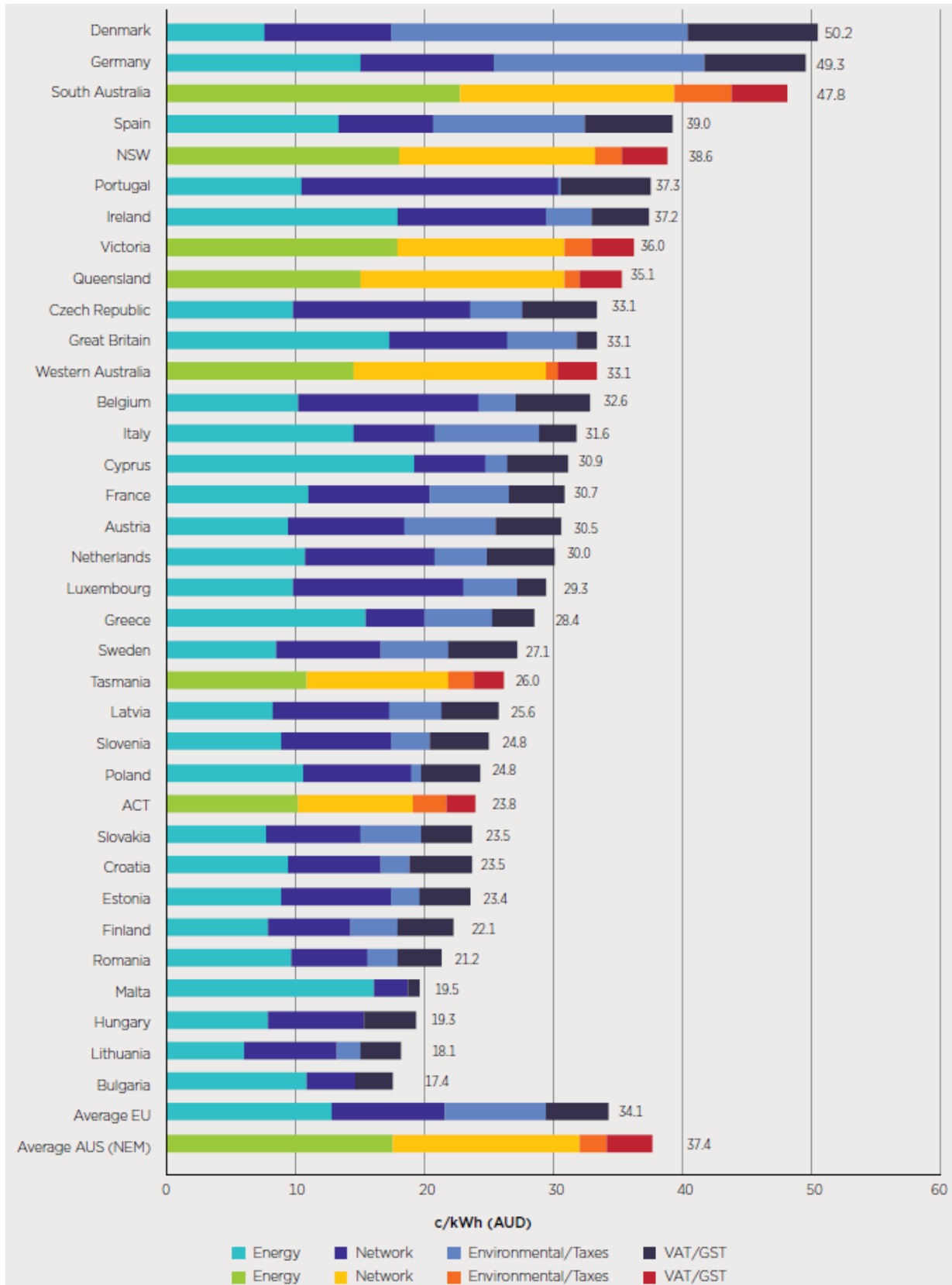
²⁴⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 146.

²⁵⁰ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 37.

²⁵¹ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 16.

²⁵² Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 23.

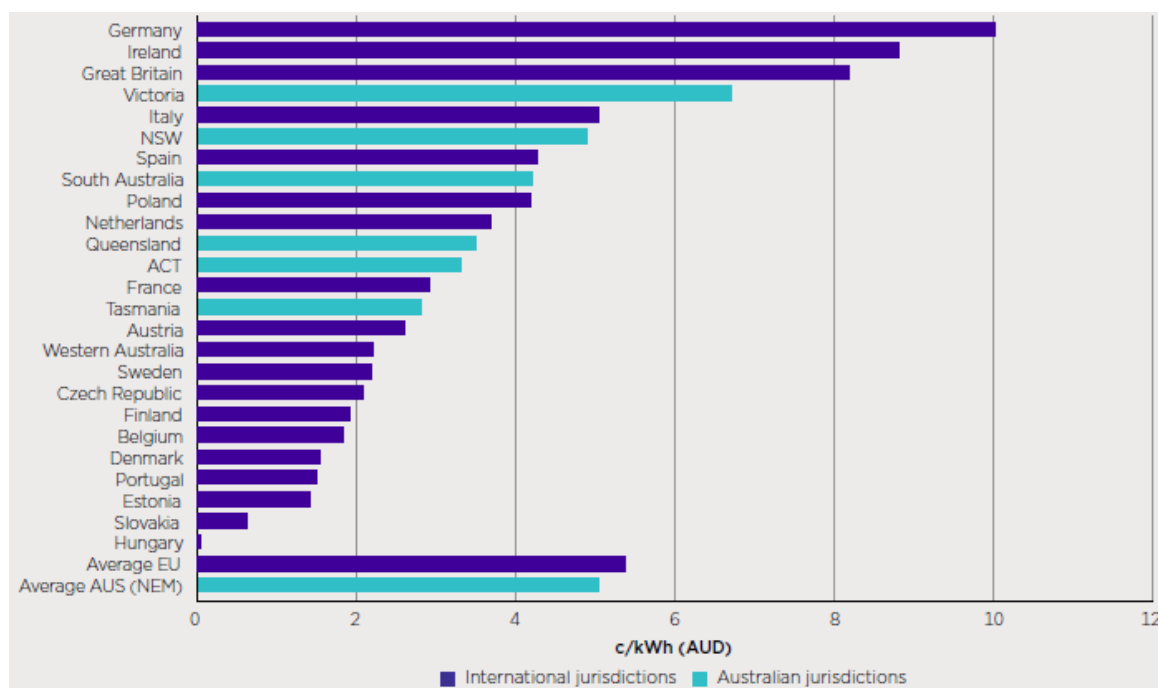
Figure 5 2018 Nominal international prices c/kWh, including GST



Source: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 24.

- 2.117 The ACCC reports that 'a larger proportion of the retail component is made up of retail margin than retail costs for NSW and Victoria compared to the EU average'.²⁵³

Figure 6 Gross Margins, 2016-17, c/kWh, Australian states and overseas



Source: Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 25.

Market monitoring

- 2.118 In New South Wales, IPART is the electricity market monitor. In its recent draft report into the performance and competitiveness of the retail electricity market, IPART noted that in conducting its analysis, it is statutorily limited in the information it can consider. IPART's draft report states that it is based on:

- information provided by the AEMC and the AER
- publicly available information
- information provided by a retailer with particulars of the number of market offer customers of the retailer, the market offer prices of those customers, the number of customers on each standing offer price offered by the retailer that has been publicly advertised, and those standing offer prices.²⁵⁴

- 2.119 As noted previously, IPART has found that since electricity prices were deregulated in 2013-14, electricity prices on average across New South Wales have fallen in real terms, after adjusting for inflation. In its draft *Review of the performance and competitiveness of the retail energy market in NSW*:

²⁵³ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 25.

²⁵⁴ Independent Pricing and Regulatory Tribunal NSW, *Review of the performance and competitiveness of the retail energy market in NSW: From July 1 2017 to 30 June 2018—Draft report*, October 2018, p 14.

From July 1 2017 to 30 June 2018, IPART stated that since deregulation 'the weighted average bill for NSW has fallen by 4.7 per cent in real terms'.²⁵⁵

2.120 The most recent data provided by IPART indicated that between 2013-14 (the year that electricity prices were regulated) and 2018-19, the average electricity price reflecting the range of offers in the market rose by 9 per cent in Sydney (representing a reduction of 0.8 per cent in real terms).²⁵⁶

2.121 Several inquiry participants raised concerns about the information available to IPART and its approach to competition monitoring. The Grattan Institute, for example, pointed out that IPART lacks data regarding the actual prices paid by customers and urged that their findings be viewed with caution:

The findings of the IPART report should be treated with caution. Like many other studies into retail electricity prices, the IPART report suffers from not knowing exactly what prices customers are paying. IPART do a decent job in estimating the amount the average NSW consumer is paying, but this is by no means definitive.²⁵⁷

2.122 NCOSS similarly identified IPART's lack of access to price data, adding that retail costs and margins, as well as customer experience with the market, are not fully captured in IPART's monitoring of competition:

NCOSS concurs and believes that current competition monitoring in NSW is inadequate, too narrowly defined, and does not look at the prices actually paid by most consumers, actual retail costs and margins, or the way that consumers (particularly those vulnerable consumers with low incomes) actually experience the retail electricity market.²⁵⁸

2.123 Several participants suggested that IPART's monitoring of the competitiveness of the retail electricity market could be improved with the inclusion of customer pricing data and an analysis of retail margins.

2.124 Mr Wood of the Grattan Institute, for example, suggested that an annual review of retail margins is required, noting that 'either the ACCC or the state regulators should get the actual aggregated data and publish it each year, but not individual retailer information'.²⁵⁹

2.125 The NSW Business Chamber noted that 'work should be undertaken to access actual customer data rather than relying on retailer-provided data, to determine a consumer perspective of available offers'.²⁶⁰

2.126 Associate Professor Mountain argued that more thorough and transparent market monitoring would go some way to improving retail market competition. He stated that 'the regulatory

²⁵⁵ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From July 1 2017 to 30 June 2018*, October 2018, p 64.

²⁵⁶ Answers to questions on notice, Independent Pricing and Regulatory Tribunal, 30 October 2018, p 1.

²⁵⁷ Submission 43, Grattan Institute, p 4.

²⁵⁸ Submission 42, NSW Council of Social Services, pp 9-10.

²⁵⁹ Evidence, Mr Tony Wood, Energy Program Director, Grattan Institute, 31 October 2017, p 44.

²⁶⁰ Submission 39, NSW Business Chamber, pp 10-11.

agency and the government applying its efforts over time can do a lot to make things more transparent and to make it clearer how the market is operating'.²⁶¹

- 2.127** In a 2016 report, entitled *Australia's retail electricity markets: who is serving whom?*, Associate Professor Mountain questioned the conclusion made by regulators that since deregulation electricity markets have been competitive. He pointed to consumers surveys that show general dissatisfaction and argued that retailer charges might help explain why:

The clear direction of policy over the last decade has been to ever greater retail market deregulation. Australia's regulatory institutions have concluded that Australia's retail electricity markets are competitive. Yet survey after survey in Australia finds general customer dissatisfaction with their electricity supply. This Report finds that retailer charges might explain some part of the dissatisfaction.²⁶²

- 2.128** In response to questions regarding the comparability of IPART's pricing data with that of the Australian Bureau of Statistics (ABS), IPART noted that the most recent ABS data indicated that prices have increased by 10.6 per cent in Sydney between 2013-14 and 2017-18.²⁶³

- 2.129** IPART estimated that there may be several reasons for the difference in the pricing data of IPART and the ABS:

- That IPART has measured price changes up to 2018-19 using July pricing data, whereas the ABS estimate is for the period up to 2017-18.
- Possible price change estimation methods. IPART's estimate is a weighted average of different offers based on the assumptions in the box on the following page. The ABS CPI methodology paper reports that it uses information from retailers to measure price changes, but does not contain further information about which retailers' data were used, or which offers are included.²⁶⁴

- 2.130** IPART also responded to concerns regarding a perceived discrepancy between the ACCC's findings and those in the draft report of IPART's most recent review of the performance and competitiveness of the retail energy market in NSW.²⁶⁵

- 2.131** The ACCC noted that retail prices in New South Wales have increased by 52 per cent in real terms over ten years.²⁶⁶ IPART's draft findings 9 and 10,²⁶⁷ however, indicate that residential customers in metropolitan areas have seen a real decrease (adjusted for inflation) in prices of

²⁶¹ Evidence, Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, 18 June 2018, p 41.

²⁶² Tabled document, Carbon and Energy Markets (CME), 'Australia's retail electricity markets: who is serving whom?', August 2016, p 24.

²⁶³ Answers to questions on notice, Independent Pricing and Regulatory Tribunal, 30 October 2018, p 1.

²⁶⁴ Answers to questions on notice, Independent Pricing and Regulatory Tribunal, 30 October 2018, p 1.

²⁶⁵ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From July 1 2017 to 30 June 2018*, October 2018.

²⁶⁶ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 10.

²⁶⁷ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From July 1 2017 to 30 June 2018*, October 2018, p 67.

0.8 per cent since 2013-14, with the corresponding figure for regional New South Wales showing a real decrease of 13.1 per cent.²⁶⁸

- 2.132** IPART commented that the discrepancy may be attributable to the difference in the time frames captured by each data set and agreed that prices have increased over the past decade.²⁶⁹
- 2.133** The draft IPART report at draft finding 6 concludes that for IPART 'a detailed review of electricity retail prices and margins is not necessary as the ACCC has recently completed its Retail Electricity Pricing Inquiry'.²⁷⁰

New wholesale and retail market monitoring

- 2.134** The Australian Energy Regulator (AER) was given new responsibilities as of December 2016 to analyse and monitor the effectiveness of competition in the wholesale market.²⁷¹ AER General Manager, Mr Adams, advised that this is a positive outcome that will help the AER understand how competition is working:

The role that the Government gave us in December last year to look at the effective competition of the market is, in my mind, an extremely positive and important role that we will fulfil. We will be able to provide a view to all of what we think is happening in terms of the effective competition of the wholesale market.²⁷²

- 2.135** Furthermore, in August 2018, after the release of the final report of its retail electricity pricing inquiry, the ACCC was directed by the Australian Government to monitor and report on prices, profits and margins in the supply of electricity in the National Electricity Market. The first report is due to government by 31 March 2019, with reporting to continue at least every six months until 2025.²⁷³
- 2.136** As part of its monitoring and reporting work, the ACCC will make recommendations to government on how to improve outcomes for electricity customers.²⁷⁴

Committee comment

- 2.137** The committee received conflicting information about the price outcomes that deregulation has brought about for consumers.

²⁶⁸ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From July 1 2017 to 30 June 2018*, October 2018, p 67.

²⁶⁹ Evidence, Ms Anna Brakey, Chief Operating Officer and Executive Director, Independent Pricing and Regulatory Tribunal, 10 October 2018, p 21.

²⁷⁰ Independent Pricing and Regulatory Tribunal NSW, *Review of the performance and competitiveness of the retail energy market in NSW: From July 1 2017 to 30 June 2018—Draft report*, October 2018, p 10.

²⁷¹ Submission 8, Energy Networks Australia, p 10.

²⁷² Evidence, Mr Peter Adams, General Manager, Wholesale Markets at the AER, 17 November 2017, p 43.

²⁷³ Media release, Australian Competition and Consumer Commission, 'ACCC to monitor and report on electricity prices,' 21 August 2018.

²⁷⁴ Media release, Australian Competition and Consumer Commission, 'ACCC to monitor and report on electricity prices,' 21 August 2018.

- 2.138** On one hand, the committee heard that there are some positive indicators of competition in the retail market since price deregulation. This includes new retailers entering the market, new products available to consumers, and increased rates of customers switching retailers.
- 2.139** Conversely, the committee also heard that retail margins, as a percentage of a total electricity bill, are very high in New South Wales when compared to other jurisdictions both domestically and internationally. Electricity retail profit margins also appear to be much higher than in other sectors. It should also be noted that it is the larger incumbent retailers that are benefiting from retail profit margins and not the smaller new market entrants. This is not reflective of a well-functioning competitive market.
- 2.140** The committee is also concerned that where the benefits of a competitive market can be realised, these are not shared equally amongst consumers. In the current market, more engaged consumers appear to be getting better deals than those that are less engaged (who are often those from vulnerable households). This is an issue that is considered in more detail in chapter 4.
- 2.141** The committee considers that price outcomes for consumers are the fairest way to measure the impacts of retail deregulation having been significantly impacted by increases in wholesale costs caused by sudden closures of existing generators. It is clear that price outcomes for New South Wales consumers have not been positive since deregulation with households having to manage the burden of continued price increases.
- 2.142** The committee finds that having reviewed the range of analyses of electricity prices it prefers that of the ACCC due to the extensive use it has made of its compulsory information gathering powers to reach its conclusions. The ACCC finds that retail electricity prices over ten years in New South Wales have increased by 52 per cent in real terms.

Finding 2

The committee finds that having reviewed the range of analyses of electricity prices it prefers that of the ACCC due to the extensive use it has made of its compulsory information gathering powers to reach its conclusions.

The ACCC finds that retail electricity prices over ten years in New South Wales have increased by 52 per cent in real terms.

- 2.143** The committee took issue with the conclusions reached by IPART and note that what it describes is not the lived experience of households and businesses across the State, and is not the findings by the ACCC. Perhaps IPART's findings are what should be the case if the market in New South Wales was in fact working for consumers. The Committee does not believe, on the evidence before it, that the retail electricity market is working in favour for consumers.
- 2.144** The committee is of the view that a more comprehensive monitoring of both the retail and wholesale market is required. This will increase the accountability of market participants, improve the ability of market bodies to understand the complex drivers of prices, and enable policy makers to make more informed decisions with the objective of realising better outcomes for consumers.

- 2.145** The committee welcomes the new responsibilities given to the ACCC to monitor retail markets and the AER to monitor wholesale market. However these are developments at the national level. The committee considers that the New South Wales electricity market requires ongoing and strengthened monitoring. The committee believes that the information currently available to IPART is insufficient for it to carry out this task effectively. As a consequence not enough is known about market outcomes and if competition is working effectively.
- 2.146** It is recommended that the NSW Government review the statutory powers given to IPART to ensure that it has access to the information needed to allow for a more robust monitoring of the New South Wales electricity market.
- 2.147** It is further recommended that as part of its market monitoring, the NSW Government place a greater emphasis on:
- the *actual* prices paid by electricity consumers and not the information provided by electricity retailers and other regulatory bodies
 - retail profit margins and why these are significantly higher in New South Wales than other jurisdictions
 - the outcomes of price dispersion and why some consumers are paying more for their electricity than other consumers.

Recommendation 4

That the NSW Government review the statutory powers given to the Independent Pricing and Regulatory Tribunal to ensure that it has access to the information needed to allow for a more robust monitoring of the New South Wales electricity market.

Recommendation 5

That as part of its market monitoring, the NSW Government place a greater emphasis on:

- the *actual* prices paid by electricity consumers and not the information provided by electricity retailers and other regulatory bodies
 - retail profit margins and why these are significantly higher in New South Wales than other jurisdictions
 - the outcomes of price dispersion and why some consumers are paying more for their electricity than other consumers.
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Chapter 3 Market dynamics and outcomes

This chapter considers some of the key features of the New South Wales electricity market and their influence in shaping market outcomes. It begins by outlining the market dominance of both retail and generation held by a small number of firms. The chapter then looks at the impact of a concentrated market in terms of retail competition and electricity prices. It concludes with a discussion about the electricity contract market.

Vertical integration and market concentration

- 3.1** Vertical integration refers to the combination in one business of two or more stages of production that might be otherwise be operated by separate businesses. In the electricity market, vertical integration refers to a business integrating both retail and generation activities.
- 3.2** Vertical integration is a key feature of the New South Wales electricity market. Three vertically integrated firms supply the vast majority of retail customers and control over three quarters electricity generation.²⁷⁵
- 3.3** A concern raised by inquiry participants was that the market concentration held by vertically integrated providers may be impacting retail competition and electricity prices.

Vertical integration across retail and generation

- 3.4** Vertical integration is a way through which market participants can protect themselves against fluctuations in wholesale electricity prices and gain some level of assurance of future revenue.
- 3.5** Mr Matthew Warren, Chief Executive, Australian Energy Council, explained there is a sound reason for why a retailer or generator might wish to vertically integrate. He commented that 'if you are running a large retail book, it is desirable to have some generation to hedge against that because that is one way of managing the significant volatility in electricity markets'.²⁷⁶
- 3.6** Associate Professor Tim Nelson, Chief Economist, AGL, said that vertical integration is a tool used by retailers to manage their exposure to risk and argued that prices are lower than they might otherwise be without integration:

Vertical integration is not an anticompetitive aspect of the market. It is a tool used by retailers to reduce their risk and increase the available generation. Far from contributing to higher prices, significant analysis demonstrates that prices are lower than they would otherwise be, due to the ability of retailers to directly invest in generation.²⁷⁷

²⁷⁵ Australian Energy Regulator, *AER electricity wholesale performance monitoring: NSW electricity market advice*, December 2017, p 9.

²⁷⁶ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 19.

²⁷⁷ Evidence, Associate Professor Tim Nelson, Chief Economist, AGL, 18 June 2018, p 29.

- 3.7 Dr Kris Funston, Executive General Manager, Australian Energy Market Commission (AEMC), suggested that vertical integration does not negatively impact competition, provided that standalone retailers have access to hedging contracts to manage their own risk:

[I]n terms of the retailers' view on this, and in particular standalone retailers, that the view was that provided there is that liquid contract market out there, at least on the retail side, they can compete very effectively with the vertically integrated providers. I think there is a question, and this goes back to the question that was asked earlier around the NEG as well, that comes back to the market design of that and whether you can get a market design that incentivises—and obviously that is what we would like—the right types of contracts to continue to be offered and to be offered by someone, irrespective of whether or not you are a standalone generator or a vertically integrated generator.²⁷⁸

- 3.8 In practice, however, the high degree of market concentration in New South Wales and elsewhere has disadvantaged the smaller retailers.

Market share of integrated providers

- 3.9 According to the Australian Competition and Consumer Commission (ACCC), the largest three vertically-integrated businesses operating in New South Wales, Origin Energy, EnergyAustralia and AGL, control 82 per cent of the state's generation output. The breakdown between those providers is as follows:

- AGL – 40 per cent
- Origin Energy – 27 per cent
- EnergyAustralia – 15 per cent.²⁷⁹

- 3.10 The Australian Energy Regulator (AER) reported in its most recent *Annual Report on Compliance & Performance of the Retail Energy Market* that the same three providers also supply around 86 per cent of small retail customers in New South Wales. The breakdown between those providers is as follows:

- AGL – 23 per cent
- Origin Energy – 34 per cent
- EnergyAustralia – 29 per cent.²⁸⁰

²⁷⁸ Evidence, Dr Kris Funston, Executive General Manager, Australian Energy Market Commission, 17 November 2017, pp 10-11.

²⁷⁹ Australian Competition and Consumer Commission, *Retail Electricity Pricing Inquiry: Preliminary Report*, 22 September 2017, p 80.

²⁸⁰ Australian Energy Regulator, *Annual Report on Compliance & Performance of the Retail Energy Market: 2016-17*, 22 November 2017, p 14.

3.11 These providers were existing market participants²⁸¹ when they acquired a significant portion of their generation assets through the process of privatisation of the NSW Government's generation businesses from 2012 to 2015.²⁸²

3.12 Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, commented that New South Wales has a market concentration problem. He noted that this was in part due to the privatisation of electricity assets. He stated that the ACCC had opposed the sale of Macquarie Generation (previously government owned) assets to AGL:

We have made the observations that concentration is a problem in the NEM generally and in New South Wales. There are a number of factors driving that. One is the point at which this market started, if you like, was generally State Governments privatising assets, and we have an example in New South Wales where the Macquarie Generation assets were sold to AGL. The ACCC opposed that but that transaction went ahead.²⁸³

3.13 The ACCC's final report into retail electricity prices noted that its opposition was based on a view that the sale of both of Macquarie Generation's large coal-fired power stations—Liddell and Bayswater—should not be sold to a single business, as it would result in the purchaser controlling a 30 per cent share in the state's generation capacity.

[O]f particular concern was the sale of the Macquarie Generation portfolio as a single business to AGL, which gave AGL control of 30 per cent of the state's generation capacity. Competitive outcomes would have been better served by the sale of the two largest generators in the portfolio (Bayswater and Liddell) to different parties.²⁸⁴

3.14 The sale of Bayswater Power Station and Liddell Power Station to AGL was completed in 2014.²⁸⁵

3.15 Some participants asserted that a concentrated market of integrated providers is detrimental to competitive outcomes. The NSW Council of Social Services (NCOSS), for example, noted that the situation undermines many of the assumed benefits that a competitive market was intended to deliver and is likely to be resulting in higher prices:

[T]he ACCC highlights that this level of concentration has a significant limiting impact upon the level of real competition in both the generation and retail markets, and is likely to be resulting in higher prices. NCOSS also believes that this level of concentration and integration significantly undermines many of the assumed benefits that a competitive market was intended to deliver, and leads to situations where the 3 largest

²⁸¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 45.

²⁸² NSW Parliamentary Research Service, *issues backgrounder: Privatisation in NSW: a timeline and key sources*, June 2017, pp 8-9; Australian Energy Regulator, *State of the Energy Market*, May 2017, pp 43-44.

²⁸³ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 18.

²⁸⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 45.

²⁸⁵ NSW Parliamentary Research Service, *Privatisation in NSW: a timeline and key sources*, June 2017, p 8.

retailers effectively act in unison, such as the near identical retail price increases implemented from 1 July this year.²⁸⁶

- 3.16** St Vincent de Paul Society pointed to the AER's conclusion that this level of market concentration may lead to opportunities for the exercise of market power.²⁸⁷
- 3.17** The NSW Business Chamber contended that this high level of market concentration poses a risk to wholesale prices:

In NSW, AGL (40%), Origin Energy (27%) and EnergyAustralia (15%) generate more than 80% of dispatched electricity. The ACCC indicates that this high level of market concentration raises concerns about the potential for the exercise of market power and is therefore a risk to wholesale prices.²⁸⁸

Competitive outcomes of vertical integration and market concentration

- 3.18** This section considers concerns regarding the competitive outcomes of vertical integration and high market concentration. It also looks at the perceived advantage of large, integrated providers over smaller competitors.

Competitive advantage

- 3.19** An argument presented to the committee is that genuine competition is being undermined by the fact that large retailers tend to have a significant unengaged customer base paying high prices. This allows them to compete with smaller retailers only for a small portion of engaged consumers.
- 3.20** The NSW Business Chamber noted that the charges of the big three, vertically-integrated retailers vary widely between the best and worst offers. These firms enjoy a large customers base, most of whom do not change retailers despite being on higher priced offers:

The CME report found that in NSW, the retailer charge in the average of the best three offers from all retailers is considerably lower than the retailer charge in the average of the best offer from the big three retailers. This is relevant given that the big three retailers still serve more than 85% of NSW small customers and approximately 90% of all NSW customers. This questions the presumption that consumers are actually better off given a strong majority of consumers are remaining with the big three retailers despite higher prices.²⁸⁹

- 3.21** The ACCC has been critical of decisions in New South Wales which have diminished competition, to the detriment of consumers. They report:

In generation, against ACCC advice, the Queensland and New South Wales (NSW) governments made decisions regarding the operation and ownership of generation

²⁸⁶ Submission 42, NSW Council of Social Services, p 8.

²⁸⁷ Submission 40, St Vincent de Paul Society, p 5.

²⁸⁸ Submission 39, NSW Business Chamber, p 2.

²⁸⁹ Submission 39, NSW Business Chamber, p 8.

assets giving rise to concentrated markets. In Queensland, the government consolidated the generation assets of three businesses into two. In NSW, as one example, both generators owned by Macquarie Generation were sold to AGL, missing an opportunity to deliver a competitive market structure by selling them to separate buyers.²⁹⁰

- 3.22** Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, asserted that the existing larger market players have an advantage over new smaller entrants. Because of customer inertia, a small retailer seeking to obtain a place in the market must discount very heavily to attract customers, thereby making it difficult to compete:

The cheapest retailers—that is, the ones seeking to obtain a place in the market—must discount very heavily to attract customers. They must lose and offer such deeply discounted products because of the high search costs. Because customers are not able to engage effectively and because they incur very high search costs, to win them over you have to work triply hard. That means it is a very tough business to break into, but it is very profitable if you already have customers because you can use their inertia to get much higher yields.²⁹¹

- 3.23** Associate Professor Mountain asserted that the market dynamic 'translates into much higher profitability for the retailers that have customers, which are the large retailers, and a much tougher life for the smaller retailers'.²⁹² He previously qualified, however, that in relation to issues within the market, he 'would not identify the big retailers per se as the problem. I think the issue is the nature of the industry and the implications of that for retailers'.²⁹³

- 3.24** ERM Power asserted that ultimately, the difficulties caused by this dynamic can be such that small retailers are pushed out of the market, to the overall detriment of competition and consumers:

Larger retailers, particularly those which are vertically integrated, are more capable of absorbing these increased costs due to their economies of scale. Smaller retailers find this more difficult and as such are pushed out of the market, to the overall detriment of competition and consumers.²⁹⁴

- 3.25** Mr Mullen of the ACCC noted that under the current conditions, market concentration in New South Wales is a problem and that outcomes for consumers are poor:

I think what we would try to draw attention to is not just the indicators of competition, of which concentration is one, but the outcomes for consumers. We have stated that we think concentration is a problem and improving that situation will help consumers,

²⁹⁰ Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p v.

²⁹¹ Evidence, Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, 18 June 2018, p 40.

²⁹² Evidence, Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, 18 June 2018, p 39.

²⁹³ Evidence, Associate Professor Bruce Mountain, Director, Victoria Energy Policy Centre, 18 June 2018, p 39.

²⁹⁴ Submission 234, ERM Power, p 6.

but at the same time we have presented comprehensive data to show that the outcomes for consumers are not what we want to see and that needs to be dealt with.²⁹⁵

- 3.26** The committee heard from a number of inquiry participants who asserted that assisting customers in engaging with the energy market and empowering them to make better decisions would enhance competition among retailers. This is discussed in chapter 4.

Gouging and collusion

- 3.27** Despite the evidence received that was critical of the market power and competitive advantage enjoyed by the large vertically integrated firms, inquiry participants did not suggest that this was leading to collusion and improper bidding practices.²⁹⁶ However, the evidence does disclose that the big three energy companies are making very significant profits at the expense of their customers, many of whom feel they are being price gouged.
- 3.28** The Grattan Institute, for example, commented that the current market and practices of retailers may be contributing to higher prices, but they are not of evidence of collusion or gouging:

We are not aware of any evidence that there is collusion or explicit price gouging by retailers. Yet there are a range of characteristics of the existing retail market and retailer practices that mean consumers may end up paying far more for their electricity than they could.²⁹⁷

- 3.29** Professor O'Kane, former NSW Chief Scientist and Engineer, said that the NSW Energy Security Taskforce was aware of accusations of collusion and price gouging, but that the Taskforces had not seen these substantiated:

In the work we have done on the Energy Security Taskforce we heard several suggestions about [collusion and price gouging] without people being able to prove it. We looked into it and were not able to come down either way about it. We have noted the work done by the Australian Energy Regulator, which has also looked at it, and noted that it has not been able to actually prove it.²⁹⁸

- 3.30** Several participants noted that, though illegal behaviour is not evident, the market structure and current level of concentration is not delivering the best outcomes for consumers.²⁹⁹

²⁹⁵ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 19.

²⁹⁶ For example, Submission 235, 1st Energy; Submission 236, Momentum Energy; Submission 40, St Vincent de Paul Society; Submission 43, Grattan Institute; Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 2.

²⁹⁷ Submission 43, Grattan Institute, p 1.

²⁹⁸ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 2.

²⁹⁹ For example, Submission 42, NSW Council of Social Services, p 10; Submission 40, St Vincent de Paul Society, p 4.

- 3.31** The NSW Council of Social Services, for example, asserted that 'whether or not they amount to illegal price gouging or collusion, retail practices are not currently delivering the best outcomes possible for many consumers'.³⁰⁰

How to limit further market concentration

- 3.32** Some inquiry participants noted that measures might be implemented to better promote the ability of small providers to compete against integrated participants with high market share.³⁰¹

- 3.33** Mr Ed McManus, Chief Executive, Meridian Energy and Powershop, said that there are measures that might be taken to improve competition in the market. However, he stressed that any decision must carefully consider the possibility of unintended consequences for the market:

Competition is lively. Could it be working better? Of course. Are there things that could be considered to improve competition? Of course. In any of those things you have to be extremely careful about the potential unintended consequences that none of us sitting here today will understand.³⁰²

- 3.34** Mr Chris Alexander, Director Advocacy at Energy Consumers Australia, highlighted the work of the ACCC—which at the time was ongoing—noting that there are structural problems in the market. He said that a key challenge to be addressed is how to ensure that competition is working in a highly concentrated market:

The next port of call and major milestone for us is looking to see what Rod Sims does through the Australian Competition and Consumer Commission [ACCC] process. There are major structural questions about how the market is working that we think the ACCC will work to address. How do we deal with the legacy of high network costs and big regulatory assistance projects? How do we make sure competition works in a market that is highly concentrated?³⁰³

- 3.35** Mr Tony Wood, Energy Program Director, Grattan Institute, argued that reducing market concentration by forcing vertically integrated business to separate their generation and retail arms may have a limited impact:

If you said tomorrow that we are going to force the disaggregation of the gentailers, either of a certain size or completely, and, say, AGL decided to keep the retail business and get rid of the generation, they would still effectively control a substantial part of the market through contracts. I do not know that that would solve the problem.³⁰⁴

³⁰⁰ Submission 42, NSW Council of Social Services, p 10.

³⁰¹ For example, Evidence, Mr Ed McManus, Chief Executive, Meridian Energy and Powershop, 8 May 2018, p 27; Evidence, Mr Chris Alexander, Director Advocacy, Energy Consumers Australia, 21 February 2018, p 30; Evidence, Ms Lynne Gallagher, Director Research, Energy Consumers Australia, 21 February 2018, p 32.

³⁰² Evidence, Mr Ed McManus, Chief Executive, Meridian Energy and Powershop, 8 May 2018, p 27.

³⁰³ Evidence, Mr Chris Alexander, Director Advocacy, Energy Consumers Australia, 21 February 2018, p 30.

³⁰⁴ Evidence, Mr Tony Wood, Energy Program Director, Grattan Institute, 31 October 2017, p 44.

- 3.36** In the final report of its inquiry into the retail supply of electricity and the competitiveness of retail electricity markets, the ACCC commented that forcing private entities to divest assets is an extreme measure. The ACCC did not recommend that this be pursued as a means of reducing concentration in the electricity market:

Requiring the divestiture of privately owned assets is an extreme measure to take in any market, including the electricity market. While the way in which concentration has developed in the wholesale market is clearly contributing to current high prices, the ACCC considers that the other recommendations made in this report will, if implemented, be a better means to restore competition to a level which serves consumers well. For these reasons...the ACCC does not believe it would be appropriate to intervene to unwind the way in which the market has evolved across the NEM.³⁰⁵

- 3.37** Instead, the ACCC recommended that a cap be placed on future consolidation of generation capacity to 'limit acquisitions that would result in a market participant acquiring ownership, or controlling the dispatch, of more than 20 per cent of generation capacity in any NEM region'.³⁰⁶ The ACCC's recommended cap would not be applied to investment in new generation assets. Furthermore, existing participants would not be forced to sell down to a level below the threshold.³⁰⁷

- 3.38** The ACCC further noted that the 20 per cent market share threshold 'is appropriate in the context of the market structure'.³⁰⁸

Committee comment

- 3.39** The committee considers that the National Energy Market (NEM) is generally a well-functioning mechanism for facilitating the trade of electricity between generators and retailers.
- 3.40** Given the nature of the NEM, fluctuations in the price of wholesale electricity are inevitable. The committee recognises that strategies to manage the risk associated with those fluctuations are important to both retailers and wholesalers. Vertical integration, a business combining wholesale and retail activities, is one such mechanism.
- 3.41** The committee does not consider that vertical integration is inherently anticompetitive. However, the committee has serious concerns regarding the fact that in New South Wales, the same three vertically integrated providers supply 86 per cent of the retail market and generate 82 per cent of the state's electricity.
- 3.42** It is clear that the market share of the large, integrated players, in both wholesaling and retailing is allowing a small number of providers to exercise a considerable market power, which is clearly resulting in poor outcomes for competition.

³⁰⁵ Tabled document, Australian Competition & Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 89.

³⁰⁶ Tabled document, Australian Competition & Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 90.

³⁰⁷ Tabled document, Australian Competition & Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 91.

³⁰⁸ Tabled document, Australian Competition & Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 91.

- 3.43** The committee finds it could be reasonably argued that the significant market share held by a small number of vertically integrated firms has undermined competition in the New South Wales electricity market and has led to higher electricity prices for consumers.

Finding 3

That it could be reasonably argued that the significant market share held by a small number of vertically integrated firms has undermined competition in the New South Wales electricity market and has led to higher electricity prices for consumers.

- 3.44** At this point in time it would be a drastic undertaking to force vertically integrated businesses to separate their generation and retail arms, and thereby unwind the way in which the electricity market has evolved. Attention should be instead given to how competition within the market, as currently constituted, can be improved.
- 3.45** This committee supports measures with the objective of ensuring that electricity market participants are not allowed to further increase their market share through the acquisition of existing assets or businesses, above a prescribed amount deemed appropriate by the government. It should be stressed that at the same time care must be taken to ensure that any such measures do not restrict investment in future generation.
- 3.46** It is recommended that the NSW Government take all necessary steps, including through the COAG process, to limit electricity market participants from increasing their market share, through the acquisition of existing assets or businesses, above a prescribed amount that it deems appropriate.

Recommendation 6

That the NSW Government take all necessary steps including through the COAG process to limit electricity market participants from increasing their market share, through the acquisition of existing assets or businesses, above a prescribed amount that it deems appropriate.

Contract markets

- 3.47** A concern of some inquiry participants was that the high market share held by vertically integrated providers may negatively impact retail competition by reducing contract market liquidity—that is, standalone retailers' ability to use forward electricity contracts to manage their exposure to wholesale price fluctuation.
- 3.48** Concerns were also raised regarding opacity in the contract market and the implications this has for regulators and market outcomes.

Contract market liquidity

3.49 In general terms, contract market liquidity is a measure of the ease with which market participants can find and execute trades quickly and without excessive movement in price.

3.50 The ACCC notes that no single metric is generally agreed upon that provides a complete picture of contract market liquidity. However, the ACCC broadly agrees with the AEMC approach that a liquid wholesale contract market is typically characterised by:

- no single transaction being likely to move the price excessively
- individual trades that are able to be easily executed
- an ability to trade large volumes of energy in a short period of time
- a market that can recover towards its natural equilibrium after being exposed to a shock.³⁰⁹

3.51 Mr Peter Adams, General Manager, Wholesale Markets at the AER, for example, noted that 'it is certainly clear that those that manage risk by vertically integrating internally reduce liquidity in contract markets'.³¹⁰

3.52 ERM Power asserted that liquidity in the contract market is falling and outlined the difficulties this poses for standalone retailers. ERM noted that when liquidity is low, retailers must either accept higher prices to hedge or a higher risk profile, both of which can result in higher prices for end consumers:

We wish to draw the Committee's attention to the falling liquidity in the contract market over the past few years. Retailers (and generators) rely on contract markets to hedge risk in the wholesale market. When liquidity tightens, retailers either face higher prices to hedge, or may choose to hedge less, which translates to a higher risk profile. A higher risk profile requires higher returns. In either case, a reduction in contract market liquidity will lead to higher prices for end users. An improvement in contract market liquidity is therefore crucial to helping reduce retail electricity prices.³¹¹

3.53 Mr Tony Pfeiffer, Managing Director of Enova Community Energy explained the impact this has on small retailers. He noted that Enova Community Energy struggles to find contracts to manage their risk in the wholesale market as generators may be unwilling to deal on the scale of contract required by small retailers. Mr Pfeiffer argued that small retailers are thus forced to operate at slim margins that could bankrupt them:

As a small retailer, we are more exposed to the variability in the wholesale market and have not been able to take a long-term risk managed position in the wholesale market due to the limited number of counterparties willing to deal in appropriate risk products for small quantities...

The problem for small pure retailing companies like Enova in competing with integrated players is that we are caught in a squeeze between the higher wholesale price and the

³⁰⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 113.

³¹⁰ Evidence, Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator, 17 November 2017, p 42.

³¹¹ Submission 234, ERM Power, p 3.

declining retail margin. In short, when a risk premium from market uncertainties is priced into the wholesale rate, it becomes a source of greater profits for integrated players but for pure retail businesses it brings enormous difficulties. These conditions are sufficient to bankrupt the retail-only players.³¹²

- 3.54** Dr Kerry Schott, Independent Chair of the Council of Australian Governments' (COAG) Energy Securities Board (ESB), said that some small retailers have expressed concerns with the ESB about the market power of vertically integrated retailers and the ability of small providers to find contracts to meet their power needs:

I do note though that there has been concern expressed to the Energy Security Board about the market power of vertically integrated power retailers, notably AGL Energy, Origin Energy and EnergyAustralia. In designing the National Energy Guarantee, some small retailers have expressed concern to us about the market power of these companies and the difficulties that may face small retailers in acquiring the contracts and power that they need.³¹³

- 3.55** Dr Funston noted that it is the AEMC's view that there is a liquid contract market in New South Wales.³¹⁴ Notwithstanding this, Ms Anne Pearson, Chief Executive of the AEMC, suggested that liquidity could be improved by creating certainty around policy and regulatory settings and encouraging new generation capacity:

[W]e are suggesting there need to be some regulatory changes, that an emissions reductions policy should be settled and that there are a number of changes in policy settings that need to be made in order to create an environment in which investors feel confident enough to invest in generation and the types of generation technologies that will provide more contracts and liquidity in the market. We have our own work program to help do that. The Energy Security Board, through its work for the COAG Energy Council, is also doing work to support that.³¹⁵

Transparency in the contract market

- 3.56** As discussed in chapter 2, regulators have little visibility of the contract market. A number of inquiry participants presented concerns regarding opacity in the contract market and the implications this has for regulators and market outcomes.
- 3.57** Mr Adams of the AER, observed that the market is relatively opaque. He argued that improved transparency and access to information would improve the AER's ability to assess the competitiveness of the contract market:

What is relatively opaque—in the electricity market at least—is the amount of information that is out there in the underlying contract markets. From our perspective, if we are to form a view on whether these arrangements are effectively competitive, we

³¹² Evidence, Mr Tony Pfeiffer, Managing Director, Enova Community Energy, 8 May 2018, p 23.

³¹³ Evidence, Dr Kerry Schott, Independent Chair, Energy Security Board, 18 June 2018, p 45.

³¹⁴ Evidence, Dr Kris Funston, Executive General Manager, Australian Energy Market Commission, 17 November 2017, p 5.

³¹⁵ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 13.

would suggest that a better handle on those contract arrangements would allow us to do a much clearer job.³¹⁶

- 3.58** Similarly, former NSW Chief Scientist and Engineer, Professor O'Kane, noted that there is a lack of transparency in contracting and suggested that it is difficult to ascertain how this is being leveraged by market participants:

[T]ransparency in the contract market, for example, is important. While you can see the open trading on the electricity market, the National Electricity Market [NEM], you cannot see the details of the contract market...

It does seem that there are, understandably, some very clever practices in the market but of course knowing exactly how clever, and where that is in terms of the spirit of the market as opposed to the law, goes back to this information issue. I think that is an important issue. Whether it is price gouging or not, I think we do not know, but there are certainly opportunities for people to use the complexity and opaqueness of the market, and I think that is important.³¹⁷

- 3.59** Dr Funston observed that better reporting is needed with respect to over-the-counter (OTC) bilateral contracts. She noted that this role used to be fulfilled by the Australian Financial Markets Association (AFMA) through a voluntary survey and went on to suggest that increased transparency in the future would facilitate a better understanding of market dynamics:

... In the last retail competition review that we did in 2017 there seemed to be a lack of information around over-the-counter contracts. We recommended that there needed to be more visibility around that. There used to be a survey that was done by Australian Financial Markets Association [AFMA] that highlighted how many contracts were in the market but that has subsequently disappeared...³¹⁸

If you look at what we recommended in the 2017 [AEMC] Retail Competition Review, we were very clear that there was a lack of visibility around the over-the-counter contract market. We believe that the type of reporting that used to occur in the sector up until 2014-15 should be reintroduced because that obviously has an effect on what is happening with the spot price and helps us to explain what is really happening in the market.³¹⁹

- 3.60** The Australian Energy Council pointed out that there is work being done by the AFMA to re-start the survey:

We thank the Select Committee for its interest and support in this useful transparency measure. We have made enquires on its progress and are pleased to advise it is well progressed. AFMA electricity members have agreed in principle to voluntarily re-start the survey process and back-fill the two missing years. The project's deadlines are not

³¹⁶ Evidence, Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator, 17 November 2017, p 35.

³¹⁷ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 2.

³¹⁸ Evidence, Dr Kris Funston, Executive General Manager, Australian Energy Market Commission, 17 November 2017, p 4.

³¹⁹ Evidence, Dr Kris Funston, Executive General Manager, Australian Energy Market Commission, 17 November 2017, p 12.

yet agreed, but the AFMA secretariat is proposing a completion date of the end of January 2018.³²⁰

ACCC solution to contract market opacity

3.61 In June 2018, the Australian Competition and Consumer Commission released the final report of its Retail Electricity Pricing Inquiry.³²¹ The report detailed the results of the ACCC's examination of the competitiveness of retail electricity markets in the NEM and outlined a package of recommendations aimed at bringing down prices and restoring consumer confidence and Australia's competitive advantage.³²²

3.62 In its report, the ACCC acknowledges concerns regarding a lack of information in the OTC contract market. The ACCC suggested that this lack of transparency impedes price signals in the market, resulting in uncertainty for participants and policy makers:

Concerns have also been raised about the 'over-the-counter' (OTC) contract market. Activity in this market is not disclosed publicly, which impairs market information regarding price signals and liquidity. The opacity of the OTC market also contributes to concerns about price discrimination against smaller retailers.³²³

The ACCC considers that the lack of transparency in the OTC market impedes the transmission of price signals in the market, and introduces uncertainty for participants and policy makers.³²⁴

3.63 According to the ACCC, market transparency could be improved by establishing a reporting requirement and the publishing de-identified OTC trade data:

This uncertainty could be overcome by a requirement for OTC trades to be reported to a registry and then published in a de-identified format. Publishing contracts in a de-identified format minimises the risk that the registry discloses the commercial activities of individual businesses.³²⁵

3.64 In recommendation 6 of its report, the ACCC called for amendments to be made to the National Electricity Law to require the reporting of all OTC trades to the AER, which would be published in a de-identified format.³²⁶

³²⁰ Answers to questions on notice, Australian Energy Council, 5 December 2017, p 2.

³²¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018.

³²² Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p iv.

³²³ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 104.

³²⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 122.

³²⁵ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 122.

³²⁶ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 122.

- 3.65** In September 2018, the Energy Securities Board released a consultation paper³²⁷ regarding the implementation of the ACCC's recommendation 6, at the request of the Council of Australian Governments Energy Council. At the time of writing, the Energy Council had not formally considered the results of consultation.

Committee comment

- 3.66** The committee considers an ideal market as one in which participants' intentions and pricing decisions are transparent, and regulators have access to the information they require in order to fully understand how the market is operating.
- 3.67** The committee heard from a number of inquiry participants, including the former NSW Chief Scientist and Engineer, and the Australian Energy Regulator, that there is a lack of transparency in the electricity contract market, particularly in the trade of bilateral, over-the-counter (OTC) contracts.
- 3.68** The committee considers that this opacity is impeding the ability of market bodies and regulators to fully understand the complex drivers of wholesale electricity prices and their impact on outcomes for consumers.
- 3.69** The committee notes that the ACCC has proposed a solution to the issue of opacity in the contract market. The ACCC has recommended that the National Electricity Law be amended to require the reporting of all OTC trades to a repository administered by the Australian Energy Regulator. The committee fully supports this measure.

³²⁷ COAG Energy Council, *Energy Security Board Consultation Paper: OTC Transparency in the NEM*, September 2018.

Chapter 4 Household hardship and industry pressures

This chapter begins by documenting the impact of electricity price increases on households, particularly those experiencing financial hardship. It then considers the effectiveness of government and industry assistance in helping households and consumers who are experiencing hardship. Next, the chapter looks at the difficulties currently faced by consumers in engaging with the electricity market to find the best available deal. In many instances these difficulties are attributable to the complexity of the market and the confusing pricing and discounting practices of retailers. The chapter concludes with a discussion about the price pressures faced by businesses and industry.

Electricity unaffordability

- 4.1** Electricity, like shelter, water and telecommunications, is an essential service for all households.³²⁸ Access to affordable and reliable electricity is an issue for a number low-income households.
- 4.2** According to the NSW Council of Social Service (NCOSS), rising energy prices is one of the biggest challenges facing lower socioeconomic households, second only to the issue of housing affordability.³²⁹
- 4.3** The St Vincent de Paul Society NSW, citing Australian Competition and Consumer Commission (ACCC) data, advised that since 2007-08 average residential bills in New South Wales have increased by approximately 45 per cent. The Society asserted that 'for low-income households, even the cheapest offers on the market – between \$1,875 and \$2,174 a year depending on the area – are too expensive'.³³⁰
- 4.4** Ms Tracy McLeod Howe, Chief Executive Officer, NCOSS, described the impact of recent electricity prices as being 'an immediate crisis for people experiencing poverty and people with low and fixed incomes'.³³¹
- 4.5** A number of inquiry participants called on the NSW Government to ensure that electricity is affordable for all people, regardless of income.³³²

Impacts of rising electricity prices

- 4.6** It was noted by a number of inquiry participants that electricity prices have continually risen over the past decade. For example, the Combined Pensioners and Superannuants Association

³²⁸ Submission 40, St Vincent de Paul Society, p 2.

³²⁹ Evidence, Ms Tracy McLeod Howe, Chief Executive Officer, NSW Council of Social Service, 21 February 2018, pp 18-19.

³³⁰ Submission 40, St Vincent de Paul Society, p 2.

³³¹ Evidence, Ms Tracy McLeod Howe, Chief Executive Officer, NSW Council of Social Service, 21 February 2018, p 12.

³³² For example, Submission 41, Combined Pensioners and Superannuants Association, p 3; Submission 42, NSW Council of Social Service, p 3.

cited data showing that in New South Wales electricity prices have increased over 66 per cent in real terms between 2006 and 2016. This far exceeds growth in the Consumer Price Index.³³³

- 4.7 The St Vincent de Paul Society NSW stressed that because electricity is an essential service it is something no household can opt out of entirely, even if they have the ability to try and minimise their costs:

It is fundamental to recognise that electricity is an essential service, which places users in a structural position of vulnerability – while consumers can shop around for available deals offered by retailers, one can hardly choose to 'opt out' of the market completely.³³⁴

- 4.8 The Combined Pensioners and Superannuants Association stressed that many lower socioeconomic households spend almost all their income on essential services and it can be very difficult to manage a marked increase in the price of one of these services:

The large majority of people living on low incomes spend all their income on essential goods and services and don't have a financial buffer to insulate themselves against increases in the cost of goods and services they need to survive. This is forcing these people to make difficult decisions about how to survive without these necessities.³³⁵

- 4.9 According to the Vincent de Paul Society NSW the following households are those who are most vulnerable to energy stress:

- people who are out of paid work and living on low, fixed incomes
- people living in poor quality housing, particularly renters
- people with a disability
- carers
- single parents.³³⁶

- 4.10 In its *Cost of Living in NSW – June 2017* report, NCOSS examined the impact of rising electricity prices on lower income households. The data included in the report was based on an online survey of 440 people living below the poverty line. The report found that to pay their electricity bills:

- 34 per cent go without medical treatment, with 9 per cent doing so regularly
- 26 per cent go without prescription medicine, with 7 per cent doing so regularly
- 56 per cent go without dental treatment for themselves or their children, with 20 per cent doing so regularly
- 31 per cent have gone without a substantial daily meal, with 26 per cent of households seeing their children have to go without a substantial daily meal
- 26 per cent pawning or selling personal items
- 32 per cent have had to borrow money from family or friends
- 19 per cent have missed mortgage or rent payments.³³⁷

- 4.11 One respondent to the NCOSS survey reflected on the negative impact and stress that rising electricity prices was having on their life:

³³³ Submission 41, Combined Pensioners and Superannuants Association, p 4.

³³⁴ Submission 40, St Vincent de Paul Society, p 7.

³³⁵ Submission 41, Combined Pensioners and Superannuants Association, p 4.

³³⁶ Submission 40, St Vincent de Paul Society, p 9.

³³⁷ Submission 42, NSW Council of Social Service, p 6.

I have cut down on electricity everywhere and every way possible. If I cut down any more than we simply would not be using any ever! It is a nightmare. It is causing a lot of anxiety and depression.³³⁸

4.12 The NCOSS survey also identified a variety of ways by which survey respondents were attempting to reduce their electricity bills:

- 30 per cent have gone without using water for washing or bathing
- 77 per cent have gone without using heat when cold, with 15 per cent doing so regularly
- 62 per cent have gone to bed early to avoid using heaters or lights,
- 47 per cent have gone without using an oven or microwave, with 17 per cent doing so regularly
- 65 per cent have gone without lighting rooms when needed, with 33 per cent doing so regularly.³³⁹

4.13 Ms Aliza Littleton, Policy Officer, Combined Pensioners and Superannuants Association (CPSA) of NSW, stated that some households were 'literally sitting in the dark because they couldn't afford to pay their electricity bills'.³⁴⁰ Ms Littleton also described the experience of an aged pensioner who requires a powered oxygen concentrator to live. He had to give up on other essential services to afford the power required to keep it operating:

One call that we received was from an aged pensioner who suffers from a chronic airways disease. He needs to use a continuous positive airway pressure (CPAP) machine and an oxygen concentrator nearly 24 hours a day to survive. He called us, distressed, explaining that he was struggling to afford his enormous electricity bills. He was already cutting back on food and he had to give up his landline just to make ends meet. This man was worried that when prices rise again he would no longer be able to afford his electricity bills and he would have to go into hospital or residential aged care.³⁴¹

4.14 The below case study documents the experience of a St Vincent de Paul Society service recipient who has had to deal with the difficulties presented by rising electricity costs.

Case study: Witness A, Service recipient, St Vincent de Paul Society³⁴²

Witness A is 37 years of age and the sole parent of four children, one daughter and three sons. Two of Witness A's children require regular medical treatment. The eldest son suffers from Attention Deficit Hyperactivity Disorder (ADHD) and autism. The youngest son has severe eczema, which has twice turned into impetigo for environmental reasons. Witness A only receives one income to support herself and her children.

Witness A already struggles to maintain normality in her household for her children, but finding ways to pay the rising electricity costs make things even more difficult. Her last quarterly electricity bill was over \$800. She has to find ways to pay these bills, and often has to cut back on electricity usage. Witness

³³⁸ Submission 42, NSW Council of Social Service, p 6.

³³⁹ Submission 42, NSW Council of Social Service, p 6.

³⁴⁰ Evidence, Ms Eliza Littleton, Policy Officer, Combined Pensioners and Superannuants Association of NSW, 21 February 2018, p 22.

³⁴¹ Evidence, Ms Eliza Littleton, Policy Officer, Combined Pensioners and Superannuants Association of NSW, 21 February 2018, p 22.

³⁴² Evidence, Witness A, Service recipient, St Vincent de Paul Society, 21 February 2018, p 24.

A always makes sure lights are switched off when a room is not being used. She does not use the dryer unless absolutely necessary. She sometimes has to cut back on food.

Witness A has sought assistance with electricity costs from St Vincent de Paul Society on many occasions. She has also sought assistance from services like free food pantry to survive until her next pay day. Witness A does everything she can to ensure her children don't miss out, and rising electricity costs make this difficult.

Witness A reflected on her apprehension in receiving bills and the challenge in getting an explanation from her energy provider regarding why her electricity costs were so high:

To be honest, I do not like opening my mail. I look at the bill and say "Oh, okay." I always have to take a deep breath and think, "How am I going to work this out now?" I am forever juggling bills, my kids and life in general. Before I knew there was help from St Vincent de Paul Society, when I received a bill, I would call the electricity company to say I had just received my bill and ask why it was so high. I would be speaking to them about that and they would ask, "Are you using your hot water? Are you doing this? Are you doing that?" I would say, "Yes, but not anything out of the ordinary. I do not know why it is so high." They would say it was a peak hour, time or season. I would ask them to give me time to pay it off.

Committee comment

- 4.15** The committee acknowledges the great difficulty many households across the state are facing with rising electricity prices. Having to forgo medical treatment or skip meals as a means to keep up with increasing bills is something that no family or household should have to face. This is just one of a number of very difficult scenarios the committee heard about.
- 4.16** This committee strongly supports any measure that seeks to assist households that are struggling to keep pace with rising electricity prices. The next section of this chapter therefore looks at the government and industry assistance measures that are available to households suffering energy pricing stress. It also considers whether these measures are appropriately targeted to those who need the most help.

Government and electricity industry household assistance

- 4.17** Both the NSW Government and a number of electricity providers acknowledged the significant impact that rising electricity prices have had on consumers.³⁴³
- 4.18** The government and electricity providers outlined the measures they have implemented to help lower income households.
- 4.19** Some inquiry participants questioned the effectiveness of these assistance measures. A particular concern was whether these measures are effectively targeted to those households who need the most support.

³⁴³ Submission 145, NSW Government, p 1.

NSW Government assistance measures

The government primarily provides assistance to households to cover their electricity bills through various rebate schemes.³⁴⁴

4.20 Mr Cameron O'Reilly, Principal Energy Adviser, Department of Planning and Environment, advised that the rebate schemes 'have been targeted by nature at longer term assistance for those with long-term affordability issues'.³⁴⁵

4.21 Households learn about rebates from a variety of sources including: Service NSW, government and energy retailer websites, energy retailer welcome packs, department marketing efforts, information on energy bills, and Centrelink.³⁴⁶

4.22 The rebate schemes include:

- **Low Income Household Rebate:** Provides eligible low-income households to cover their energy bill with one rebate payment each year. The rebate is available to low income households who hold an account with an electricity retailer. It is also available to 'on-supplied' customers who receive their energy bills through a residential community, retirement village or strata scheme. The rebate is worth up to \$285 per year.³⁴⁷
- **Family Energy Rebate:** Supports eligible family households with dependent children to cover the cost of their energy bills. The rebate is available to applicants who were eligible for and received the Family Tax Benefit from the Australian Department of Human Services (DHS) in the previous financial year. It provides: \$180 a year to eligible customers that do not hold a DHS concession card or health care card; or \$20 a year to eligible customers with a DHS concession card or health care card and who also qualify for the low income household rebate of \$285 a year.³⁴⁸
- **Life Support Energy Rebate:** Assists eligible households which have someone living within the household who needs to use approved energy-intensive life-supporting medical equipment at home.³⁴⁹
- **Medical Energy Rebate:** Provides eligible households which have someone living within the household who has a medically diagnosed inability to self-regulate body temperature when exposed to extreme, hot or cold, environmental temperatures. It

³⁴⁴ Submission 145, NSW Government, p 3; Submission 41, Combined Pensioners and Superannuants Association, p 5.

³⁴⁵ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, Department of Planning and Environment, 18 June 2018, p 8.

³⁴⁶ NSW Auditor General, *Energy Rebates* (2017), <https://www.audit.nsw.gov.au/publications/latest-reports/performance/energy-rebates/executive-summary/1-executive-summary.html>.

³⁴⁷ Service NSW, *Low Income Household Rebate (on supply customers)*, <https://www.service.nsw.gov.au/transaction/apply-low-income-household-rebate-supply-customers>; Answers to questions on notice, NSW Government, 17 July 2018, p 3.

³⁴⁸ NSW Planning and Environment, *Family Energy Rebate*, <https://www.resourcesandenergy.nsw.gov.au/energy-consumers/financial-assistance/rebates/family-energy-rebate>.

³⁴⁹ Service NSW, *Life Support Energy Rebate (retail customers)*, <https://www.service.nsw.gov.au/transaction/apply-life-support-energy-rebate-retail-customers>.

provides: \$285 (excluding GST) a year to eligible customers who hold an electricity account with an electricity retailer of their choice; or \$313.50 a year to eligible residents of on-supplied residential communities, retirement villages and strata schemes.³⁵⁰

- 4.23** The government advised that approximately 900,000 households are receiving some form of assistance for the available rebates.³⁵¹
- 4.24** It is estimated that approximately 800,000 low income house rebates were paid to New South Wales households in 2015-16 and 2016-17.³⁵²
- 4.25** On 3 September 2017, the government announced a \$112.5 million NSW Energy Affordability Package. The package included a 20 per cent increase in the monetary assistance provided to vulnerable households via the various electricity rebate schemes.³⁵³
- 4.26** The package also provides assistance to certain households to encourage the uptake of energy efficient lighting and air conditioning. It is estimated that this could result in an annual saving of \$500 per household.³⁵⁴
- 4.27** The government also offers the Energy Accounts Payments Assistance (EAPA). It is a government energy payment support package available to those customers experiencing short term hardship.³⁵⁵
- 4.28** The EAPA provides access to \$50 vouchers from one of the 342 community welfare organisations affiliated with the scheme.³⁵⁶ The Hon Don Harwin, Minister for Energy and Utilities, stated that the 'EAPA helps people experiencing short term financial crisis or a disaster pay their electricity or natural gas bill, ensuring they stay connected during periods of financial difficulty'.³⁵⁷
- 4.29** Mr O'Reilly advised that to date the EAPA has assisted 49,906 customers with a total of \$20.4 million being paid out to date.³⁵⁸

³⁵⁰ NSW Planning and Environment, Medical Energy Rebate, <https://www.resourcesandenergy.nsw.gov.au/energy-consumers/financial-assistance/rebates/medical-energy-rebate>.

³⁵¹ Evidence, Mr Cameron O'Reilly, Principal Energy Advisor, Department of Planning and Environment, 18 June 2018, pp 8-9; Answers to questions on notice, Department of Planning and Environment, 17 July 2018, p 3.

³⁵² Answers to questions on notice, NSW Government, 17 July 2018, p 3.

³⁵³ Submission 145, NSW Government, pp 3-4.

³⁵⁴ Submission 145, NSW Government, p 4.

³⁵⁵ Evidence, Mr Cameron O'Reilly, Principal Energy Advisor, Department of Planning and Environment, 18 June 2018, p 8.

³⁵⁶ Media release, Service NSW, 'Energy Accounts Payment Assistance scheme expands', 15 May 2017.

³⁵⁷ Media release, Service NSW, 'Energy Accounts Payment Assistance scheme expands', 15 May 2017.

³⁵⁸ Evidence, Mr Cameron O'Reilly, Principal Energy Advisor, Department of Planning and Environment, 18 June 2018 p 8.

Electricity industry assistance measures

- 4.30** The National Energy Customer Framework requires electricity retailers to have measures to assist those consumers experiencing hardship. This includes payment plans to assist with customer debt and payment difficulties. Mr O'Reilly advised that the framework provides that no customer on a payment plan can be disconnected.³⁵⁹
- 4.31** AGL offers their 'Fairer Way Package' which provides products specifically designed to include guaranteed discounts for their most vulnerable customers. AGL also does not charge concession and hardship customers a paper bill, late payment or over the counter fees.³⁶⁰
- 4.32** AGL advised that they have invested:
- \$1.2 million over three years to increase financial counselling resources dedicated to vulnerable consumers in New South Wales, Victoria and Queensland
 - \$1 million in partnership with the NSW Government to deliver solar energy to social housing residents.³⁶¹
- 4.33** Mr Jonathon Briskin, Executive General Manager, Retail, Origin Energy, advised that in response to the ongoing drought in New South Wales we have 'focused very much our hardship program to supporting those who really need it'.³⁶² This has included:
- access to our best guaranteed discounts
 - bill waivers and matched payments
 - access to a range of social services.³⁶³
- 4.34** Mr Briskin also stressed that to place downward pressure on prices, thereby helping vulnerable consumers, the industry 'has brought more generation online', supports 'greater competition and more customers engaging in the market', and is calling for 'sensible and considered reform' across the energy supply chain'. He noted that this includes the implementation of certain ACCC recommendations which will 'deliver further sustainable reductions in prices for customers'.³⁶⁴

Assessing the effectiveness of assistance measures

- 4.35** Government and industry consumer assistance measures were broadly supported by inquiry participants. However some critique was provided with respect to their efficacy and whether they are effectively targeted towards those households who need the most support.

³⁵⁹ Evidence, Mr Cameron O'Reilly, Principal Energy Advisor, Department of Planning and Environment, 18 June 2018 p 9.

³⁶⁰ Submission 232, AGL, p 8.

³⁶¹ Submission 232, AGL, p 8.

³⁶² Evidence, Mr Jonathon Briskin, Executive General Manager - Retail, Origin Energy, 10 October 2018, p 45.

³⁶³ Evidence, Mr Jonathon Briskin, Executive General Manager - Retail, Origin Energy, 10 October 2018, p 45.

³⁶⁴ Evidence, Mr Jonathon Briskin, Executive General Manager - Retail, Origin Energy, 10 October 2018, p 38.

- 4.36** In its 2017 *Energy Rebates* report the Auditor General examined the government's energy rebate schemes.³⁶⁵
- 4.37** The Auditor General found that 'the budget for energy rebates is increasing every year and in 2017–18 was more than \$245 million'. The rebates are delivered through a 'complex' network comprising the Department of Planning and Environment (the department):
- energy retailers, who apply rebates directly onto energy bills
 - more than 340 charities and other NGOs who assess households' eligibility for crisis support and distribute support through the Energy Accounts Payment Assistance scheme (EAPA)
 - Service NSW, who informs NSW households about rebates through their call centre.³⁶⁶
- 4.38** The Auditor General's assessment of the rebate schemes was as follows:
- the department and partner organisations administer the rebate schemes as designed
 - scheme objectives are not measurable
 - the structure of rebate schemes for ongoing support is complex
 - the design of the rebate schemes creates some inequities
 - departmental oversight of energy retailers and EAPA Providers is not strong enough.³⁶⁷
- 4.39** Of particular concern to the Auditor General was the issue of inequitable outcomes. This is caused by assistance measures in some instances being poorly targeted as well as the inconsistent application of eligibility assessment criteria:
- Households with both gas and electricity connections receive more assistance than those with only electricity. Households in rural and regional areas receive the same value rebate as households closer to Sydney, despite higher distribution charges. Family Energy Rebate is a two-tier payment, with a higher amount available to families with greater means. Lower-income families receive a much smaller Family Energy Rebate on the assumption that they already receive Low Income Household Rebate. Charities and NGOs distributing EAPA crisis support apply inconsistent standards when assessing household need, which leads to inequitable levels of assistance.³⁶⁸
- 4.40** The St Vincent de Paul Society similarly observed that the government's rebate schemes fail to discriminate between different household circumstances and do not take into account geographical price variations.³⁶⁹

³⁶⁵ NSW Auditor General, *Energy Rebates* (2017), <https://www.audit.nsw.gov.au/publications/latest-reports/performance/energy-rebates/executive-summary/1-executive-summary-html>.

³⁶⁶ NSW Auditor General, *Energy Rebates* (2017), <https://www.audit.nsw.gov.au/publications/latest-reports/performance/energy-rebates/executive-summary/1-executive-summary-html>.

³⁶⁷ NSW Auditor General, *Energy Rebates* (2017), <https://www.audit.nsw.gov.au/publications/latest-reports/performance/energy-rebates/executive-summary/1-executive-summary-html>.

³⁶⁸ NSW Auditor General, *Energy Rebates* (2017), <https://www.audit.nsw.gov.au/publications/latest-reports/performance/energy-rebates/executive-summary/1-executive-summary-html>.

³⁶⁹ Submission 40, St Vincent de Paul Society, p 8.

4.41 The Combined Pensioners and Superannuants Association raises concerns that the rebate schemes are delivered via fixed yearly payments.³⁷⁰ The Association argued that fixed income payments do not sufficiently account for changes in consumers' circumstances and protect them from future spikes in electricity price rises.³⁷¹

4.42 The St Vincent de Paul Society also asserted that the National Energy Customer Framework only imposes 'minimal obligations on energy retailers to support customers who are experiencing financial difficulties'.³⁷²

Committee comment

4.43 The committee acknowledges that the NSW Government provides a range of assistance measures to support households to pay their electricity bills. The budget for these measures, delivered primarily through rebate schemes, has been increasing.

4.44 Further investment in household assistance measures is appropriate and reflects the difficulties experienced by many families across the state in coping with rising electricity measures. To that end, the committee welcomes the 2017 NSW Energy Affordability Package which provides a 20 per cent increase in the monetary assistance offered to vulnerable households via the various electricity rebate schemes.

4.45 While additional financial assistance is welcome, the committee was concerned to hear that in some instances the government's assistance measures are leading to inequitable outcomes and are not effectively targeted to those households who need the most support.

4.46 Broadly speaking, the rebate schemes do provide assistance to low-income households as intended but improvements in outcomes can always be made. It is perplexing to note the Auditor General's finding that the rebate schemes have no measurable objectives or outcome measures and therefore cannot be assessed for their effectiveness. This offers a potential reason for why applications for assistance eligibility are assessed inconsistently.

4.47 It is recommended that the NSW Government:

- establish measurable objectives for all household electricity support and rebate schemes
- monitor and measure the performance of all household electricity support and rebate schemes against their stated objectives and outcome measures.

Recommendation 7

That the NSW Government:

- establish measurable objectives for all household electricity support and rebate schemes
- monitor and measure the performance of all household electricity support and rebate schemes against their stated objectives and outcome measures.

³⁷⁰ Submission 41, Combined Pensioners and Superannuants Association, p 5.

³⁷¹ Submission 41, Combined Pensioners and Superannuants Association, p 5.

³⁷² Submission 40, St Vincent de Paul Society, p 6.

Consumer engagement and market understanding

- 4.48** A number of inquiry participants identified difficulties for consumers in engaging with the electricity market to find the best available deal. Concerns were also raised regarding a lack of transparency in retail billing.
- 4.49** Evidence received also indicated that engaged electricity consumers have benefited from increased competition and technical innovations while unengaged customers have not.
- 4.50** A further area of concern was the 'confusing' discounting practices of retailers. This includes the advertising of significant discounts on highly inflated base rates.

Electricity market engagement and disengagement

- 4.51** The Public Interest Advocacy Centre (PIAC) stressed that the recent rises in electricity prices highlight 'the need for clearer and more transparent information for consumers'.³⁷³
- 4.52** PIAC identified two different types of electricity consumers. Those that are engaged and those that are not. Engaged consumers are able to minimise their electricity consumption and costs through a variety of means. Meanwhile less engaged consumers are more likely to obtain their electricity via the grid and be exposed to paying higher prices by not shopping around:

An engaged consumer may be able to minimise their energy bills through a combination of moving between retailers (retail churn), behind-the-meter technologies, and ongoing engagement in the form of paying their bills on time to access discounts. Conversely, a consumer that is not engaged, or is financially disadvantaged, is likely to consume more energy from the grid, which is purchased from a retailer to whom they pay a higher price by not accessing the cheapest deals.³⁷⁴

- 4.53** Ms Littleton from the Combined Pensioners and Superannuants Association of NSW likewise noted that vulnerable groups are more likely to fit the profile of a disengaged consumer. This is because they have a more limited capacity to access the information required to actively engage in the market:

But vulnerable groups, by definition, face additional barriers to active participation, including low income, no internet access and limited literacy, numeracy and language skills. These are the circumstances that reduce people's capacity to access information and make it difficult to engage with providers in the energy industry. This can lead to less choice for them, can lead to poorer quality services and higher prices. Vulnerable consumers do not necessarily benefit from a competitive market in the same way that advantaged, engaged consumers do. Consequently, it is critical that active engagement should not be grounds for receiving assistance.³⁷⁵

- 4.54** According to the ACCC, engaged consumers are likely to pay less than the average cost to retailers supplying electricity. The savings for these consumers are borne by unengaged

³⁷³ Submission 7, Public Interest Advocacy Centre, p 1.

³⁷⁴ Submission 7, Public Interest Advocacy Centre, p 4.

³⁷⁵ Evidence, Ms Aliza Littleton, Policy Officer, Combined Pensioners and Superannuants Association of NSW, 21 February 2018, p 22.

consumers who do not shop around. The ACCC likened the situation to a form of regressive taxation:

Those customers who have been active in the market, regularly reviewing options and switching between offers, have been the beneficiaries of competition. These customers are likely paying less than the average cost to retailers of supplying electricity. The full extent of costs associated with attracting and retaining customers are therefore borne by inactive or loyal customers and those unable to navigate the complexities of the market. The gap between the best and worst offers in the market has been widening, effectively acting as a tax on disengaged customers, whether a customer is disengaged by choice or because of the unnecessary complexity.³⁷⁶

Price deregulation – standing and market offers

- 4.55** As noted in chapter 1, the government fully deregulated retail electricity prices on 1 July 2014. Prior to this the Independent Pricing and Regulatory Tribunal (IPART) set a regulated retail price for electricity customers. Retailers could offer different prices to customers, but customers who did not accept a 'market offer' were charged the regulated 'standing' rates set by IPART.³⁷⁷
- 4.56** The deregulation of prices meant that IPART stopped setting regulated prices with retailers free to determine the prices that they charge customers.³⁷⁸ Retailers typically have their own standing offer and advertise discounted rates set against it.³⁷⁹
- 4.57** PIAC advised that although New South Wales retail energy prices have been unregulated since 2014, there are 'regulations and obligations placed on retailers to ensure consumers receive fair and affordable electricity offers'.³⁸⁰
- 4.58** PIAC argued that 'despite these regulatory objectives, there is ample and growing evidence that the market is not working for many consumers in NSW'.³⁸¹

Lack of transparency in retail billing

- 4.59** Some inquiry participants were concerned about the lack of transparency in retail bills. Ausgrid noted that the lack of transparency makes it hard for consumers to understand what is driving changes to the cost of their electricity bills. Ausgrid also suggested that retailers should be required to provide an itemised breakdown of the different price components of retail electricity bills:

Ausgrid notes that there is a lack of transparency for customers on the components that make up their electricity bill. This makes it difficult for customers to determine the underlying driver for increases in their electricity bills (i.e. increasing generation costs,

³⁷⁶ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p xi.

³⁷⁷ Submission 39, NSW Business Chamber, p 6.

³⁷⁸ Submission 39, NSW Business Chamber, p 6.

³⁷⁹ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 11.

³⁸⁰ Submission 7, Public Interest Advocacy Centre, p 10.

³⁸¹ Submission 7, Public Interest Advocacy Centre, p 10.

network charges, or retail margins)...While Ausgrid has been partnering with our stakeholders to improve energy literacy, we suggest that this could be further strengthened by requiring retailers to provide a transparent breakdown of the different components (generation, network and retail) that make up a customers' final bill. This would provide customers with a better understanding of what might be driving any changes in their bill, as well as the levers available to positively impact on their bill.³⁸²

4.60 Ms Natalie Lindsay, Head of Regulatory Affairs at Essential Energy, commented that there is consumer appetite for more clarity in the breakdown of retail electricity bills, stating that 'our customers have clearly told us they would like more detailed information'.³⁸³

4.61 Ms Lindsay further noted that once consumers understand the electricity supply chain, they are interested in knowing what makes up their bill:

[W]e took them through the supply chain so they understood exactly where their electricity comes from and how it gets to them. Following the process, customers were clearly more educated about the electricity supply chain and wanted to understand the cost structures of that. At the end of most forums, customers said: "I want to see these costs on my bill itemised".³⁸⁴

4.62 Energy Networks Australian (ENA) stated that it 'supports any initiative which improves customer understanding of their energy costs'. This included the itemisation of supply chain charges in their retail bill. However, ENA noted that some network operators consider that there is a risk that this may add confusion for customers.³⁸⁵

4.63 Mr Craig Memery, Policy Team Leader, Energy and Water, PIAC, raised similar concerns. He noted that not all consumers would find it helpful to have more information on their bill. He argued that this would help engaged customers but could potentially confuse disengaged customers. He suggested that one way of helping consumers shop around for a better deal would be to incorporate more easily comparable information at the point of sale:

We find that those who are engaged...would benefit from that extra information and it would help them shop around. But it could make it more confusing for those who are disengaged. It is about it being fit for purpose. One way of doing that for all customers would be to do that at a contract level or point-of-sale level. Consumers might not see it when they get their bill but would make a decision about their retailer at the point of sale. If a retailer was required to disclose that information in a standardised way at the point of sale then consumers could compare the information when they are deciding which retailer to go with, rather than when they get their bill, which they only devote approximately six minutes a year looking at and crying about.³⁸⁶

³⁸² Submission 9, Ausgrid, p 3.

³⁸³ Evidence, Ms Natalie Lindsay, Head of Regulatory Affairs, Essential Energy, 18 June 2018, p 15.

³⁸⁴ Evidence, Ms Natalie Lindsay, Head of Regulatory Affairs, Essential Energy, 18 June 2018, p 15.

³⁸⁵ Answers to questions on notice, Energy Networks Australia, p 1.

³⁸⁶ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018, p 9.

Case study: the 'One-Click energy switch'³⁸⁷

In June 2018, the NSW Government announced the 'One-Click energy switch', an initiative to be administered by Service NSW and designed to help households search for better deals on their electricity. The government claimed that the new service would be far more convenient than a simple comparison website and could help the typical household save \$1,000 annually.

In administering the 'One-Click energy switch' Service NSW will check electricity usage by reviewing a customer bill, searching the market for available plans, and helping the consumer change providers if there is a better available offer.

In announcing the Service NSW product, the government stated that 'navigating the list of energy providers can be a complicated task and this new tool will make the process simpler and easier ... This will encourage greater competition in the retail electricity market by ensuring small and big retailers can compete on equal terms'.

Confusing discount offers and high standing offers

- 4.64** The primary form of competition among retailers has been the advertisement of large headline 'discounts'. These discounts are largely offered on a 'pay on time' basis. Retailers have observed that these are an effective and simple way to connect with price conscious consumers.³⁸⁸
- 4.65** According to the ACCC, these discounts are 'highly problematic'.³⁸⁹ Each retailer sets its discounts with reference to its own independently set prices (usually their standing offer prices). Access to these standing offer prices is difficult and 'not comparable across the market'.³⁹⁰
- 4.66** Mr Memery advised that retailers set their standing offer prices excessively high and then offer discount rates against these benchmarked prices. He asserted that it is not the discount rate that is important but the standing offer base rate against which it set against. Mr Memery argued that in many cases, consumers would be better off with offers that have lower discounts attached to them but which have a lower underlying tariff (or standing offer) rate:

Some of the analyses that have been done have shown that consumers might be better off with one business that is only giving them a 10 per cent discount, compared with another that is giving them a 40 per cent discount, because usually the 40 per cent discount is just on an inflated rate. There is a term that has been used by some called "Kathmandu pricing", in honour of the camping store that has been noted to have higher rates from which it then offers quite significant-looking discounts. It is fine for a camping store to do that but for an essential service that people need to access in a way that is not confusing, that is not so acceptable.³⁹¹

³⁸⁷ Media release, NSW Government, 'NSW Budget: "One-Click energy switch" could save households more than \$1000 a year', 16 June 2018.

³⁸⁸ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p xi.

³⁸⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p xi.

³⁹⁰ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p v.

³⁹¹ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018, p 6.

4.67 Mr Baethan Mullen, General Manager, Economic Group, ACCC, identified that because retailers' standing offers are priced excessively to facilitate discounting, many customers, typically those that are disengaged, are paying more than they need to for electricity:

Those customers who are left paying the standing offer prices, which are very high, are obviously not doing well in the market...for those customers who do not shop around, or perhaps cannot shop around, and find themselves left on the standing offer, they are not being unduly penalised for that.³⁹²

4.68 According to the St Vincent de Paul Society 'in 2016-2017, 23 per cent of residential customers in NSW were on a standing offer. These customers are paying around 25 per cent more than those on lowest offers in the market'.³⁹³

4.69 The ACCC also noted an issue with discounts being conditional on consumers paying on time. ACCC analysis has found that 'these discounts are achieved only 56 per cent of the time for payment plan customers and only 42 per cent of the time for hardship customers'.³⁹⁴

4.70 The end result is that consumers 'who do not pay on time are, in effect, paying very large late payment penalties, often amounting to hundreds of dollars per year'.³⁹⁵

4.71 According to PIAC, lower socioeconomic consumers and those suffering financial hardship are the most likely to be late in making their electricity payments. PIAC stated that 'pay-on-time discounts act as an excessive late fee' and 'unfairly target low income and vulnerable consumers'.³⁹⁶

4.72 Mr Memery urged for an end to pay-on-time discounts. He noted the difference in prices paid between engaged and disengaged customers. He asserted that the electricity retailers were comfortable with the status quo and argued that the market alone would not resolve the problem. Mr Memery advocated for the consideration of some form of regulation to ensure that customers are not paying more than necessary:

We must put an end to pay on time discounts. They have the effect of pushing higher prices onto those who need the most support. Of course, for those who are making savings, the cost of those savings is borne by the less engaged consumers. There is also a lazy tax, which goes straight to the bottom line of energy retailers. This raises the question of how much we can rely on market alone to fix this problem. There are some hard decisions to be made, including if there should be intervention in terms of regulation of the retail market and what it should look like. I think we can fairly say that it has been proven that if we want a market in which consumers pay no more than they need to, we need to consider some modicum of regulation.³⁹⁷

³⁹² Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 11.

³⁹³ Submission 7, Public Interest Advocacy Centre, p 16.

³⁹⁴ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p v.

³⁹⁵ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p v.

³⁹⁶ Submission 40, St Vincent de Paul Society, p 5.

³⁹⁷ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018, p 2.

Price reregulation – a basic service offer or default price?

4.73 Two forms of price reregulation were considered during the inquiry as a potential means to address the issue of confusing discount offers and high standing offers:

- **Basic service offer:** An initiative was recommended in the *Independent Review of the Electricity and Gas Retail Markets in Victoria*. A basic service offer would require all retailers to offer a 'no frills' product priced at an amount set by an independent regulator. Retailers would remain free to continue to offer additional offers at different prices which may be lower or higher than the basic service offer.³⁹⁸
- **Default price:** A proposal recommended by the ACCC. It would abolish retailer standing offers and replace them with a lower-priced 'default offer' which can be priced no higher than a level determined by the Australian Energy Regulator. In addition the advertising of discounts by retailers must be unconditional and referenced to the default offer rate.³⁹⁹

4.74 Mr Mullen explained that the ACCC distinguished between the basic service offer and default price concept in its report. The difference is that default price provides an allowance for retailers to continue to compete on price discounts (albeit under certain conditions and with reference to the independently set prices) whereas the basic service offer is a no-frills basic cost guarantee. Mr Mullen stressed that if a regulated price was too low it would minimise discounting and limit competition with some retailers existing the market:

What we are trying to do in regulating the default price is to retain enough room, if you like, in pricing for discounting to occur. We think there is benefit to be found for consumers in allowing retailers to compete with one another on discounts. If that competition is vigorous, that will deliver good outcomes for consumers. We think that if the regulated price is too low, then you are not going to see that level of discounting. You are going to see some retailers exit the market. We think that is a suboptimal outcome.⁴⁰⁰

4.75 Mr Mullen advised that the purpose of the default offer is to set the standing offer at a more reasonable level. He asserted that those consumers who do not or cannot shop around would no longer be punished by an excessively high standard base rate. Mr Mullen also contended that the default price would provide consumers with a reference point when comparing the various offers put forward by retailers:

Our intention with the default offer concept is essentially to regulate that standing offer price down to a more reasonable level. That would mean for those customers who do not shop around, or perhaps cannot shop around, and find themselves left on the standing offer, they are not being unduly penalised for that. There would be a second objective with setting a regulated price, and that is to have a common reference point for discounts in the market, whereas at the moment you have retailers each setting they discounts with reference to their own standing offer. Under this model you would have reference to a common point, and that would have customers more easily able to

³⁹⁸ Victorian Government, *Independent Bipartisan Review of Electricity and Gas Retail Markets*, August 2017, p x.

³⁹⁹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage – Executive Summary*, June 2018, p xiii.

⁴⁰⁰ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 16.

compare between retailers and compare discounts between retailers and therefore know which is going to be better for them.⁴⁰¹

- 4.76** Mr Briskin from Origin Energy acknowledged the worthwhile merits of the default offer and reference pricing. He noted the difficulties faced by consumers in navigating the market while searching for a better deal. Mr Briskin did stress that any pricing regulation may have the unintended consequence of stifling competition and restricting new market entrants. If this eventuated it would lead to negative price outcomes:

That is a worthwhile objective. The truth is: It is too confusing for consumers to compare offers today. It is far too confusing. We support the introduction of comparator rates, reference prices, ways in which consumers can quite simply and easily understand what the choices are and the savings that can be made. The challenge you have when you start introducing pricing regulation is that you start to reduce competition. If there is not the opportunity for new competitors to enter the market, you then over time put less pressure on the existing competitors in that market and over time you run the risk that either costs increase which are borne by consumers or otherwise innovation ends up getting stifled, again to the detriment of consumers.⁴⁰²

- 4.77** It is noted that since 2017, the New South Wales Labor Opposition has supported a range of measures to re-regulate the retail electricity market including a default offer. Since this time, the ACCC and a range of farming, welfare and consumer groups have also called on State and Federal Governments to adopt this and related measures which the ACCC has assessed would reduce the average household electricity bill by 24 per cent, with similar savings able to be made by small businesses.⁴⁰³
- 4.78** On 31 August 2018, the Hon Don Harwin, Minister for Energy and Utilities, advised a budget estimates committee that the NSW Government would work in 'good faith' with the Australian Government regarding the ACCC's default offer recommendation. Mr Harwin further advised that the Australian Government has foreshadowed 'if the States are not prepared to accept [the default offer] that that they will consider legislating under the corporations power'.⁴⁰⁴
- 4.79** On 22 October 2018 it was reported that the Australian Government had committed to implementing the ACCC's default offer recommendation. In response to the reports Mr Harwin advised the Parliament that the default offer would be considered at the next meeting of the Council of Australian Governments (COAG) Energy Council. Mr Harwin also expressed reservations about the default offer. He referred to AEMC and IPART analysis which suggested that a default offer would stifle competition and not offer protection against rising wholesale prices:

⁴⁰¹ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 11.

⁴⁰² Evidence, Mr Jonathon Briskin, Executive General Manager - Retail, Origin Energy, 10 October 2018, p 39.

⁴⁰³ The Hon. Adam Searle MLC, 'Address to Energy Users' Association: NSW Energy Forum Hilton Hotel', Sydney, 4 September 2017, <https://adamsearlemlc.files.wordpress.com/2015/09/nsw-energy-forum-address-4-9-2017.pdf>; Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p xv.

⁴⁰⁴ Hansard, NSW Legislative Council, Budget Estimates – Portfolio Committee No. 6-Planning and Environment, 31 August 2018, p 20 (The Hon Don Harwin MLC).

The Australian Energy Market Commission has previously stated that re-regulation of prices would reduce the opportunity for innovation in the market and not protect consumers against rising wholesale costs. Further, a regulated retail price does not protect against rising wholesale prices. In fact, in its 2018 draft report into the performance of the New South Wales energy retail markets the Independent Pricing and Regulatory Tribunal [IPART] noted that the bulk of price increases over the past 10 years occurred when prices were still regulated. IPART considered that the recommendation for a default price would result in lower competition and higher prices.

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- 4.80** During its meeting of 26 October 2018, the COAG Energy Council considered the Commonwealth's determination to have a default market offer in participating NEM regions (including New South Wales), as per the ACCC's recommendation. Energy Council Ministers agreed on the need for a common retail price reference point or comparison rate. Minister's also agreed that the AEMC should undertake work on the impacts of the Commonwealth's proposed default tariff for competition and consumers. The Energy Council will consider the matter further at its next meeting in December 2018.⁴⁰⁶

Consumer data right

- 4.81** The ACCC in its report has called for consumers to have a new right to their electricity data, which would allow much more simple comparison of potential electricity contracts for consumers. They indicated in their report:

This is an important opportunity to empower consumers and businesses through greater access to their electricity usage data. Data currently available is of limited use to consumers and also any third party wanting to provide services to a consumer. The application of the Consumer Data Right to the electricity sector will see opportunities for electricity usage data to be made available to consumers and, importantly, agents of consumers where consent is provided. This will then enable consumers themselves to make better use of data and present opportunities for innovation by third parties providing services to consumers in finding the best electricity offer. It should also drive efficiencies in the market more generally as switching becomes more 'frictionless' and consumers are more readily able to identify and move to the best offers. This is a significant, albeit longer-term, opportunity to address the significant retail costs that exist in the market as retailers will find they do not get returns on their investments in acquiring customers through means other than competitive pricing and innovative product and service offerings.⁴⁰⁷

- 4.82** Mr Mullen said that government and industry need to work together to achieve uniformity in the way customer data is presented. He said that this would allow retailers and third parties to analyse customer usage patterns and advise them on their energy choices:

What needs to happen is the ACCC, along with the Commonwealth and States, needs to work with industry to come up with a way of getting uniformity in the way that this

⁴⁰⁵ Hansard, NSW Legislative Council, 23 October 2018, p 16 (The Hon Don Harwin MLC).

⁴⁰⁶ Council of Australian Governments Energy Council, *20th Meeting Communique*, 26 October 2018, pp 1-2.

⁴⁰⁷ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p xi.

data is presented so that it can be used in a meaningful way by retailers but also third parties who would be able to look at the consumer's usage pattern over a significant period and provide tailored advice to the consumer on what they can do about their energy choices.⁴⁰⁸

4.83 AGL said it supports the development of a customer data right for the energy sector, noting that it 'encourages governments to support this initiative as the most sustainable solution in empowering consumers to access their data to make more informed choices about their energy plan'.⁴⁰⁹

4.84 EnergyAustralia also expressed support for a consumer data right, saying that it is a significant step towards a transparent market. They stressed that the implementation of such a right should be undertaken in close consultation with energy market participants:

EnergyAustralia believes that the proposed consumer data right is a significant step towards facilitating a more transparent retail energy market that makes it easier for customers to choose the right energy product and service for them...However, we note that the introduction of a consumer data right across the energy sector will have significant implications. At a time when energy affordability is an extreme focus it must be implemented carefully and in close consultation with energy market participants.⁴¹⁰

Committee comment

4.85 The committee supports the development of a consumer data right for the electricity sector. The committee recommends that the NSW Government investigate steps to develop a Consumer Data Right as a matter of priority.

Recommendation 8

That the NSW Government investigate steps to develop a Consumer Data Right in the electricity sector as a matter of priority.

4.86 The committee accepts that there is ample evidence which suggests that the electricity market is not working for many consumers in New South Wales. It is concerning to note the differences in the electricity prices paid by engaged consumers and disengaged consumers. The benefits realised by engaged consumers must not come at the expense of disengaged consumers who in many instances are not actively participating because of the sheer complexity that defines the electricity market.

4.87 The committee recognises the concerns of some inquiry participants that retailers have sought to leverage the complexity of the electricity market to charge higher prices to disengaged consumers. The committee believes that this is a reasonable conclusion.

⁴⁰⁸ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 15.

⁴⁰⁹ Answers to questions on notice, AGL, 5 November 2018, p 1.

⁴¹⁰ Answers to questions on notice, EnergyAustralia, 24 October 2018, p 1.

- 4.88** The committee is particularly disturbed about the number of payment plan and hardship customers who are not paying on time and receiving a related 'pay on time discount'. This is further exacerbating the impact of significant headline electricity price increases on the most vulnerable consumers.

Finding 4

That certain retailers may have leveraged the complexity of the electricity market to charge higher prices to disengaged consumers.

- 4.89** The government has taken some steps to assist consumers to better navigate the electricity market such as the 'One-Click energy switch'. This initiative is in its infancy and it remains to be seen whether it will achieve its stated objective of saving the typical household \$1,000 annually on its electricity costs.
- 4.90** As noted previously, prices in New South Wales have risen 52 per cent in real terms over the last 10 years. It is clear that the confusing discounting practices of retailers, which includes the advertising of discounts on highly inflated standing offer base rates, has contributed to this increase.
- 4.91** The committee notes the argument that with pricing reregulation comes the risk of stifling competition. However, on balance, rises in electricity prices have been so high that there must be some form of regulation, albeit light. As a first step, the availability of pay-on-time discounts must be abolished.
- 4.92** The committee believes that the ACCC's default price recommendation strikes the right balance. It allows retailers to continue competing on price while at the same time providing a common point of reference for consumers to compare the retailer products that are offered and therefore know which deal is going to be best for them.
- 4.93** The committee is encouraged that the Commonwealth has made a determination to have a default market offer in participating National Energy Market regions (including New South Wales), as per the ACCC's recommendation, but is concerned that it is only proposed to have this operating from 1 July 2019 - well after the upcoming New South Wales election and the expected date of the Commonwealth election. The committee understands that a default market offer will be considered by the Council of Australian Governments (COAG) Energy Council in December 2018.
- 4.94** The committee notes that in response to concerns in the community to the very high profits being made by the insurers participating in the privately-underwritten Compulsory Third Party motor accident compensation scheme in New South Wales, the Parliament enacted a legislative mechanism to ensure oversight of profits and to be able to force the insurers to return excessive profits (as determined by the mechanism) to consumers. The committee finds that there is no reason why this approach should not be taken to the retail electricity market (as noted at Finding 1).

4.95 It is recommended that in the event that the COAG Energy Council does not agree to the implementation of a default market offer in relevant NEM jurisdictions, the NSW Government implement its own pricing system that:

- abolishes retailer standing offers
- introduces a lower-priced default offer which can be priced no higher than a level determined by an independent price regulator
- requires that the advertising of discounts by retailers must be unconditional and referenced to the default offer rate
- creates a legislative mechanism to oversight retail profits and to be able to require profits above a determined level to be returned to consumers
- progresses development of a reference price.

Recommendation 9

That, in the event that the COAG Energy Council does not agree to the implementation of a default market offer in relevant National Energy Market jurisdictions, the NSW Government:

- abolishes retailer standing offers
 - introduces a lower-priced default offer which can be priced no higher than a level determined by an independent price regulator
 - requires that the advertising of discounts by retailers must be unconditional and referenced to the default offer rate
 - creates a legislative mechanism to oversight retail profits and to be able to require profits above a determined level to be returned to consumers
 - progresses development of a reference price.
-

Industry and business pressures

4.96 Just as electricity is an essential service for households it is likewise for businesses and industry. In the same way households have been challenged by rising electricity prices so have businesses.

4.97 According to the NSW Business Chamber increasing electricity prices have had a 'significant and increasing impact' on New South Wales businesses.⁴¹¹

4.98 Energy Consumers Australia stressed the pressures of electricity price increases brought to bear on all Australian business, irrespective of size, and the flow-on effects for the Australian economy:

⁴¹¹ Submission 39, NSW Business Chamber, p 1.

Increases in energy costs can adversely impact all businesses, large or small, undermining their long-term profitability and ability to offer employment and support the prosperity of the Australian community.⁴¹²

Impact on business and industry

4.99 Referring to findings from its *Analysis of small business retail energy bills in Australia*, Energy Consumers Australia advised that between April 2016 and October 2017 the average electricity bill for small businesses in New South Wales increased by 30 per cent.⁴¹³

4.100 Ms Lynne Gallagher, Director Research, Energy Consumers Australia, outlined what such a pricing increase means for small businesses in practice, namely an increase in working hours and a decline in profitability:

It means a cut in profitability. It means the business owner working longer hours. That goes to some of the things we are now going to talk about, questions you have about what does that mean and what can we do. There are overall system affordability challenges.⁴¹⁴

4.101 In its *Business Conditions Survey - September 2017*, the NSW Business Chamber found that 67 per cent of survey businesses were affected by the increased energy prices. This represented a sharp increase on the comparative figure of 45 per cent in March 2017. Of those businesses:

- 90 per cent had experienced a reduction in profits
- 22 per cent had reduced investments or expansions
- only 16 per cent had been able to pass on increased electricity costs to their customers.⁴¹⁵

4.102 Energy Consumers Australia's *Energy Consumer Sentiment Survey – 2018* surveyed household and small business attitudes to electricity and gas services. It found that:

- consumers overwhelmingly believe they get worse value for money from their electricity provider relative to other essential services
- only 21 per cent of consumers nationally say they have confidence the market is working in their interests
- around three in ten consumers (34 per cent) were satisfied with the value for money they receive from their electricity company, compared with 71 per cent for banks and 69 per cent for mobile phones.⁴¹⁶

⁴¹² Answers to questions on notice, Energy Consumers Australia, 'SME Retail Tariff Tracker: Final Report December 2017', p 1; Evidence, Ms Lynne Gallagher, Director Research, Energy Consumers Australia, 21 February 2018, pp 31-32.

⁴¹³ Answers to questions on notice, Energy Consumers Australia, 'SME Retail Tariff Tracker: Final Report December 2017', p 1.

⁴¹⁴ Evidence, Ms Lynne Gallagher, Director Research, Energy Consumers Australia, 21 February 2018, p 32.

⁴¹⁵ Submission 39, NSW Business Chamber, p 1.

⁴¹⁶ Evidence, Ms Lynne Gallagher, Director Research, Energy Consumers Australia, 21 February 2018, p 32.

Tomago Aluminium Smelter

- 4.103** Tomago Aluminium is one of Australia's largest aluminium smelters and has been operating 24 hours a day since 1983. The company contributes \$1.5 billion annually to the Australian economy, of which \$800 million is sent locally. The smelter produces 580,000 tonnes of aluminium every year, which is 25% of Australia's primary aluminium. 90% of the product made at Tomago is exported to the Asia-Pacific region. Tomago employs 950 staff (full time equivalent) as well as 190 contractors. Tomago is the state's biggest industrial user of electricity and uses around 10% of the New South Wales power supply to produce 580,000 tonnes of aluminium per year.⁴¹⁷
- 4.104** Professor O'Kane explained the role that Tomago Aluminium Smelter plays in the National Electricity Market: 'There is another aspect to Tomago. It is an important piece of load balancing in the system—into the security system too, as things are here. So they are actually a contributor to our power system as well'.⁴¹⁸
- 4.105** In June 2018, Matt Howell, CEO of Tomago Aluminium said the grid was 'at crisis point' saying a 'once affordable and reliable energy system has been degraded'. A lack of reserve power within the national Electricity Market has resulted in Tomago Aluminium being required to reduce its demand on the network, which it did by switching off potlines. The consequence of this action is a risk of a catastrophic potline freeze such as what occurred at Portland Aluminium in December 2016'.⁴¹⁹

Regional pricing pressures and farming

- 4.106** A number of inquiry participants suggested that a lack of competition is making it hard for regional businesses when they go to the market looking for electricity. Mr Luke Aitken, Senior Manager, Policy, NSW Business Chamber, urged for this issue to be closely monitored:

[W]hile there is competition generally across the wider market, around regional New South Wales there seems to be a significant lack of offers. We hear from a lot of our regional businesses that they do not get many contractual offers when they go to market. I think that is an element within it as well that we should be examining quite closely.⁴²⁰

- 4.107** NSW Farmers likewise argued that there is limited competition in regional areas. They compared electricity deals between the regions and urban areas, and found a 25 per cent pricing differential:

Regional NSW retail electricity markets are not competitive and not providing regional users with a fair deal. The best deal offered by a large retailer to a typical regional household in Dubbo, Tamworth or Albury is \$2396 p.a. If the household was located in Darlinghurst, the same retailer would only charge \$1808 for electricity p.a. This 25%

⁴¹⁷ Tomago Aluminium, About Us, <http://www.tomago.com.au/about-us/our-story>.

⁴¹⁸ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 14.

⁴¹⁹ The Newcastle Herald, 'Tomago Aluminium hits out after AGL power shortage causes problems', 8 June 2018.

⁴²⁰ Evidence, Mr Luke Aitken, Senior Manager, Policy, NSW Business Chamber, 21 February 2018, p 40.

price disparity cannot [only] be explained by the higher costs associated with providing regional networks.⁴²¹

- 4.108** NSW Farmers also noted that traditional methods of electricity transmissions are inefficient, resulting in higher prices, and called on governments to consider alternate approaches:

The current method of providing network services to regional and rural communities is inherently expensive. Transmitting and distributing electricity long distances to sparsely populated locations will ensure that remote users always pay higher prices for their electricity. Governments have provided very little resources in exploring alternate cost-effective and reliable approaches to the delivery of electricity to the regions, including the utilisation of distributed energy resources, micro-grids and hybrid solutions.⁴²²

- 4.109** Mr Matt Brand, Chief Executive Officer, NSW Farmers, reflected on the electricity pricing challenges affecting farmers. He noted a dairy farmer who had seen her electricity costs increase from \$50,000 per annum to \$90,000. Mr Brand stated that finances spent to cover the increase could have been allocated elsewhere, for example to a potential new employee:

A dairy farmer in western New South Wales recently negotiated a commercial contract for electricity that she had locked in three years ago. Her costs went up from just under \$50,000 per annum to just over \$90,000 per annum. The difference is the cost of putting on a new employee. Today a typical dairy farmer pays \$50,000 to \$60,000 per annum for electricity while an irrigator pays over \$100,000 per annum. These are significant costs for essentially small businesses.⁴²³

- 4.110** Mr Brand advised that increasing farming input costs (of which electricity is a major component) are severely constraining the growth of the state's farming sector and stressed the need for more reliable, efficient and cheaper electricity:

[W]e are seeing an increase in input costs. More importantly, we are seeing the loss of serious opportunities to take farming from a \$15 billion industry to at least a \$50 billion industry in New South Wales. One of the handbrakes on that is the ability to use technology. Digitisation of agriculture relies on energy; we need electricity. As we know, that is becoming a major cost impost on businesses. We are seeing lost industry opportunities in becoming more efficient and effective in what they do because a major input—that is, electricity—is now very expensive and unreliable.⁴²⁴

Government assistance programs for business

- 4.111** The NSW Government advised that it has implemented a number of financial and technical assistance programs to help businesses improve their energy efficiency and thereby minimise their electricity bills. These include the:

⁴²¹ Tabled document, NSW Farmers, Discussion Paper, *The Future of Electricity in Regional NSW*, February 2018, p 6.

⁴²² Tabled document, NSW Farmers, Discussion Paper, *The Future of Electricity in Regional NSW*, February 2018, p 6.

⁴²³ Evidence, Mr Matt Brand, Chief Executive Officer, NSW Farmers, 21 February 2018, p 45.

⁴²⁴ Evidence, Mr Matt Brand, Chief Executive Officer, NSW Farmers, 21 February 2018, p 45.

- **Energy Savings Scheme:** this scheme helps businesses target, prioritise and implement the best energy efficiency opportunities for their business.
- **Energy Saver Program:** this program offers subsidised energy investigations and training as well as project financial and technical support.
- **Business Connect Program:** this program offers general and specialist business advisory services for small and medium sized business.⁴²⁵

4.112 The government also offers incentives to businesses to upgrade to energy efficient equipment and to undergo energy management training. According to the government, if accessed along with other measures, these initiatives could save businesses \$1,900 annually.⁴²⁶

4.113 The NSW Business Chamber welcomed these government initiatives but did note that they had only recently been implemented. The Chamber indicated that it had long been advocating for the government to direct more resources towards helping businesses better manage their energy use and reduce the impact of rising electricity prices on their operations.⁴²⁷

Committee comment

4.114 The committee notes with concern the figures presented by the NSW Business Chamber which show that as result of rising electricity prices, 90 per cent of its members have experienced a reduction in profits, while 22 per cent had reduced investments or expansions. It is clear that rising electricity costs across New South Wales are negatively impacting economic growth and jobs.

4.115 It is the position of this committee that broader systemic changes to the electricity market will be the primary means by which downward pressure can be placed on prices and thereby minimise the energy costs of businesses. A number of recommendations are made in this report that seek to help achieve the electricity market changes required by business and industry.

4.116 The committee acknowledges that the government has recently implemented a number of financial and technical assistance programs to help businesses improve their energy efficiency and minimise their electricity bills. Such programs should be encouraged. However, the committee notes none of these initiatives have a specific regional focus.

4.117 The farming industry and regional New South Wales more broadly, makes a significant contribution to the state's economy. It is acknowledged that transmitting and distributing electricity long distances to lesser populated locations means that regional consumers will pay higher prices for their electricity. The committee urges the government to ensure that its incentives for businesses to reduce energy use and save on power bills, account for the specific needs of regional New South Wales and the farming industry.

4.118 It is recommended that the NSW Government, as part of its incentives for businesses to reduce electricity use and save on power bills, develop a program tailored specifically to the needs of regional businesses.

⁴²⁵ Submission 145, NSW Government, p 5.

⁴²⁶ Submission 145, NSW Government, p 5.

⁴²⁷ Submission 145, NSW Government, p 5.

Recommendation 10

That the NSW Government develop an incentive scheme specific to the needs of regional businesses to encourage them to reduce electricity use and save on power bills.

Chapter 5 The future of electricity supply

This chapter begins by describing the transition taking place in the nature of electricity supply in New South Wales. This includes the rapid uptake of rooftop solar technology and the changing mix of generators supplying the state's grid. The chapter also considers the energy supply outlook for New South Wales and looks at the investment conditions for new generation capacity. The chapter concludes by discussing three priority areas for achieving a secure energy future in New South Wales. They are policy settings to drive investment in generation, effective network and storage planning to support new generation technologies, and support of demand-side initiatives.

An electricity market in transition

- 5.1** A number of inquiry participants pointed out the electricity market in New South Wales, and across the National Energy Market, is in a period of rapid transition.⁴²⁸
- 5.2** Two of the fundamental areas of change impacting the sector are the increasing uptake of:
- distributed generation and storage technology such as rooftop solar and batteries.
 - grid-scale renewable electricity generation technologies such as wind and solar.⁴²⁹
- 5.3** The two elements of this transition are occurring concurrently and are rapidly changing the nature of the electricity supply chain. Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator (AEMO), said that growth in rooftop solar has been unprecedented with the total capacity across the National Energy Market (NEM) expected to triple by 2030.⁴³⁰
- 5.4** Similarly, the transition towards grid-scale renewable generation technologies has been rapid, with wind and solar accounting for almost all new electricity supply across the NEM since 2014.⁴³¹
- 5.5** These two developments, combined with New South Wales coal-fired generators approaching the end of their design life,⁴³² means that there is fundamental shift occurring in the mix of generators that supply the grid. Because renewables are the cheapest new-build electricity source, our energy supply will increasingly be from those sources if we are to have cheaper and environmentally sustainable power. As the grid moves away from coal-fired generation towards

⁴²⁸ For example, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 4; Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17; Submission 232, AGL.

⁴²⁹ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17.

⁴³⁰ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

⁴³¹ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

⁴³² Evidence, Ms Melissa Reynolds, Chief Customer Officer, AGL Energy, 10 October 2018, p 37.

renewables, the sector faces some challenges in ensuring reliable supply⁴³³ if there is not also significant investment in storage technologies including pumped hydro and batteries.

5.6 Some participants commented on the scale of the transition currently under way. Mr Jonathan Briskin, Executive General Manager of Retail at Origin Energy observed that the change happening in energy markets in Australia and around the world is unprecedented.⁴³⁴

5.7 Mr Matthew Warren, Chief Executive of the Australian Energy Council, said that electricity systems globally are experiencing the most significant changes since the electrification of the economy 100 years ago.⁴³⁵

Distributed generation: rooftop solar and battery storage

5.8 The rapid uptake of distributed generation technologies in New South Wales is changing the nature of the electricity supply chain.

5.9 Mr Swift of AEMO said that across the NEM, both businesses and households are becoming more involved in generating electricity. He noted that the uptake in rooftop solar has been rapid and indicated that he expects this to continue. Mr Swift said that the trend was initially driven through incentives, but that the reduction in the cost of technology means that consumers are now being primarily driven by the cost savings that can be achieved:

Commercial, industrial and residential customers are now much more involved in generating their own energy. The NEM has witnessed unprecedented growth of rooftop solar and photovoltaic [PV] resources from 14,000 units in 2008 to 1.7 million units today with an estimated output of more than 6,000 megawatts. New South Wales is part of that trend and has over 1,200 megawatts of rooftop solar installed. In the future AEMO expects customers' increasing involvement in the market to continue. We expect that the total capacity of rooftop solar in the NEM will triple by 2030. Whereas the initial uptake was due to generous feed-in tariffs, substantial cost reductions in the technology mean that that is now primarily driven by cost savings. Battery storage also is expected to grow strongly and has just started to do so.⁴³⁶

5.10 AGL called the transition inexorable and noted that the penetration of small-scale solar is changing the nature of the interaction between consumers and the grid. AGL explained that the exchange is increasingly two-directional as consumers also become generators, posing both challenges and opportunities for the sector:

At the distribution level, penetration of small-scale generation is proliferating as households and businesses across the country become both consumers and producers of electricity. The once linear supply chain - where electricity generated by large power stations is transported across the high-voltage transmission network and through the

⁴³³ For example, Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, pp 11-12.

⁴³⁴ Evidence, Jonathan Briskin, Executive General Manager, Retail, Origin Energy, 8 May 2018, p 2.

⁴³⁵ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17.

⁴³⁶ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

low-voltage distribution network and into homes and businesses - is becoming increasingly decentralised and bi-directional. There are both opportunities and challenges associated with this inexorable transition.⁴³⁷

- 5.11** The NSW Government said that there are over 380,000 households in the state that have rooftop solar panels installed. The government said that, along with battery technology, distributed generation will play a greater role in providing secure power in the future.⁴³⁸
- 5.12** Endeavour Energy advised that rooftop solar can help reduce consumers' reliance on the grid.⁴³⁹ While Mr Warren noted that there are opportunities to leverage solar technology to better manage energy use thereby improving reliability and cost.⁴⁴⁰
- 5.13** The uptake of battery technology to complement rooftop solar installations is also becoming increasingly popular. Mr Swift said that battery technologies are becoming more readily available as costs quickly come down.⁴⁴¹
- 5.14** Ms Anne Pearson, Chief Executive, Australian Energy Market Commission (AEMC), said that according to AEMC research, one in five Australian households already has solar panels, and 21 per cent of consumers believe they are likely to adopt battery storage within the next two years.⁴⁴² Ms Pearson explained that combining domestic solar and battery storage brings opportunities for consumers to access new products and services that allow them to manage their energy in different ways:

...those with a domestic solar battery set-up will be able to find retailers that will optimise their energy use and generation patterns in line with wholesale price signals. Those with a swimming pool are able to get a deal that works along with the assets associated with the pool. The energy junkies—for want of a better term—can sign up with retailers that will give them real-time use information 24/7. They can turn appliances on and off remotely if they are that interested.⁴⁴³

Solar feed-in tariffs

- 5.15** The Independent Pricing and Regulatory Tribunal (IPART) is responsible for setting voluntary solar feed-in tariff benchmarks each year. This is the price IPART recommends retailers pay to consumers with rooftop solar for the energy they feed into the grid. However, retailers are not obliged to pay the IPART benchmark. According to IPART the benchmark is designed to help

⁴³⁷ Submission 232, AGL, p 3.

⁴³⁸ Submission 145, NSW Government, p 3.

⁴³⁹ Submission 243, Endeavour Energy, p 8.

⁴⁴⁰ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17.

⁴⁴¹ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 32.

⁴⁴² Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 2.

⁴⁴³ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 2.

retailers in setting their tariffs and to help solar customers in deciding whether retailers' tariffs are reasonable.⁴⁴⁴

- 5.16** IPART's most recent benchmark included an all-day solar feed-in tariff for 2018-19 of 6.9 to 8.4 cents per kilowatt hour and included a set of time-dependent feed-in tariffs that take into account the different values of solar exports at different times of the day. IPART's recommended lowest off-peak rate was 6.5 to 7.9 cents per kilowatt hour. Their recommended rate during the 5 pm to 6 pm peak was 14.1 to 17.2 cents per kilowatt hour.⁴⁴⁵
- 5.17** A large number of submissions were made from members of the public with rooftop solar. A common theme in these submissions was that households with solar are not being paid a fair price for the energy they feed back into the grid.⁴⁴⁶
- 5.18** Research commissioned by community organisation Solar Citizens said that rooftop solar delivers 'strong benefits to the community including downward pressure on power prices, assists in managing peak demand and ensuring positive environmental and health outcomes'.⁴⁴⁷
- 5.19** Solar Citizens advocated for the recognition of 'the benefits that rooftop solar provides to all consumers through a lower wholesale power price and cleaner electricity by setting a fair price for solar power fed into the grid'.⁴⁴⁸
- 5.20** According to Climate Change Balmain-Rozelle 'every IPART assessment has undervalued fed in PV power'.⁴⁴⁹ The organisation recommended a mandatory minimum time-dependent feed-in tariff of at least 13.5 cents per kilowatt hour during off-peak times, and 16.5 cents per kilowatt hour during peak times. It recommended a flat feed-in tariff of 15 cents per kilowatt.⁴⁵⁰
- 5.21** In releasing its 2018-19 benchmarks, IPART noted that the recommended tariffs represent what retailers would pay for the same energy purchased on the wholesale market:

Because the solar feed-in benchmarks represents what retailers would pay for solar exports if they had bought this electricity from the wholesale market, the benchmark will go up and down with changes in the wholesale electricity price. As a result, our benchmark range for 2018-19 is lower than last year because the forecast wholesale price is lower. Wholesale prices are forecast to fall in 2018-19 due to new generation capacity increasing supply.⁴⁵¹

⁴⁴⁴ Independent Pricing and Regulatory Tribunal NSW, *Solar feed-in tariffs: The value of electricity from small-scale solar panels in 2018-19*, May 2018, p 1.

⁴⁴⁵ Independent Pricing and Regulatory Tribunal NSW, *Solar feed-in tariffs 2018-19* (June 2018) <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Reviews/Electricity/Solar-feed-in-tariffs-201819>.

⁴⁴⁶ For example, Submission 16, Ms Kim Sun; Submission 25, Mr Lionel Doolan; Submission 28, Ms Rose Miners; Submission 31, Ms Mary Notestine; Submission 33, Ms Katja Klikauer.

⁴⁴⁷ Submission 3, Solar Citizens, pp 1-2.

⁴⁴⁸ Submission 3, Solar Citizens, p 2.

⁴⁴⁹ Submission 4, Climate Change Balmain-Rozelle, p 3.

⁴⁵⁰ Submission 4, Climate Change Balmain-Rozelle, p 1.

⁴⁵¹ Independent Pricing and Regulatory Tribunal NSW, *Solar feed-in tariffs 2018-19* (June 2018) <https://www.ipart.nsw.gov.au/Home/Industries/Energy/Reviews/Electricity/Solar-feed-in-tariffs-201819>.

The changing generation mix

5.22 The second key area of transition is in the changing mix of generation technologies supplying the grid.

5.23 The New South Wales electricity market has traditionally relied heavily on coal-fired generators that are approaching the end of their design life.⁴⁵² Inquiry participants noted that significant investment is taking place in renewable energy sources and that this is changing the energy mix in New South Wales and across the NEM.⁴⁵³

5.24 Mr Swift from AEMO commented on the scale of the transition. He noted that significant base-load capacity has exited the NEM and had been replaced with a mix of gas-fired generation and renewables. He pointed out that since 2014, almost all new supply has come from wind or solar:

In the past decade across the NEM more than 5,000 megawatts of base load generation has retired. Over the same time those resources have been replaced with nearly 3,000 megawatts of gas-fired generation, 3,000 megawatts of wind power, 270 megawatts of new hydro, 265 megawatts of grid-connected solar and other small generation sources, such as biomass and liquid fuel generation. Since 2014 almost all new supply has been from wind and solar.⁴⁵⁴

5.25 Essential Energy noted that the share of solar, wind and bioenergy generation in New South Wales has more than doubled over the past five years and that renewable energy is expected to continue to rapidly increase in the next decade.⁴⁵⁵

5.26 While government incentives have played a large role in the uptake of renewables, the transition away from coal-fired generation is increasingly is now being driven by cost incentives. Mr Steve Blume, President, Smart Energy Council said that 'the economics and financial drivers now place solar and wind as central technologies to lowering emissions. They are the lowest cost of generation, even in the absence of a price on pollution'.⁴⁵⁶

5.27 Associate Professor Tim Nelson, Chief Economist, AGL, note that his company is in the process of transforming their generation business, including an emphasis on low-cost renewables. According to AGL, investors are rushing to build new renewable capacity as the cost of solar and wind technology declines:

AGL is currently transforming its own generation business through our New South Wales generation plan, which features a strong focus on new investment in low-cost renewable generation firmed up with modern gas and energy storage technologies. One of the reasons investors in companies are rushing to build new renewable capacity is because of the material reduction in capital cost for new solar and wind technologies.⁴⁵⁷

⁴⁵² Evidence, Ms Melissa Reynolds, Chief Customer Officer, AGL Energy, 10 October 2018, p 37.

⁴⁵³ For example, Submission 11, Essential Energy, p 8; Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

⁴⁵⁴ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

⁴⁵⁵ Submission 11, Essential Energy, p 8.

⁴⁵⁶ Evidence, Mr Steve Blume, President, Smart Energy Council, 8 May 2018, p 32.

⁴⁵⁷ Evidence, Associate Professor Tim Nelson, Chief Economist, AGL, 18 June 2018, p 28.

- 5.28** Professor Andrew Blakers, Professor of Engineering, Australian National University, commented that the relatively low cost of developing new renewable generation compared to coal, gas or nuclear was driving its rapid uptake:

South Australia went from almost no PV/wind to 50 per cent in seven years, and it is going to go to 100 per cent in another 10. And New South Wales can go just as fast. There is such a revolution coming; it is unbelievable for those who have not been following it. It is one of the quickest revolutions in any major infrastructure you have ever seen, because PV/wind is so decisively cheaper now than new-build coal, gas, nuclear—anything you can think of.⁴⁵⁸

- 5.29** Professor Blakers asserted that the cost of renewable generation technologies, including solar PV, were continuing to decline. He said that the cost of solar generation is now approximately \$65 per megawatt hour and that the cost of wind generation is approximately \$55 per megawatt hour. He compared this to current wholesale prices of approximately \$80 to \$90 dollars:

In 2016, there was an arena [the Australian Renewable Energy Agency] 100 megawatt solar support round that provided publically available data, which showed PV was coming in at approximately \$75 per megawatt hour. It is clear that PV is now approximately \$65 and wind is approximately \$55. There is only one direction that those prices are going and that is down. A large number of public auctions overseas had starting prices down around \$30 and \$40 per megawatt hour. We are not sure whether they are pure prices or are slightly subsidised, but they are low. I compare those prices to the current wholesale price, which is \$80 or \$90.⁴⁵⁹

Nuclear energy

- 5.30** Several inquiry participants advocated for the NSW Government to consider working towards integrating nuclear technology into the New South Wales energy mix.⁴⁶⁰
- 5.31** SMR Nuclear Technology asserted that nuclear energy is a reliable, safe, low-emissions technology⁴⁶¹ that has the capacity to become the lowest cost electricity generation source available in Australia.⁴⁶²
- 5.32** SMR acknowledged that safety is the most well-known concern regarding nuclear energy, but stated that 'Modern Small Nuclear Reactors (SMRs) have become a game changer for nuclear safety'.⁴⁶³ SMR also asserted that nuclear costs are coming down due to a number of factors, including a simpler and standardised design.⁴⁶⁴ However, this is inconsistent with a report prepared by the British Department of Industry which found that SMR's could be up to 30 per

⁴⁵⁸ Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National University, 21 February 2018, pp 57-58.

⁴⁵⁹ Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National university, 21 February 2018, pp 53-54.

⁴⁶⁰ Submission 245, SMR Nuclear Technology Pty Ltd; Submission 237, Australian Taxpayers' Alliance; Submission 247, Mr Barrie Hill, Dr Robert Barr AM and Mr Robert Parker.

⁴⁶¹ Submission 245, SMR Nuclear Technology Pty Ltd, p 1.

⁴⁶² Submission 245, SMR Nuclear Technology Pty Ltd, p 2.

⁴⁶³ Submission 245, SMR Nuclear Technology Pty Ltd, p 4.

⁴⁶⁴ Submission 245, SMR Nuclear Technology Pty Ltd, p 2.

cent more expensive than other nuclear power. It is also noted that at present no SMR's are operational in the developed world, with the first expected to operate in Utah, USA from 2024.⁴⁶⁵

- 5.33** Mr Barrie Hill, Dr Robert Barr AM and Robert Parker (Mr Hill et al) claimed that 'if emission reduction is accepted as a serious imperative, then only nuclear power provides this outcome in a reliable, cost-effective manner'.⁴⁶⁶
- 5.34** The Australian Taxpayers Alliance (the Alliance) also highlighted the potential of nuclear energy, recommending that the government lobby the Commonwealth to lift the moratorium on nuclear power.⁴⁶⁷
- 5.35** The Alliance asserted that nuclear energy is cheap, reliable and clean⁴⁶⁸ and suggested that Australia has a comparative advantage in nuclear energy due to its abundance of uranium and thorium reserves as well as its geological stability.⁴⁶⁹
- 5.36** The Energy Policy Institute of Australia (the Institute) said that nuclear power is versatile and likely to be beneficial for Australia's economic development. The Institute asserted that nuclear energy has the potential to become Australia's lowest-cost, emissions-free generation source and that it could 'help contain Australia's whole-of-system costs at a competitive level as it requires no additional "firming costs" and will minimise transmission system enhancements'.⁴⁷⁰
- 5.37** The Institute said that it would take around 10 years for the technology to become operational in Australia and outlined a number of 'whole-of-system' benefits to the technology. This includes: near-zero emissions; high supply security and reliability levels; high safety levels; the ability to work flexibly with variable renewable energies; and 24-hour availability, not dependent on weather.⁴⁷¹
- 5.38** However, some inquiry participants argued that large scale nuclear power is not feasible in New South Wales. Mr Greg Jarvis, Executive General Manager of Wholesale and Supply at Origin Energy, argued that large-scale nuclear generation is cost prohibitive. He said that 'certainly Origin would not invest in that—far too expensive. We would absolutely go with renewables and firming at this point because the technology is there and it is cheaper'.⁴⁷²
- 5.39** Mr Simon Davey, Policy and Advocacy Manager, Energy Australia, added that the policy and regulatory challenges may also prohibit nuclear form being viable option for solving the

⁴⁶⁵ UK Government, Department of Energy and Climate Change, *SMR Techno-Economic Assessment - Project 1 – SMRs: Comprehensive Analysis and Assessment SMR TEA Report: Volume 1*, 2016, p 8.

⁴⁶⁶ Submission 247, Mr Hill et al, p 3.

⁴⁶⁷ Submission 237, Australian Taxpayers' Alliance, p 25.

⁴⁶⁸ Submission 237, Australian Taxpayers' Alliance, p 1.

⁴⁶⁹ Submission 237, Australian Taxpayers' Alliance, p 2.

⁴⁷⁰ Correspondence, Energy Policy Institute of Australia, *The Likely Viability of Nuclear Power in Australia*, 24 October 2018, p 1.

⁴⁷¹ Correspondence, Energy Policy Institute of Australia, *The Likely Viability of Nuclear Power in Australia*, 24 October 2018, p 1.

⁴⁷² Evidence, Mr Greg Jarvis, Executive General Manager, Wholesale and Supply, Origin Energy, 10 October 2018, p 44.

problems that the sector faces: 'the time frames to resolve policy issues around nuclear and planning and actually building something is way outside of the time frames we have got to solve the problems that we are faced with.'⁴⁷³

The outlook for New South Wales' electricity supply

5.40 As previously discussed, existing coal fired generators in New South Wales will eventually reach the end of their operational lives. Mr Steve Blume, President, Smart Energy Council, called it a 'simple economic truth that New South Wales faces the closure of large fossil fuel generation facilities by 2030.'⁴⁷⁴ As this occurs, new generation and storage capacity is required.

5.41 The NSW Government said that the state is well placed in terms of energy supply and advised that this should remain the case for the next five years:

NSW is well placed in terms of energy supply compared with other states. The 2017 Electricity Statement of Opportunities release by the AEMO confirms this should remain the case for the next 5 years.⁴⁷⁵

5.42 According to the government 'there are enough projects in NSW's pipeline to meet future required energy and capacity needs, so long as appropriate investment conditions exist'.⁴⁷⁶

5.43 Ms Katherine Hole, Executive Director of Energy Strategy, the Department of Planning and Environment, said that there are 'a lot of projects in the planning system coming down the pipeline to bring forward new generation'.⁴⁷⁷

5.44 The NSW Government advised that as at October 2018, there were 18,700 megawatts (MW) of energy projects in the pipeline in New South Wales either in construction, with planning approval, or seeking planning approval. This is made up of:

- 1,500 MW under construction, including:
 - almost 600 MW of solar
 - over 800 MW of wind
 - a hybrid wind and solar project of around 100 MW
- over 6,700 MW with planning approval, including:
 - over 2,100 MW of solar
 - over 3,100 MW of wind
 - a co-generation project of around 200 MW
 - 1,250 of gas generation
- over 10,500 MW seeking planning approval, including:
 - over 8,600 MW of solar

⁴⁷³ Evidence, Mr Simon Davey, Policy and Advocacy Manager, EnergyAustralia, 10 October 2018, p 44.

⁴⁷⁴ Evidence, Mr Steve Blume, President, Smart Energy Council, 8 May 2018, p 32.

⁴⁷⁵ Submission 145, NSW Government, p 1.

⁴⁷⁶ Submission 145, NSW Government, p 1.

⁴⁷⁷ Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 2.

- almost 1,600 MW of wind
- around 150 MW of bioenergy
- a 100 MW coal power station upgrade.⁴⁷⁸

5.45 Professor Mary O'Kane, former NSW Chief Scientist and Engineer, advised that the NEM and New South Wales in particular, is generally 'awash with capacity'. She said that the state's existing capacity is about 16,000 megawatts, with demand remaining below 12,000 megawatts about 99 per cent of the time:

The interesting thing about the system, as you will know, is that most of the time Australia, and New South Wales in particular, has loads of capacity. Our nameplate capacity is about 16,000 megawatts and about 99 per cent of the time load is beneath 12,000 megawatts and approximately 92 per cent of the time below 10,000. I will talk about my 50 per cent figure later, but generally we are awash with capacity.⁴⁷⁹

5.46 However, Professor O'Kane did note that there are supply challenges, particularly on hot, summer days when air conditioning puts additional burden on the grid at the same time of the day that the output of rooftop solar is declining:

On the hot day, however, the requirements went up to 14,000 megawatts. Why? Because of air conditioning... added to the fact that, at the end of the day, given all our solar panels on roofs, the behind-the-meter activity, as the sun goes down and solar energy falls out of the system, people go home and turn on the air conditioning. That means the supply goes down when the demand goes up.⁴⁸⁰The changing generation mix and the reliability of supply

5.47 Reliability is the ability of generation and network capacity to meet consumer demand. Adequate supply must match demand at all times and in all places.⁴⁸¹

5.48 In its *State of the Energy Market: Annual Report*, the Energy Security Board (ESB) noted that reliability of supply has become more challenging as the penetration of variable generation increases.⁴⁸² The ESB cited work by the International Energy Agency and asserted that 'in systems where 30-50 per cent of the generation mix is from variable renewables there are significant integration challenges'.⁴⁸³

5.49 The NSW Energy Security Taskforce reported that there is a general trend in the NEM away from traditional generation, including coal, towards renewables like wind, solar and hydro. At

⁴⁷⁸ Answers to questions on notice, NSW Government, 25 October 2018, p 1.

⁴⁷⁹ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 4.

⁴⁸⁰ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 4.

⁴⁸¹ Tabled document, Energy Security Board, *The Health of the National Electricity Market: 2017 Annual Report*, 20 December 2017, p 25.

⁴⁸² Tabled document, Energy Security Board, *The Health of the National Electricity Market: 2017 Annual Report*, 20 Dec 2017, p 25.

⁴⁸³ Tabled document, Energy Security Board, *The Health of the National Electricity Market: 2017 Annual Report*, 20 Dec 2017, p 25.

the time of the Taskforce's initial report in May 2017, it noted that no new investment in coal power stations was planned:

In the NEM there is trend away from traditional thermal generation to renewable energy, including solar, wind, hydro and geothermal. The use of coal and gas as a fuel for energy production is decreasing over time and renewables in many cases are taking their place. There is currently no new investment in coal power stations, with significant new, investment in areas such as wind and solar.⁴⁸⁴

5.50 Some inquiry participants noted that as the penetration of renewable generation increases, particularly intermittent technologies such as wind and solar, the sector also needs investment in new dispatchable generation capacity to ensure reliable supply.⁴⁸⁵

5.51 Dispatchable energy comes from generation or storage technologies that can provide energy when it is called upon. It includes technologies such as coal, gas and hydro power stations as well as storage options like batteries and pumped-hydro. Intermittent generation sources are those that rely on certain external conditions in order to be dispatched. This includes generation technologies that are dependent on weather conditions, like wind and solar generation.⁴⁸⁶

5.52 Professor Mary O'Kane noted that dispatchable power provides firm, reliable supply and said that the system requires a certain level of this type of capacity. She said that the use of coal-fired generation is declining and likely to disappear and that the system needs an appropriate mix of technologies to provide dispatchable capacity:

One of the things that we have to do, and what a lot of the focus has been on, as you pointed out a couple of minutes ago, is dispatchable power. That is power that is firm, provides reliability and security of services along with the actual electrons. We do need to have that in various forms. You can put it on synthetically through synthetic inertia on wind power but those technologies need a lot of development. Or you can use battery technologies or you can use hydro to get that firmness into it, but we need appropriate mixes of those. It is not quite as simple as just replacing wind instead of coal. The coal might go, and I believe the coal will go. Probably it will be slow at the start but then it will start to disappear in favour of various things.⁴⁸⁷

5.53 Mr Damien Nicks, Interim Chief Financial Officer, AGL Energy said that in AGL's view, the price of renewable generation is decreasing, driving investment. However, as coal generation exits the market, there is a need to also bring firming capacity—which can be called upon when renewables—into the market. He said that this is currently achieved using gas-fired generation, but that in time a transition will take place towards battery and pumped hydro technologies:

Our view is the market not only needs renewables but it needs firming capacity to go along with that. So, yes, renewables absolutely coming down in price, and we are seeing that in the market quite broadly. But there will be a cost of providing firming capacity,

⁴⁸⁴ Tabled document, NSW Chief Scientist and Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 24.

⁴⁸⁵ For example, Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 12.

⁴⁸⁶ Submission 6, Transgrid, p 12.

⁴⁸⁷ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 11.

and we believe that is the way of providing both cheap energy but reliable energy at the same time. It is a combination. This market place is going to continue to transform over the years, and our view is currently it is gas firming capacity, but in time it will move to both battery, pumped hydro and those types of technologies.⁴⁸⁸

- 5.54** Ms Anne Pearson, Chief Executive of the Australian Energy Market Commission, said that there are a number of factors that drive investment in generation capacity and send signals to the market about the type of generation in which to invest. She suggested that the Renewable Energy Target (RET) had not necessarily driven investment in the type of capacity that is best at meeting the system's reliability requirement:

The environment for investment sends the signals to investors, and that is driven by a number of factors: the broader investment climate, the cost of capital, supply, demand—there are a host of factors. What we are saying in relation to the renewable energy target is that because it creates a particular source of revenue for those generators who can generate at any point in time, it has not necessarily encouraged the investment that is best for the power system and best for meeting the reliability requirements. Indeed, the market system operator advised the Commonwealth Government back in September—advice which is public—around the reliability requirements for the market. When I am talking about reliability I mean how much this sort of dispatchable capacity is available to meet needs at any point in time.⁴⁸⁹

- 5.55** The ACCC's recent report into the retail electricity market pointed out that the RET has been effective at driving investment in renewable generation, but that it lacked any regard to ensuring that energy is available in the market when demand requires it:

The main enduring policy instrument for encouraging low-emissions electricity generation is the Renewable Energy Target. While it has been effective at encouraging wind and solar generation capacity installation, it has also distorted the investment that has occurred in the transition from higher carbon technologies to lower ones. The subsidies received for installing wind and solar made the business case for doing so compelling but did so in a way that was indifferent to the ability to provide energy to the market when demand requires it.⁴⁹⁰

- 5.56** The NSW Energy Security taskforce noted that 'the changing energy mix in NSW without effective planning and management for the transition is likely to lead to technical issues in the future'.⁴⁹¹

High efficiency low emissions coal

- 5.57** Mr Barrie Hill, Dr Robert Barr AM and Mr Robert Parker (Mr Hill et al) argued that base-load power like coal will continue to be required to underpin reliable electricity supply at an acceptable cost:

⁴⁸⁸ Evidence, Mr Damien Nicks, Interim Chief Financial Officer, AGL Energy, 10 October 2018, p 41.

⁴⁸⁹ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 4.

⁴⁹⁰ Tabled Document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p v.

⁴⁹¹ Tabled document, NSW Chief Scientist and Engineer, *Initial Report from the Energy Security Taskforce*, 5 May 2017, p 27.

[D]etailed engineering system analysis shows that coal, nuclear or gas base load power will continue to be required for the foreseeable future to underpin the reliable provision of electricity to current technical standards at acceptable cost. Generally unpredictable levels of solar and wind power will continue to require appropriate system quality management, transmission augmentation, and quick start backup response in the current grid always at greater overall system cost than base load power generation of any type.⁴⁹²

- 5.58** The NSW Minerals Council (the Council) advised that high efficiency low emissions (HELE) coal-fired power stations are being constructed around the world and can reliably deliver electricity on demand virtually 24 hours a day at competitive costs.⁴⁹³
- 5.59** The Australian Tax Alliance (the Alliance) asserted that the volume of economically recoverable black and brown coal resources in Australia gives it a significant comparative advantage for this energy source.⁴⁹⁴
- 5.60** The NSW Minerals Council commented that carbon capture and storage (CCS) technology could be used to drive deeper cuts in emissions. The Council noted that the most cost effective pathway for emissions reduction is through a mix of renewable energy technologies along with gas or coal generation with CCS:

Deeper cuts in emissions from coal would require carbon capture and storage (CCS). Modelling undertaken for the Australian National Low Emissions Coal Research and Development (ANLEC R&D)¹⁴, which is funded by industry and the Australian Government, demonstrates the role that CCS plays as deeper cuts in emissions are sought in the electricity system. While renewables provide the initial least-cost emissions reductions, their integration costs increase exponentially as they are deployed more broadly. The study indicates the lowest cost pathway for emissions reductions, while at the same time ensuring the stability of the grid, involves a mix of technologies beginning with renewables, then moving to gas, then either coal or gas with CCS.⁴⁹⁵

- 5.61** The Alliance suggests that funding through the Australian Government Clean Energy Scheme should be made available to HELE coal technology in order to foster technological neutrality and to allow the market to determine the best mix of clean energy sources.⁴⁹⁶
- 5.62** Mr Matthew Warren, Chief Executive, Australian Energy Council, stated that there is no impediment to industry investing in HELE coal technology but that the technology is expensive:

'HELE is a low-emissions coal technology. It is expensive. Anyone is free to invest in any type of generation. Anyone can enter the market and anyone can build that plant if they can source the coal and get the capital. They can do it today.'⁴⁹⁷

⁴⁹² Submission 247, Mr Barrie Hill, Dr Robert Barr AM and Mr Robert Parker, p 2.

⁴⁹³ Submission 244, NSW Minerals Council, p 10.

⁴⁹⁴ Submission 237, Australian Tax Alliance, p 13.

⁴⁹⁵ Submission 244, NSW Minerals Council, p 10.

⁴⁹⁶ Submission 237, Australian Tax Alliance, p 13.

⁴⁹⁷ Evidence, Mr Warren, 17 November 2017, p 22.

- 5.63** Mr David Firth, Policy Director of Industry and Environment at the NSW Council, said that although the cost of building new coal-fired power stations is high, there are opportunities for refurbishing existing coal-fired power stations to extend their operating lives:

In respect of new build greenfield coal-fired power stations, the capital costs are quite significant. But in respect of refurbishing existing coal-fired power stations, there are opportunities there... There is an appetite there and the lower capital costs that are involved with brownfield extensions, if you like, would be more attractive in the current policy environment.⁴⁹⁸

- 5.64** Mr Greg Everett, Managing Director, Delta Electricity, stated that there are opportunities to extend the life of coal plants to provide firm capacity beyond the date that they are currently estimated to retire. He said that existing coal fired power stations are already providing dispatchable capacity and can continue to do so in a cost effective way. Mr Everett noted that ultimately this was a decision for the asset owners who would bear the risk of investment:

In considering the future of energy supply in New South Wales, policymakers obviously need to give consideration to what the future of generation looks like. There is a widespread assumption that existing coal-fired assets will retire at the end of their 50-year depreciable lives. Delta's view is that New South Wales generators from Vales Point forward are of a much higher quality than those that preceded them, and life extension of some of these assets provide the lowest cost firming for renewables—far lower than building a new gas-fired plant, pumped hydro or battery storage. The specific reference we can make is Vales Point. Delta's estimate for a 20-year life extension is \$520 million, which amortised over the production in this period could be as low as \$3.50 per megawatt hour. These assets have already provided firming capacity, which has facilitated an increase in renewable penetration. Given the massive capacity replacement required if they were all to close and the generation capital expenditure that would ensue, serious consideration should be given to life extension of existing assets. Having said that, the expenditure is ultimately one for the asset owners who bear the risk of their decision, as opposed to the network investments.⁴⁹⁹

Bayswater power station upgrade

- 5.65** AGL has committed to a \$200 million upgrade of the Bayswater coal-fired power station as part of its investment aimed at replacing the capacity that would be lost with the closure of AGL's Liddell Power Station in 2022. The upgrade would provide 100 megawatts of additional capacity.⁵⁰⁰
- 5.66** AGL said that the upgrade will power up to 100,000 homes without increasing coal consumption or emissions:

⁴⁹⁸ Evidence, David Firth, Policy Director, Industry and Environment, New South Wales Minerals Council, 10 October 2018, pp 32-33.

⁴⁹⁹ Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 27.

⁵⁰⁰ Media release, AGL, 'Bayswater Power Station upgrade secures additional energy supply for NSW,' (28 February 2018)

<https://www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2018/february/bayswater-power-station-upgrade-secures-additional-energy-supply-for-nsw>

The Bayswater upgrade will improve the power station's capacity and efficiency, providing enough energy for up to 100,000 homes - increasing electricity supply without increasing coal consumption or emissions.⁵⁰¹

- 5.67** At the time of writing, the project was being assessed by the Department of Planning and Environment.⁵⁰²

Committee comment

- 5.68** The committee recognises that the New South Wales electricity market is in a period of significant transition. As this transition takes place, consumers in New South Wales expect the reliability of their electricity supply to be maintained.
- 5.69** The committee's consideration of long-term strategies for managing this transition are discussed in more detail later in this chapter. However, the committee considers that in the short-term, the state's existing coal-fired power stations, on which consumers have traditionally relied for secure energy supply, should be assessed for efficiency and life-span upgrades.
- 5.70** The committee notes that AGL is currently seeking planning approval from the NSW Department of Planning and Environment for the upgrade of the Bayswater Power Station that has the potential to supply electricity to up to 100,000 homes, without increasing coal consumption or emissions.
- 5.71** The committee considers that the government should prioritise this upgrade and expedite the assessment of the project in the interest of helping secure the state's electricity supply. It is therefore recommended that the NSW Department of Planning and Environment expedite the assessment of AGL's coal-fired Bayswater Power Station upgrade project.

Recommendation 11

That the NSW Department of Planning and Environment expedite the assessment of AGL's coal-fired Bayswater Power Station upgrade project.

Priorities for ensuring secure and reliable energy supply

- 5.72** A number of inquiry participants discussed the challenges around ensuring energy security and managing the transition taking place in the sector.

⁵⁰¹ Media release, AGL, 'Bayswater Power Station upgrade secures additional energy supply for NSW,' (28 February 2018)

<https://www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2018/february/bayswater-power-station-upgrade-secures-additional-energy-supply-for-nsw>

⁵⁰² Answers to questions on notice, NSW Government, 25 October 2018, p 1; NSW Department of Planning and Environment, *Major Project Assessments: Bayswater Power Station Turbine Efficiency Upgrade*, http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=9234

- 5.73** Mr Swift of AEMO asserted that the changing nature of generation in the market 'will affect the dynamic behaviour of the system and impact a lot on the market'. He said that 'AEMO considers market arrangements need to change in response [to these changes] to ensure we can continue to provide a secure, reliable and efficient supply of electricity to consumers'.⁵⁰³
- 5.74** The remainder of this chapter considers the following three areas and their importance to helping ensure energy security in New South Wales:
1. Stable policy settings to drive investment in generation, including prioritising reliability.
 2. Effective network and storage planning to support the new generation mix.
 3. Implementation of demand-side solutions to improve how energy is consumed.

Stable policy settings to drive investment in generation

- 5.75** A topic raised throughout the inquiry was that stable policy settings are an important factor for driving investment in new generation capacity and thereby ensuring reliable electricity supply into the future.⁵⁰⁴
- 5.76** Mr Cameron O'Reilly, Principal Energy Adviser, Department of Planning and Environment, stressed that the most important thing regarding future generation investment is policy certainty. Mr O'Reilly noted that this is key to replacing the generation that may be retiring over the coming decades:

The most important thing in relation to future generation investment is obviously policy certainty. The Government has been keen to see policy certainty for investors in generation and been supportive of that objective. We are aware of the fact that over time various large generators in New South Wales will reach the end of their operational life, if you are looking at a 10, 20 year horizon and we will be extensively monitoring to make sure that developments coming forward will help to deal with that situation...We maintain a close watching brief on developments in the market, but the most important thing is that we have an environment in which generation investment can take place. New South Wales, obviously working within the COAG environment, is supportive of policies that see that environment most conducive to replacing any generation that may be retiring in coming decades.⁵⁰⁵

- 5.77** Mr Mark Collette, Energy Executive, Energy Australia, asserted that the government's role in driving new generation capacity is to design the policy settings to facilitate investment and that industry's role is to make that investment. Mr Collette noted that investment has been hampered by uncertainty in both climate and energy policy:

[Reliable, affordable and cleaner power] is a challenge we share, industry and Government are in this together. Industry's role is to make the billions of dollars of

⁵⁰³ Evidence, Mr David Swift, Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator, 31 October 2017, p 19.

⁵⁰⁴ For example, Evidence, Associate Professor Tim Nelson, AGL Chief Economist, 18 June 2018, p 29; Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 4.

⁵⁰⁵ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 4.

investment needed to create a modern cleaner energy system. Government's role is to provide durable policy and regulatory settings which encourage, or at least support, long-term investment. For too long uncertainty in climate and energy policy has challenged the structure of the electricity market and investment has suffered.⁵⁰⁶

- 5.78** Similarly, Ms Pearson commented on the importance of policy certainty for investors, noting the particular challenge posed by a lack of settled emissions reduction policy:

I think the Australian Energy Market Commission has, over the past few years, made it very clear that investors need certainty in this market in order to make the investments that are required. Our market is one that is in a state of transition. Markets such as ours that are in transition need investment. The investment will not come without the requisite level of certainty and unless the emissions reduction policy is settled and settled in a way that can work in a complementary way with how our energy markets work.⁵⁰⁷

Technology neutral policy

- 5.79** Some inquiry participants noted that it is key for government to focus on designing a market that will facilitate investment, rather than identifying technology solutions. Professor O'Kane, for example, noted that 'all sorts of technologies, if they become appropriately cheap enough, could be used in this market. It is worth thinking and turning our planning attention to planning a very good market'.⁵⁰⁸

- 5.80** Similarly, the Grattan Institute asserted that it can be tempting for government to look for a particular technology solution, but that government should focus on the policy and support framework to remove barriers for industry and the market:

While it is easy to be captivated by the promise or vision of various specific technologies, the preferred role for governments is to establish the policy and support framework that internalises externalities such as climate change and addresses specific barriers to technology development and deployment.⁵⁰⁹

- 5.81** Energy Networks Australia (ENA) said that adopting a technology neutral approach to emissions reductions policy would provide the lowest cost impact to customers. ENA urged the committee to avoid seeking a 'silver bullet' technology solution to challenges in energy policy and instead encouraged innovation, competition and the removal of barriers for commercial solutions:⁵¹⁰

Adopting a technology neutral approach to carbon reductions provides the lowest cost impact to customers. Analysis by the energy consultancy Jacobs found that a technology neutral framework could achieve the Australian Government's 2030 abatement target

⁵⁰⁶ Evidence, Mr Mark Collette, Energy Executive, EnergyAustralia, 8 May 2018, p 3.

⁵⁰⁷ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 4.

⁵⁰⁸ Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 17 October 2017, p 3.

⁵⁰⁹ Submission 43, Grattan Institute, p 7.

⁵¹⁰ Submission 8, Energy Networks Australia, p 12.

at the lowest cost compared to other policy settings resulting in an average saving of \$216 per annum over the decade 2020 to 2030.

The Select Committee should seek to avoid identifying a 'silver bullet' or developing climate change policies favouring particular technologies. The Select Committee should instead adopt a principle of technology neutrality and seek to establish a mix of market and regulatory frameworks that encourage innovation and competition, and remove barriers to the formation of commercial solutions.⁵¹¹

- 5.82** AGL similarly argued that a technology-neutral approach will drive the best, most competitively priced outcomes:

Open competitive markets and technology neutrality provide firms the impetus and latitude to pursue technology and service delivery innovations that meet system needs at efficient cost. We are already seeing evidence that holding to these principles promotes opportunities for addressing system impacts emerging from one set of technology innovations with technology innovations occurring elsewhere.⁵¹²

- 5.83** The government advised that its approach to delivering the required volume of energy to meet demand in the state is technology-neutral and that it is up to the private sector to advance projects.⁵¹³

Reliability obligation

- 5.84** A number of inquiry participants considered whether the electricity market would benefit from a mechanism for incentivising investment in dispatchable generation to ensure reliable energy supply in the future.⁵¹⁴

- 5.85** Mr Tony Wood, Energy Program Director, Grattan Institute, for example, said in regards to driving investment in appropriate new generation capacity to replace exiting coal-fired power stations, a reliability guarantee is part of the solution, along with stable climate policy:

It is in the new investment space that I think we still have a challenge. A combination of stable, credible climate policy, together with some mechanism around what AEMO was calling dispatchable capability, the reliability guarantee is part of that solution.⁵¹⁵

- 5.86** Some expressed support for the National Energy Guarantee (NEG) as a credible means through which investment in dispatchable generation capacity might be incentivised.⁵¹⁶

⁵¹¹ Submission 8, Energy Networks Australia, p 12.

⁵¹² Submission 232, AGL, p 4.

⁵¹³ Submission 145, NSW Government, p 3.

⁵¹⁴ For example, Evidence, Dr Kerry Schott, Independent Chair, Energy Security Board, 18 June 2018, p 46; Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 3.

⁵¹⁵ Evidence, Mr Tony Wood, Energy Program Director, Grattan Institute, 31 October 2017, p 47.

⁵¹⁶ For example, Evidence, Dr Kerry Schott, Independent Chair, Energy Security Board, 18 June 2018, pp 45-46; Evidence, Associate Professor Nelson, 18 June 2018, p 29; Evidence, Mr Briskin, 8 May 2018, p 10; Submission 233, Meridian EnergyAustralia Pty Ltd, pp 1-2.

- 5.87** The NEG was developed by the Energy Security Board (ESB), which was set up by the Council of Australian Governments in response to the recommendations of the *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review).⁵¹⁷
- 5.88** Dr Kerry Schott, Independent Chair of the ESB, said that the NEG was designed as a mechanism to 'integrate a policy for emissions reduction with a policy that ensures we have a reliable power system, and does so in a way that happens at least cost to customers'.⁵¹⁸
- 5.89** Dr Schott explained that the NEG contained a reliability component that would require retailers to contract a certain amount of energy from dispatchable generation sources such as coal, gas, hydro and batteries. Dr Shott noted that this mechanism was designed to that ensure power is available when intermittent generation (wind and solar) is unavailable because of weather conditions:
- They [retailers] have to make sure that they dispatchable power when they need it. As well as contracting with, for example, solar and wind plants, they must also contract with dispatchable power suppliers, which, in the system at present, are coal, gas, hydro, batteries or diesel. To make sure that they have dispatchable power when the weather makes wind and solar unavailable, they must be contracted either with coal, hydro, gas or batteries, effectively. That is the way that the guarantee works. Because it is being implemented within the market, it is being implemented in a world in which the retailers compete with each other. It will lead to additional contracting and to lower wholesale prices. We are already seeing the impact in the wholesale price market with the forward curve showing that prices are coming down and have been coming down.⁵¹⁹
- 5.90** Dr Schott, explained that as coal-fired generators are retired, a reliability mechanism would give incentivise the market to invest in generation types that provide reliable power in the most cost-effective way. She noted that replacement capacity could come from an array of possible options:
- In New South Wales, as in other jurisdictions, as the coal-fired generators reach the end of their technical lives, they will retire. They become very expensive to maintain, so their owners will, as a commercial decision, retire them. They will replace them with a mixture of generation, which, under the NEG, can be any sort of generation. They will replace them whatever is the cheapest form of generation that they can buy and whatever is the form of generation that will make the most money. For some of them, that will be a mixture of solar, wind, gas, hydro and coal, if the technology makes that a cheap, cost-competitive alternative. It is completely technology neutral.⁵²⁰
- 5.91** Mr Collette from Energy Australia noted that electricity prices were coming down and that investment in renewable energy is increasing. He said that what is now needed is a mechanism to balance renewable generation as coal exists the system. Mr Collette said that the NEG is an incredibly important part of this:

I would say that in the short term we are already seeing prices coming down. I mentioned that prices in May 2017 were around \$116; they are now down to \$74. So

⁵¹⁷ Dr Alan Finkel, *Independent Review into the Future Security of the National Electricity Market*, June 2017.

⁵¹⁸ Evidence, Dr Kerry Schott, Independent Chair, Energy Securities Board, 18 June 2018, p 46.

⁵¹⁹ Evidence, Dr Kerry Schott, Independent Chair, Energy Securities Board, 18 June 2018, p 46.

⁵²⁰ Evidence, Dr Kerry Schott, Independent Chair, Energy Security Board, 18 June 2018, p 46.

there has been a 36 per cent decrease during that time. That is continuing with more renewables entering the system. What we need to do is make sure that that transformation of the system—the turbocharging of more renewables and balancing coming in to replace coal—continues, and that is where the National Energy Guarantee is incredibly important.⁵²¹

- 5.92** Ms Hole said that a reliability obligation would provide a mechanism for ensuring that the system has the right mix of generators by incentivising investment:

COAG is looking at the reliability obligation, which is a core component of securing that investment. That is forward looking: in three years' time, have we got the right generation mix? If not, we need to make sure the retailers are either contracting or investing to get that generation mix. As I have mentioned previously, the projects are in the system. It is about bringing forward the transmission to make sure those projects can be connected as and when they are needed.⁵²²

- 5.93** Ms Melissa Reynolds, Chief Customer Officer at AGL, pointed out that in August 2018, the NEG was essentially abandoned in its original form⁵²³ and that its future has become uncertain.⁵²⁴

- 5.94** However, Ms Hole of the NSW Department of Planning and Environment, said that her understanding is that the reliability obligation of the NEG is still under consideration at the by the Council of Australian Governments. She highlighted the importance this has for ensuring secure supply and bringing forward dispatchable generation.⁵²⁵

- 5.95** At the COAG Energy Council's 26 October 2018 meeting, Energy Ministers agreed to the Energy Security Board (ESB) progressing the development of a retailer reliability obligation, including through further stakeholder engagement. The ESB will present a draft bill for the decision of the Council in December to amend the National Electricity Law to effect the change:

Ministers agreed that the Energy Security Board will progress development of draft National Electricity Law amendments that would give effect to a Retailer Reliability Obligation, including undertaking any further necessary stakeholder engagement. ESB will return to Council with a final draft Bill for decision in December 2018.⁵²⁶

Notice of closure for large generators

- 5.96** In the event of a large generator closing, sufficient warning of the closure is needed in order to allow time for new investment to replace the capacity of generators exiting the wholesale market. Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and

⁵²¹ Evidence, Mr Mark Collette, Energy Executive, EnergyAustralia, 8 May 2018, p 11.

⁵²² Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 3.

⁵²³ Evidence, Ms Melissa Reynolds, Chief Customer Officer, AGL, 10 October 2018, p 37.

⁵²⁴ Evidence, Ms Melissa Reynolds, Chief Customer Officer, AGL, 10 October 2018, p 36.

⁵²⁵ Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 2.

⁵²⁶ Council of Australian Governments Energy Council, *20th Meeting Communique*, 26 October 2018, p 1.

Consumer Commission, made this point. He explained that if closures of large generators are known to market participants, adequate investment can take place to replace that capacity:

What ideally would happen if the NEM is working well is that those closures would be anticipated. They would be well known to everyone in the market so that adequate investment could take place to replace that capacity. With the short notice that Hazelwood had of its closure, that was not able to occur. I think that certainly contributed to the concentration, in particular, in Victoria, but as the NEM is interconnected, that affects everyone.⁵²⁷

- 5.97** Associate Professor Nelson, using the example of the closure of Hazelwood Power Station in Victoria, explained that without sufficient notice of closure, industry does not have time to build replacement capacity, and this can drive up wholesale prices:

Alinta Energy closed the Northern and Playford power stations in South Australia and French-owned ENGIE closed the Hazelwood Power Station in Victoria with less than one year's notice. With such little notice of closure, there was no time for new generation to be built and for the market to be able to replace this capacity. Dramatic wholesale market impacts resulted, and these have impacted the New South Wales node of the National Electricity Market.⁵²⁸

- 5.98** Ms Pearson explained that the *Independent Review into the Future Security of the National Electricity Market* undertaken by Dr Alan Finkel, Australia's Chief Scientist, recommended that the electricity market rules be amended to require generators to give three years notice of closure. Ms Pearson said that the AEMC would consider the advantages and disadvantages of such a change.⁵²⁹

- 5.99** In March 2018, Dr Kerry Schott, Independent Chair of the Energy Security Board formally proposed the rule change to the AEMC.⁵³⁰ The AEMC released a draft determination in August 2018 proposing to make a rule that would require large electricity generators to provide at least three years' notice of an intention to close.⁵³¹

Incentivising investment in renewables through reverse auctions

- 5.100** A renewable energy reverse auction scheme is a competitive process run by government, designed to stimulate investment in renewable generation. Renewable energy project proponents bid for long-term support agreements with government that ensure revenue certainty and assist in making projects commercially viable.⁵³²

⁵²⁷ Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 18.

⁵²⁸ Evidence, Associate Professor Nelson, 18 June 2018, p 28.

⁵²⁹ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2018, p 14.

⁵³⁰ Australian Energy Market Commission, *Information Sheet: Draft determination on generator three year notice of closure*, 16 August 2018, p i.

⁵³¹ Australian Energy Market Commission, *Draft Rule Determination: National Electricity Amendment (generator three year notice of closure) Rule*, 16 August 2018, p 1.

⁵³² Victorian Department of Environment, Land, Water and Planning, *Victorian Renewable Energy Auction Scheme: Securing Victoria's renewable energy future*,

- 5.101** Mr Andrew Bray, National Coordinator, Australian Wind Alliance, said that a reverse auctions scheme can bring forward new wind and solar generation with positive competitive outcomes for competition. He pointed to the example of the Victorian program, noting that it will likely bring down costs for consumers. Mr Bray said that reverse auction schemes have the benefit of allowing government to stipulate in the tender process certain elements of the investment such as the location:

As I mentioned earlier, I think the reverse auction scheme to bring forward some of the new generation, whether it is wind or solar, would make them competitive options. You would find that the prices that you would get in the immediate term would be well below what the current wholesale prices are. It is likely that the Victorian program that is being instituted at the moment will actually not only reduce the power prices but probably also make a return to the Government given that in the way it is arranged it is basically a contract for difference. That helps you to get some of those and make sure that you have got the new generation you need. It may be that as a Government you can say, "We want to see it in this part of the State," or, "It needs to support this part of the network in the State." You can make those kinds of specific requirements in your tender.⁵³³

- 5.102** On the other hand, Mr Greg Jarvis, Executive General Manager of Wholesale and Supply at Origin Energy, said that reverse auctions, as well as state renewable energy targets, are not required to incentivise investment in renewable capacity. He said that this is because the cost of renewables has come down at such a rate that they will continue to be built, without the need for added incentives:

I have been in the energy industry for a long time. I have never seen the cost curves come down on renewables as fast and quickly as a lot of industry. I really do not think that you need subsidies anymore. It is costly for our customers. It goes to their bill and, quite frankly, I think it is reality. No, I do not think you need to encourage anymore. I think the role of subsidies initially did transition the industry. We learned a lot in those early phases, but the cost curves have come down so quickly that you just do not need to do anymore...[W]e are bringing on renewables faster and quicker than the market can probably absorb right now, so quite frankly I think it really goes to not being about just renewables but also about the firming capacity.⁵³⁴

Committee comment

- 5.103** The uptake of distributed generation and storage technologies, primarily rooftop solar and small-scale batteries, is changing the nature of how electricity is generated and consumed by households and businesses.
- 5.104** Concurrently, a fundamental shift is taking place in the wholesale market. Investment in renewable technologies, primarily wind and solar, is rapidly increasing at the same time as a number of the large coal-fired power stations approach the end of their operational lives. This is set to dramatically alter the mix of generators that supply the New South Wales grid.

https://www.energy.vic.gov.au/__data/assets/pdf_file/0014/80510/VRET-fact-sheet-Auction.pdf

⁵³³ Evidence, Mr Andrew Bray, National Coordinator, Australian Wind Alliance, 8 May 2018, p 37.

⁵³⁴ Evidence, Mr Greg Jarvis, Executive General Manager, Wholesale and Supply, Origin Energy, 10 October 2018, p 42.

- 5.105** The level of investment taking place in large-scale renewable energy is encouraging. However, the committee notes that the output of these generators is intermittent, relying on external factors like wind and sunshine to produce electricity. As the penetration of these generation sources increases, and coal-fired power stations withdraw, the sector will also require investment in generation and storage technologies that can be called upon to dispatch their energy as required.
- 5.106** The committee's evidence does not indicate that there is an imminent short-term threat to reliability of New South Wales's electricity supply, nor does it suggest that the state is at immediate risk of having insufficient dispatchable capacity.
- 5.107** However, it is clear that in the long-term, attention must be paid to ensuring the market has enough dispatchable capacity to ensure reliable supply for homes and businesses as the sector transitions. The committee considers that there should be incentives to drive new investment in renewables whilst ensuring there are measures to provide reliable, dispatchable energy. As the majority of our ageing fleet of coal-fired power stations will retire in the next decade and a half, there is concern that New South Wales could face energy shortfalls and even higher prices if there is not the necessary investment in constructing new, renewable and other energy generation capacity to replace coal-fired retiring generators.
- 5.108** The committee has noted from the information provided by the ACT Government and from its visit to Victoria, that a reverse auction approach has seen very significant investment in renewable energy and energy from those projects being provided at historic low prices.
- 5.109** The committee recommends that the NSW Government explores taking a 'reverse auction' approach to leveraging new investment in renewable energy and storage.
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Recommendation 12

That the NSW Government explores taking a 'reverse auction' approach to leveraging new investment in renewable energy and storage.

- 5.110** The committee notes that as the transition to renewables occurs, energy security, reliability and affordability must be secured. Households, small businesses and farmers must not be thrown under the bus as a consequence of a lack of long-term planning or leaving everything to a clearly dysfunctional market.
- 5.111** The committee finds that as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in flexible and dispatchable power is required to ensure secure, reliable and affordable energy.
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Finding 5

That as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in flexible and dispatchable power is required to ensure secure, reliable and affordable energy.

- 5.112** The committee notes that the reliability obligation which was developed to incentivise investment in reliable, dispatchable capacity was a key component of the National Energy Guarantee (NEG). The committee supports this objective as it would oblige retailers to contract a certain amount of dispatchable capacity, thus providing a signal to the market to invest in reliable supply.
- 5.113** The committee supports the action taken by the Council of Australian Government's Energy Council to progress with the development of a retailer reliability obligation for the National Energy Market.
- 5.114** It is recommended that if the COAG Energy Council does not agree to the national reliability obligation in its December meeting, then the NSW Government investigate options for implementing a similar mechanism in New South Wales.

Recommendation 13

That, if the COAG Energy Council does not agree to the national reliability obligation, then the NSW Government investigate options for implementing a similar mechanism in New South Wales.

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- 5.115** The committee notes that storage technologies, greater interconnection in the network, and demand management must be developed to facilitate the greater proportion of renewable energy in the grid. It is recommended the NSW Government should work with the COAG Energy Council and implement state-based policies to encourage energy storage, interconnection and demand management.

Recommendation 14

That the NSW Government should work with the COAG Energy Council and implement state-based policies to encourage energy storage, interconnection and demand management.

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- 5.116** The committee considers that the market requires early signals for investment in order to ensure that new generation capacity is available as existing capacity retires. One such signal is the early notification of operators' intention to close large-scale generators.
- 5.117** The committee is aware that the Australian Energy Market Commission has released a draft determination proposing a change to the National Electricity Rules to require at least three years notice of closure for large generators. The committee strongly supports this proposal and finds that it would help better manage the retirement of existing coal-fired generators, as they reach the end of their life by providing the market with sufficient time to replace energy production that is being withdrawn.

Finding 6

That the proposed change to the National Electricity Rules to require at least three years notice of closure for large generators, will help better manage the retirement of existing coal-fired generators as they reach the end of their life, by providing the market with sufficient time to replace the energy production that is being withdrawn.

Effective network and storage planning

5.118 New electricity generation is brought into the competitive wholesale electricity market through transmission network infrastructure. Some inquiry participants noted that integrated transmission and generation planning is needed to drive investment where and when the system requires, at greatest overall cost efficiency.⁵³⁵

5.119 According to Mr Italiano, Chief Executive, TransGrid, transmission infrastructure planning has a role to play in achieving enduring benefits to the consumer. Specifically it can support the introduction of new generation capacity to the market, improving competition and the security of supply:

What we are doing is we are being far more circumspect and far more cautious about where we choose to make investments in growing the capacity of the power system, because we are in an environment that is uncertain and is undergoing quite a degree of change. One of the changes that we have made is we have made sure that we look through the regulatory framework to understand where transmission investment can have a clear and enduring benefit to the consumer. In our part of the supply chain that is predominantly in helping to improve competition in the wholesale market by introducing new generators, or improving the reliability, the security of supply.⁵³⁶

5.120 Energy Networks Australia emphasised the need for detailed network system planning to ensure that appropriate new generation capacity replaces the capacity lost as large generators are retired:

Energy Networks Australia emphasises the importance of detailed system planning based on a detailed regular assessment of the impact of future synchronous generation closures, in order to ensure that generation supply can meet forecast demand. It will be important to integrate, where possible, assessments of both generation retirements and new generation development so that challenges can be identified and planned for in the National Transmission Network Development Plan and in jurisdictional Transmission Annual Planning Reports.⁵³⁷

5.121 Mr O'Reilly from the Department of Planning and Environment advised that transmission infrastructure is not built for its own sake but to support generation.⁵³⁸ Mr O'Reilly pointed out that generators access the market and customers through the transmission grid. He advised that

⁵³⁵ For example, Submission 6, Transgrid, pp 11-12; Submission 8, Energy Networks Australia.

⁵³⁶ Evidence, Mr Paul Italiano, Chief Executive Officer, TransGrid, 18 June 2018, p 53.

⁵³⁷ Submission 8, Energy Networks Australia, p 12.

⁵³⁸ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 4.

the government is developing a state transmission strategy to look at how new generation capacity can be supported through a proactive approach to transmission planning:

[T]he Government announced that it would look at a transmission strategy and the range of generation coming forward is by nature located in different parts of the State and when it is looked at long-term that generation, as it is brought forward by the market, can access the market and customers through the transmission grid. We are looking at a proactive approach in looking at future transmission needs of the State to support the growth in generation.⁵³⁹

5.122 The NSW Government advised that that its Transmission Infrastructure Strategy was being developed in consultation with Transgrid, market bodies, and industry and consumer stakeholders:

The Transmission Infrastructure Strategy (Strategy) has been under development by the Department of Planning and Environment since May 2018, with regular consultation with key NSW Government agencies. Targeted consultation has also occurred with key stakeholders, including the state transmission planner, Transgrid, national market bodies, proponents of transmission and generation projects, industry bodies, and consumer representatives.⁵⁴⁰

5.123 The government stated that 'the process of formulating the strategy within the Government is a matter for Government. The Minister [has] made clear the Strategy would be a public one'.⁵⁴¹

5.124 The Strategy was publically released in November 2018 and 'forms part of the government's broader plan to make energy more affordable, secure investment in new power stations and network infrastructure; and ensure new technologies deliver benefits for consumers'.⁵⁴²

5.125 According to media reports the Transmission Infrastructure Strategy which was announced in June 2018 will:

- bring renewable power into the grid faster than federal transmission development approval processes currently allow
- provide the infrastructure required to connect the growing number of solar and wind farms into the grid
- connect to three proposed major renewable energy zones to achieve economies of scale in transmission.⁵⁴³

⁵³⁹ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 9.

⁵⁴⁰ Answers to questions on notice, NSW Government, 25 October 2018, p 4.

⁵⁴¹ Answers to questions on notice, NSW Government, 25 October 2018, p 4.

⁵⁴² NSW Government, NSW Transmission Infrastructure Strategy: Supporting a modern energy system, November 2018, p 5.

⁵⁴³ Cole Latimer, 6 June 2018, *Sydney Morning Herald*, 'NSW launches strategy to increase renewable power in the state', accessed: <https://www.smh.com.au/national/nsw/nsw-launches-strategy-to-increase-renewable-power-in-the-state-20180606-p4zjut.html>.

- 5.126** Mr O'Reilly advised the Transmission Infrastructure Strategy is being undertaken to ensure a clear view of the needs of the New South Wales grid to support incoming generation capacity.⁵⁴⁴
- 5.127** Mr O'Reilly advised that the government has a Renewable Energy Action Plan that prioritises grid connection for new generators. This, combined with the Transmission Infrastructure Strategy, is aimed at creating a conducive environment for new generation as required in the market:

New South Wales has a Renewable Energy Action Plan. The first priority there was improved connection processes for renewable energy generators. I note recently the Energy Networks Association themselves came forward and noted that they need to improve the arrangements applying to the connection arrangements for renewable generators across the NEM, and including New South Wales. If you combine the Renewable Energy Action Plan with the transmission strategy and supporting a positive environment for generation in New South Wales going forward through the Council of Australian Governments Energy Council arrangements then we are very much trying to create a conducive environment for new generation as required by the market going forward in New South Wales.⁵⁴⁵

Renewable energy zones

- 5.128** Some inquiry participants noted one way to achieve efficient transmission investment to support the generation capacity required in the state is through the development of renewable energy zones. The general concept of renewable energy zones is to group renewable generation technologies geographically into clusters, which are then interconnected through the grid.
- 5.129** TransGrid, noted that it expects renewable energy zones 'to provide cost effective solutions for future development of the transmission network, whilst also allowing greater competition in the wholesale market, in the long-term interests of consumers'.⁵⁴⁶
- 5.130** Renewable energy zones are a key component of the *Integrated System Plan for the National Electricity Market* (ISP) released by AEMO in July 2018.⁵⁴⁷
- 5.131** The ISP is a cost-based engineering optimisation plan that forecasts the overall transmission system requirements for the National Electricity Market (NEM) over the next 20 years.⁵⁴⁸ It consider a wide spectrum of interconnected infrastructure and energy developments including transmission, generation, gas pipelines, and distributed energy resources.⁵⁴⁹

⁵⁴⁴ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 4.

⁵⁴⁵ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 9.

⁵⁴⁶ Submission 6, Transgrid, p 12.

⁵⁴⁷ Australian Energy Market Operator, *Integrated System Plan for the National Energy Market*, July 2018.

⁵⁴⁸ Australian Energy Market Operator, *Integrated System Plan for the National Energy Market*, July 2018, p 3.

⁵⁴⁹ Australian Energy Market Operator, *Integrated System Plan*
<https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Integrated-System-Plan>.

5.132 In the ISP, three optimal areas were identified for development in New South Wales:

- New England (wind and solar), North West New South Wales (wind and solar)
- Northern Tablelands (wind and solar)
- Murray River (solar).⁵⁵⁰

5.133 Energy Networks Australia, asserted that the development of renewable energy zones allow renewable generation capacity to be scaled up and efficiently integrated into the grid:

One of the Finkel Review's key recommendations was for greater strategic planning of transmission infrastructure in Australia, including a new planning mechanism to allow for the efficient development and connection of new Renewable Energy Zones. These zones are gaining international prominence as a transmission-planning tool to enable the “scale up” of penetration of solar, wind, and other resources on the grid.⁵⁵¹

5.134 Mr O'Reilly advised that the Transmission Infrastructure Strategy would be informed by the ISP while focusing on the needs of New South Wales:

Whilst we will be informed by AEMO's Integrated System Plan as to the transmission needs of the market going forward and how they may relate to New South Wales, the transmission strategy has deliberately been undertaken to ensure that we have a clear New South Wales' position and New South Wales view on future needs of the transmission grid to support incoming generation.⁵⁵²

Interconnection

5.135 Most of the electricity traded in the NEM is done within state boundaries.⁵⁵³ However, interstate transmission points called interconnectors facilitate the trade of electricity between states. Mr O'Reilly commented that 'interconnection obviously helps efficient development—and has over time—of generation across the different States'.⁵⁵⁴

5.136 Professor Martin Green, Scientia Professor at the School of Photovoltaic and Renewable Energy Engineering, University of New South Wales, said that interconnecting diverse geographic regions, can be an effective way of supplying reliable electricity and balancing different renewable generation such as wind and solar:

There have been studies done in many countries like that which have shown it is possible to balance it all. The geographical diversity, having the wind and the solar, a

⁵⁵⁰ Australian Energy Market Operator, *Integrated System Plan for the National Energy Market*, July 2018, p 48.

⁵⁵¹ Submission 8, Energy Networks Australia, p 11.

⁵⁵² Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 4.

⁵⁵³ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 2.

⁵⁵⁴ Evidence, Mr Cameron O'Reilly, Principal Energy Adviser, NSW Department of Planning and Environment, 18 June 2018, p 2.

limited amount of storage and interconnection of all these regions, that combination has been shown by several studies to be effective in supplying reliable electricity.⁵⁵⁵

- 5.137** Professor Andrew Blakers, Professor of Engineering, Australian National University, similarly noted that interconnection capacity is important to supporting renewable energy as it accounts for weather patterns and minimises the need for storage:

Strong interconnection using high voltage powerlines spanning large areas, for example the million-square-kilometre National Electricity Market. This allows access to a wide range of weather, climate and demand patterns, and greatly reduces the amount of storage needed.⁵⁵⁶

- 5.138** In it's the ISP, AEMO was supportive of developing interconnection capability between South Australia and New South Wales. AEMO said that this would allow the connection of renewable energy resources and support trade across regions, improving competition:

The analysis in the ISP supports a new interconnection between South Australia and New South Wales (RiverLink). The ISP has identified a range of further expected benefits from RiverLink, which as well as improving resilience for South Australia, would enable connection of large amounts of renewable energy resources from the Riverland to Murray Renewable Energy Zone, as well as improving inter-regional trade and competition...⁵⁵⁷

- 5.139** Ms Hole noted advised that interconnection was a priority for the South Australian Government. She said that TransGrid has begun early planning works for the project, with financial support from the South Australian Government.⁵⁵⁸

Transmission upgrade approvals process

- 5.140** TransGrid discussed the approval process for transmissions upgrades that facilitate new generation connecting to the grid. TransGrid advised that projects over \$6 million are subject to a regulatory investment test (RIT-T) conducted according to AER guidelines. The test is designed to identify the most efficient options for meeting network requirements:

Under the NER, TransGrid is also required to undertake a regulatory investment test (RIT-T) for investments with an expected capital cost threshold above \$6 million. The purpose of the RIT-T is to identify the most efficient option to address a network requirement. Regulatory investment test application guidelines are developed and published by the AER, and their purpose is to provide guidance and worked examples on the use of the regulatory investment tests.⁵⁵⁹

⁵⁵⁵ Evidence, Professor Martin Green, Scientia Professor, School of Photovoltaic and Renewable Energy Engineering, University of New South Wales, 8 May 2018, p 18.

⁵⁵⁶ Submission 2, Professor Andrew Blakers, p 3.

⁵⁵⁷ Australian Energy Market Operator, *Integrated System Plan for the National Electricity Market*, July 2018, p 8.

⁵⁵⁸ Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 6.

⁵⁵⁹ Submission 6, Transgrid, p 11.

- 5.141** TransGrid asserted that the existing framework results in incremental generation and transmission investment, which may not lead to the lowest system costs in the long term:

The current framework results in incremental generation and transmission investment decisions. In the past, this did not lead to significant inefficiency because generator fuel sources were generally close to the existing network. In the future, this incremental approach will not lead to the lowest overall system cost. These problems arise from a range of factors including the lack of any locational signal for generators and deficiencies in the current RIT-T.⁵⁶⁰

- 5.142** TransGrid Chief Executive, Mr Italiano, said that the organisation has advocated for changes to the RIT-T to accommodate a fast-tracked approval process for significant projects:

We have made a submission to the Council of Australian Governments [COAG] Energy Council, the regulators. We are proposing an amendment to the regulatory investment test for transmission to accommodate a fast-track approval process for what might colloquially be described as nation-building assets, or assets that have been the subject of further independent scrutiny such as those in the integrated system plan, with the support of the COAG Energy Council.⁵⁶¹

- 5.143** Mr Greg Everett, Managing Director, Delta Electricity commented that the regulatory test is designed to work in the best interest of consumers. He asserted that the regulatory test is required to protect customers from overpaying for transmission upgrades that are based on overly optimistic projected benefits:

The market design is clear that a generator that wants a network upgrade for a new asset should pay for that connection itself. If the claim is the consumers will be the main beneficiary then the network expansion proposal is subject to the regulated investment test for transmission or distribution. This test is designed to protect consumer interests for very good reason; if the network proposal is approved and proceeds then consumers will pay for that investment, and they pay for it over a period of decades. If, in hindsight, the benefits anticipated do not eventuate then consumers still pay—that is, the network investments are ultimately at the risk of consumers.⁵⁶²

Committee comment

- 5.144** The significant transition taking place in the New South Wales electricity market necessitates a new approach to the planning of transmission infrastructure. As the type of generator supplying the state's electricity changes so too will the way it connects to the grid. The committee considers that managing this transition requires a holistic approach to infrastructure planning across generation and transmission.
- 5.145** The committee stresses the importance on managing this transition in the most cost-effective manner. At 43 per cent, network costs represent a significant portion of a typical customer's retail bill. Consumers can ill afford inefficient transmission investment further driving up prices. To that end, the committee supports the objectives of the Integrated System Plan in seeking to

⁵⁶⁰ Submission 6, Transgrid, p 11.

⁵⁶¹ Evidence, Mr Paul Italiano, Chief Executive Officer, TransGrid, 18 June 2018, p 50.

⁵⁶² Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 27.

deliver a strategic infrastructure development plan that reflects the transition taking place in the nature of electricity supply.

- 5.146** The committee notes that in June 2018, a New South Wales electricity transmission strategy was announced. It will seek to provide the infrastructure required to connect the growing number of solar and wind farms into the grid, and bring renewable power into the grid faster than federal transmission development approval processes currently allow. It is also noted that the transmission strategy will promote interstate connections as a way to realise more reliable electricity supply.
- 5.147** The committee notes that the NSW Government has released the New South Wales Transmission Infrastructure Strategy.

Renewable energy storage solutions

- 5.148** Professor Blakers asserted that as the electricity generation mix transitions towards renewables like wind and solar, particularly as they rise above 50 per cent, large-scale storage has a role to play in providing reliable electricity supply.⁵⁶³
- 5.149** Professor Blakers submitted that 'wind, Solar photovoltaics (PV), pumped hydro energy storage and improved high voltage interstate connectors are the most credible combination for meeting future electricity demand.'⁵⁶⁴
- 5.150** The basic concept of pumped hydro storage is it to pair two reservoirs with a 300 to 500 meter high difference, connected by pipes with a generator. When solar and wind energy is plentiful, it can be used to pump water from the lower to the upper reservoir. When required, water can be allowed to flow to the lower reservoir, spinning the turbine and dispatching the stored energy.⁵⁶⁵
- 5.151** Professor Blakers advised that the Snowy Hydro system of hydro-electric power stations and pumped storage reservoirs—including the proposed upgrade, known as Snowy 2.0—is capable of providing a significant proportion of the storage needs of Australia. He said that 'Snowy 2.0 is by itself sufficient to support a 50 per cent renewable electricity grid'.⁵⁶⁶
- 5.152** New South Wales also hosts smaller pumped hydro sites. Mr Jonathan Briskin, Executive General Manager, Retail, Origin Energy, advised that Origin is looking into the feasibility of an expansion of its Shoalhaven pumped hydro site:

⁵⁶³ Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National University, 21 February 2018, p 54.

⁵⁶⁴ Submission 2, Professor Andrew Blakers, p 1.

⁵⁶⁵ Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National University, 21 February 2018, p 54.

⁵⁶⁶ Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National University, 21 February 2018, p 54.

We have committed to 1,200 megawatts of renewable energy and just yesterday announced a feasibility study in Shoalhaven for a pumped hydro of 240 megawatts, which we are looking to put in place.⁵⁶⁷

Emerging energy program

- 5.153** The government has committed \$55 million to its Emerging Energy Program (the program).⁵⁶⁸ The program was announced in August 2018 and seeks to encourage private sector investment to support the next generation of large-scale energy and storage projects in New South Wales.⁵⁶⁹
- 5.154** The program will be technology neutral. Eligible projects must demonstrate that they can provide dispatchable or on-demand energy to help meet the state's energy needs.⁵⁷⁰
- 5.155** Funding will be provided to commercialise these projects, as well as support feasibility studies to help get new projects off the ground. Expressions of interest funding are expected to open in early 2019.⁵⁷¹

Committee comment

- 5.156** The committee is encouraged that the government is looking to encourage large-scale energy and storage projects in New South Wales through the Emerging Energy Program. The committee is particularly supportive of the intent demonstrated by the government in pursuing a technology-neutral approach to the program.
- 5.157** The committee considers that energy policy, and in particular green schemes, should not be technology specific. Full consideration must be given to all energy opportunities.
- 5.158** The committee recognises the potential of pumped hydro storage in balancing intermittent renewable generation. It is the position of this committee that hydro storage be considered for funding through the Emerging Energy Program.
- 5.159** Accordingly, it is recommended that the NSW Government through the Emerging Energy Program support a range of secure, reliable and affordable energy options.

⁵⁶⁷ Evidence, Mr Jonathan Briskin, Executive General Manager, Retail, Origin Energy, 8 May 2018, p 6.

⁵⁶⁸ Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 2.

⁵⁶⁹ NSW Government, *Clean Energy Initiatives*, <https://energy.nsw.gov.au/renewables/emerging-energy/clean-energy-initiatives#-emerging-energy-program->

⁵⁷⁰ NSW Government, *Clean Energy Initiatives*, <https://energy.nsw.gov.au/renewables/emerging-energy/clean-energy-initiatives#-emerging-energy-program->

⁵⁷¹ NSW Government, *Clean Energy Initiatives*, <https://energy.nsw.gov.au/renewables/emerging-energy/clean-energy-initiatives#-emerging-energy-program->

Recommendation 15

That the NSW Government through the Emerging Energy Program support a range of secure, reliable and affordable energy options.

- 5.160** The committee considers that the NSW Government should direct IPART to provide a fair price for solar by factoring in the environmental and health benefits, similar to Victorian legislation. It is recommended that the NSW Government should direct IPART to provide a fair price for solar by factoring in the environmental and health benefits, similar to Victorian legislation.
-

Recommendation 16

That the NSW Government should direct the Independent Pricing and Regulatory Tribunal to provide a fair price for solar by factoring in the environmental and health benefits, similar to Victorian legislation.

- 5.161** The committee considers that the NSW Government should encourage and incentivise the installation of solar power on all new dwellings or business premises where practical. It is recommended that the NSW Government should encourage and incentivise that solar power be installed on all new dwellings or business premises where practical.
-

Recommendation 17

That the NSW Government should encourage and incentivise that solar power be installed on all new dwellings or business premises where practical.

Demand-side incentives

- 5.162** A topic discussed throughout the course of the inquiry was the role that demand management has to play in ensuring reliability of electricity supply.
- 5.163** Demand management involves incentivising consumers, be they large industrial consumers or households, to adjust their consumption according to price signals or market conditions. Typically, they seek to reduce consumption during times of high demand.⁵⁷² In the short-term, this can help minimise price spikes and supply issues.⁵⁷³ In the long-term, it can reduce the need for investment in both network and generation capacity.

⁵⁷² Tabled Document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 200.

⁵⁷³ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 7.

- 5.164** Mr Chris Ryan, Customer Executive, Energy Australia asserted that demand management presents opportunities to better balance the supply and demand of electricity, particularly as renewable generation continues to grow. He said the required capacity exists within the system but that a challenge can be getting supply and demand to be matched in any given moment. He said that new dispatchable generation capacity has a part to play in ensuring supply can meet demand. He said that better managing demand also has a part to play:

The other thing we really think is important is potentially demand response. We talk about the supply side but there is also demand side solutions here. After all, the issue we are dealing with here is not a lack of capacity per se; we are seeing masses of capacity. All the companies here are investing hugely in underpinning renewables. But that is not the big issue here. The big issue here is: How do you shift the demand and supply to occur at the same time? That is what firming does and that is what demand response can do. If the market is designed well or the policy frameworks are designed well, those things will work.⁵⁷⁴

- 5.165** Ms Pearson of the AER explained that demand response has a number of roles to play in the market, including in supporting energy reliability, managing wholesale price volatility, and reducing the need for network investment:

Demand response has a role to play for consumers in managing spot price volatility. It has a role to play in providing reliability and indeed in the advice of the Energy Security Board regarding the NEG talks about the role that demand response could play in supporting reliability. Demand response also has a role to play in supporting networks and in perhaps avoiding investment in capital to support networks.⁵⁷⁵

- 5.166** PIAC asserted that demand management is a more cost-effective way of managing the balance of supply and demand, rather than investing in new generation and network assets. PIAC said that efficient demand management can reduce the electricity bills of consumers and reduce system costs across the supply chain:

Demand Management (DM) can offer a far more cost-effective, flexible and scalable alternative to large, centralised generation or network investments. DM solutions can often be implemented more quickly than these other generation or network investments. DM has the potential to provide multiple benefit streams by offering services and cost-savings to generation dispatch, system security, transmission and distribution networks, as well as to retailers. Therefore, in addition to reducing the electricity bill component of participating customers, it can reduce the total system costs of the NEM which leads to cost savings for all consumers.⁵⁷⁶

- 5.167** Mr Warren, Chief Executive, Australian Energy Council, said that demand response is particularly important given the shift that is occurring in the mix of generators in the market. He said that flexible demand response will allow better management of cost and reliability in the system:

[W]e are going to need to discover how customers are willing and able to shift their load and trade off their loads to explore and exploit their different demand preferences. That

⁵⁷⁴ Evidence, Mr Chris Ryan, Customer Executive, EnergyAustralia, 10 October 2018, p 41.

⁵⁷⁵ Evidence, Ms Anne Pearson, Chief Executive, Australian Energy Market Commission, 17 November 2017, p 7.

⁵⁷⁶ Submission 7, Public Interest Advocacy Centre, p 13.

will enable us to manage this changed generation that we are going to have in the twenty-first century. We do not have the luxury of having large thermal generators this century in the way we had last century, and we need to have a more flexible demand response to manage the cost and reliability of that better.⁵⁷⁷

Demand response initiatives

5.168 The Australian Energy Market Operator (AEMO) outlined the mechanism used for large-scale demand response within the National Electricity Market. AEMO explained that it has a summer readiness action plan focused on maximising the resources available during periods of extreme electricity demand (which generally occur during summer). This includes the use of demand management mechanisms through the Reliability and Emergency Reserve Trader (RERT) reverse contracts.⁵⁷⁸

5.169 AEMO explained that the RERT operates outside the wholesale market and allows the market operator to contract for large consumers to use less energy or to switch to their own generators when demand is high:

The [Reliability and Emergency Reserve Trader] RERT is a mechanism AEMO uses to maintain power system reliability and system security by entering into reserve contracts. It is a program outside the wholesale electricity market where parties are contracted by AEMO to either use less energy or generate power from their own generators.⁵⁷⁹

5.170 AEMO also explained that they have partnered with the Australian Renewable Energy Agency (ARENA) to implement a three-year demand response trial to pilot demand response projects, with funding contributed by ARENA as well as the NSW Government. The trial commenced in 2017.⁵⁸⁰

5.171 The trial includes 10 demand response projects selected for funding through a competitive process. AEMO said the projects would trial a range of different demand models and technologies and involve commercial and industrial consumers, as well as residential customers:

Participation ranges across network providers, retailers, aggregators, direct energy users, and technology providers such as smart thermostat developers. The pilot projects will involve commercial, industrial and residential consumers. During an extreme peak demand event, AEMO will be able to call on these pilot projects to dispatch their reserves if required, and will pay usage charges under the RERT agreements. The pilot projects will trial a range of different demand response models, technologies, and incentives.⁵⁸¹

5.172 The government noted that the program was initially expected to make 60 megawatts of demand response available for the 2017/18 summer and that this was expected to rise to around 80

⁵⁷⁷ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17.

⁵⁷⁸ Answers to questions on notice, Australian Energy Market Operator, 4 December 2017, p 6.

⁵⁷⁹ Answers to questions on notice, Australian Energy Market Operator, 4 December 2017, p 6.

⁵⁸⁰ Answers to questions on notice, Australian Energy Market Operator, 4 December 2017, p 7.

⁵⁸¹ Answers to questions on notice, Australian Energy Market Operator, 4 December 2017, p 7.

megawatts by the end of the third year of the program.⁵⁸² Ms Hole said that over the 2018-19 summer program, 70 megawatts would be available under the program.⁵⁸³

5.173 Mr Craig Memery, Policy Team Leader of Energy and Water at the Public Interest Advocacy Centre (PIAC) said that consumers wishing to be paid for reducing their consumption during peak times can only do this through retailers. According to Mr Memery, most consumers are with retailers that do not offer the demand response products that allow this, representing a missed opportunity.⁵⁸⁴

5.174 Mr Memery asserted that retailers may not be offering demand response products because the retailer is focused on generating and selling the energy, not helping customers reduce consumption. He suggested that a demand response mechanism independent of retailers was required:

The way to get around that is to have an independent demand response mechanism. Currently it is as if a consumer has to go to one shop to buy all of their goods and cannot go to more than one shop. They can only go to their retailer if they want to do demand response and get paid for it, and retailers are not offering the products because their business is generating and selling energy, not helping people use less of it at certain times.⁵⁸⁵

5.175 However, Mr Collette said that EnergyAustralia, one of the three largest retailers operating in New South Wales, has participated in AEMO and ARENA's demand response trials aimed at providing technology and behavioural tools to incentivise consumers to reduce their consumption during times of peak demand. He noted that some of the actions had worked well and indicated that demand response is something that would be continued by Energy Australia:

We were one of the biggest participants in the Australian Energy Market Operator [AEMO] and ARENA demand response trial. This trial was entered into before last summer, under which we worked with a number of our customers, be they large industrial customers, small commercial and residential customers. We provided technology and behavioural tools to help them do things like cycle their air-conditioners at times of peak demand or for companies for whom they can interrupt their processes without too many consequences, we gave them money to turn off at times of peak demand. Some of those have worked extremely well and we expect to grow from the 50 megawatts we had in that trial to hundreds of megawatts going forward.⁵⁸⁶

Enabling small consumers to contribute to demand management

5.176 Endeavour Energy explained that the uptake of technologies like as rooftop solar have the potential to help customers reduce their reliance on the grid. However, they have had limited

⁵⁸² Submission 145, NSW Government, p 2.

⁵⁸³ Evidence, Ms Katherine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment, 10 October 2018, p 6.

⁵⁸⁴ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018 p 3.

⁵⁸⁵ Evidence, Mr Craig Memery, Policy Team Leader, Energy and Water, Public Interest Advocacy Centre, 21 February 2018, p 3.

⁵⁸⁶ Evidence, Mr Mark Collette, Energy Executive, EnergyAustralia, 8 May 2018, p 5.

impact because the output of these generation types does not necessarily align with times of peak demand:

Despite widespread consensus on the potential for small scale renewable generation and battery storage to be used effectively to reduce peak demand from the grid, its impact on curtailing network investment to date within Endeavour Energy's network has been limited, and we expect this trend to continue for some time. This is largely due to peak demand on our network (generally from 4pm-8pm) not aligning with periods of energy production from these units where peak production occurs early afternoon and then rapidly reduces to minimal output by the early evening.⁵⁸⁷

- 5.177** Mr Collette pointed out that enabling consumers to effectively manage their energy use with solar and battery storage has the potential to reduce the need for network investment that is undertaken to meet peak demand:

[I]f customers are going to have solar or batteries or controllable load, there is no need to build for peak demand in the way that we did in the past. So we see some real prospect of taking some cost out of network investments going forward, which can reduce retail bills.⁵⁸⁸

- 5.178** Mr Warren said that the two greatest barriers to leveraging new technologies to shift load away from peak times is the availability of appropriate pricing structures and the rollout of smart meters. He called for greater partnership between government and industry in delivering smart meters:

...the two greatest barriers to the market working in the way that it needs to work in the twenty-first century is to enable technologies like smart meters and accelerate their use, because they can be coupled with much more dynamic tariff shapes. This is a partnership that is required between government and industry.⁵⁸⁹

- 5.179** Mr Andrew Dillon, Energy Networks Australia Interim Chief Executive Officer, asserted that current pricing structures are not incentivising consumers to move their usage from peak to off-peak times:

Our current pricing system is fundamentally unfair. Flat pricing structures mean we are not rewarding customers who can feed power back into grid at peak times, or move their usage from peak to off-peak times. Our current pricing structures are providing distorted signals today and this will get worse in the future if we do not transition to fairer pricing structures as soon as we can.⁵⁹⁰

- 5.180** The ACCC report notes that one way through which price structures can incentivize customers to lessen their impact on the grid is through the use of time-of-use (ToU) pricing.⁵⁹¹ These

⁵⁸⁷ Submission 243, Endeavour Energy, p 8.

⁵⁸⁸ Evidence, Mr Mark Collette, Energy Executive, EnergyAustralia, 8 May 2018, p 11.

⁵⁸⁹ Evidence, Mr Matthew Warren, Chief Executive, Australian Energy Council, 17 November 2017, p 17.

⁵⁹⁰ Evidence, Mr Andrew Dillon, Interim Chief Executive Officer, Energy Networks Australia, 17 November 2017, p 45.

⁵⁹¹ Pricing structures aimed at signaling consumer demand management can be complex. Simple peak and non-peak pricing structures are not necessarily the most efficient means of doing this. This example is intended only as a demonstration of demand-based pricing.

models generally split the day into peak and non-peak times intended to correspond with the times the network faces high demand. A higher price is charged for energy consumed at peak times and a lower one at non-peak times. This is intended to provide price signals for the customer to reduce their consumption when demand is high thus reducing their burden on the grid.⁵⁹²

- 5.181** Ms Imogen Hartcher-O'Brien, Director, Consumer Policy and Engagement, Australian Energy Regulator, said that smart meters are important for implementing ToU or other, more sophisticated, demand-related pricing structures:

Many New South Wales customers are moving to smart meters, and that will continue as a trend. As it continues, we will see them looking at options like time-of-use tariffs and other demand-reflective tariffs. There are other options, such as fixed-price contracts, where a customer pays a fixed amount regardless of how much electricity is consumed. We are also seeing offers where customers are rewarded for reducing their electricity usage during times of high demand.⁵⁹³

- 5.182** However, according to Essential Energy, most households and small businesses in New South Wales still have only basic accumulation meters.⁵⁹⁴

- 5.183** Furthermore, the Grattan Institute asserted that 'retailers have been slow to build offers based on the benefits available through smart meters, or the bundling of solar power and battery-storage systems'.⁵⁹⁵

- 5.184** Ms Anna Brakey, Chief Operating Officer and Executive Director, Independent Pricing and Regulatory Tribunal New South Wales, reflected on her personal experience of having to wait almost a year for a smart meter to be installed. She noted that she had to switch retailers to get her request for a smart meter actioned at which point her original retailer got back to her. Ms Brakey asserted that there may have been a coordination issue between the parties responsible:

I can speak from my own personal experience here. I wanted to change meters and it took me about a year to actually do it. I ended up changing retailers because I became so frustrated. As soon as I changed retailers my original retailer then came back and immediately fixed it. I think if retailers think this is not in their interest they are wrong. I am speaking here not as an IPART employee but as a customer, a consumer. I would not agree with that. I think that in addition to the requirements there was also a coordination issue that was leading to delays. I think that is something that can also be improved—coordination between the various parties.⁵⁹⁶

- 5.185** Some participants pointed out that there are significant challenges associated with rolling out smart meters. Essential Energy, for example explained that they include the:

⁵⁹² Tabled Document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 174..

⁵⁹³ Evidence, Ms Imogen Hartcher-O'Brien, Director, Consumer Policy and Engagement, Australian Energy Regulator, 17 November 2017, p 28.

⁵⁹⁴ Submission 11, Essential Energy, p 9.

⁵⁹⁵ Submission 43, Grattan Institute, p 6.

⁵⁹⁶ Evidence, Ms Anna Brakey, Chief Operating Officer and Executive Director, Independent Pricing and Regulatory Tribunal New South Wales, 10 October 2018, p 27.

- ability for electricity retailers to ramp up administrative capabilities to cope with a high volume of meter change requests
- availability of adequate meter supplies from manufacturers
- availability of appropriately qualified electrical contractors to manage a high volume of meter changes
- public perception that electro-magnetic fields emitted by 'smart' meters – those with remote communications capability – have dangerous health impacts.⁵⁹⁷

5.186 From 4 December 2017, an Australian Energy Market Commission (AEMC) rule change came into effect requiring that all new electricity meters installed for residential and small business customers be smart meters.⁵⁹⁸ The responsibility for smart meter installation rests with retailers.⁵⁹⁹

5.187 The ACCC pointed out the potential that technologies such as rooftop solar and battery storage have when combined with smart meters. Consumers can take control of their energy use and ultimately reduce network costs:

Technology innovations and declining costs are creating opportunities to expand the use of non-traditional methods of reducing peak electricity demand. Key technologies such as embedded (local) generation, battery storage and load control, when coupled with accurate information on customer load provided through smart meters, allow customers to take control of the volume and timing of their electricity use... [D]emand response and cost reflective pricing are complementary offerings that assist in managing the reduction of the peak load of the network, and hence in reducing overall network costs. Greater use of demand response also presents an opportunity for reductions in the cost of electricity supply at other levels of the supply chain, including the wholesale market.⁶⁰⁰

Committee comment

5.188 The committee is encouraged by the rapid uptake of innovative technologies like rooftop solar and small-scale batteries in New South Wales. The committee recognises that this presents considerable opportunities and challenges moving forward.

5.189 Consumers are looking for new products and services to maximize their investment in rooftop solar and small-scale batteries and the committee considers that there are benefits to be had across the supply chain in empowering them to do so.

5.190 Properly implemented, these technologies can not only reduce a customer's consumption and therefore energy bill, but also reduce their reliance on the grid, thereby decreasing the need for

⁵⁹⁷ Submission 11, Essential Energy, p 9.

⁵⁹⁸ Media Release, Energy & Water Ombudsman NSW, 'Power of Choice reforms begin in NSW,' (4 December 2017).

⁵⁹⁹ Answers to questions on notice, Energy Networks Australia, 13 February, 2018.

⁶⁰⁰ Tabled Document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 200.

investment in new generation and network infrastructure. This has the potential to drive savings for all consumers.

- 5.191** Pricing structures such as time-of-use pricing are important in helping incentivize to customers reduce their consumption when demand is high and thereby lessen their impact on the grid. The benefits of the transition to more dynamic pricing structures are being constrained by the slow roll-out of enabling technologies such as smart metres.
- 5.192** The committee is concerned that the electricity sector has been slow to provide the products and services that help incentivise consumers to manage their demand. It is therefore recommended that the NSW Government work with electricity retailers to hasten the rollout of demand-response products such as smart meters.

Recommendation 18

That the NSW Government work with electricity retailers to hasten the rollout of demand response products such as smart meters.

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- 5.193** The committee supports the NSW Government's partnership with the Australian Renewable Energy Agency and the Australian Energy Market Operator on demand response initiatives. The committee recognises that these programs have the potential to help free up electricity supply during peak periods. It is recommended that the NSW Government continue to support demand response programs beyond the three-year demand response trial it has co-funded with the Australian Renewable Energy Agency and the Australian Energy Market Operator.

Recommendation 19

That the NSW Government continue to support demand response programs beyond the three-year demand response trial it has co-funded with the Australian Renewable Energy Agency and the Australian Energy Market Operator.

Appendix 1 Breakdown of retail electricity bills in New South Wales

Below is a summary of the cost breakdown of a retail electricity bill in New South Wales as reported by four key market, regulatory and monitoring bodies: the Australian Energy Regulator (AER); the Australian Energy Market Commission (AEMC); the Australian Competition and Consumer Commission (ACCC); and the Independent Pricing Regulatory and Regulatory Tribunal NSW (IPART):

ACCC – reported in June 2018:

- Wholesale – 33 per cent
- Network – 43 per cent
- Green schemes – 6 per cent
- Retail costs and margin – 18 per cent.⁶⁰¹

IPART – reported in November 2017:⁶⁰²

- Wholesale – 28 per cent
- Network – 49 per cent
- Green schemes – 8 per cent
- Retail – 15 per cent.⁶⁰³

AER – reported in May 2017:

- Wholesale and retail – 43 per cent
- Transmission – 12 per cent
- Distribution – 37 per cent
- Green schemes – 8 per cent.⁶⁰⁴

⁶⁰¹ Tabled document, Australian Competition and Consumer Commission, *Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report*, June 2018, p 8.

⁶⁰² Citing: Frontier Economics, *Cost drivers of recent retail electricity and gas prices for residential customers in NSW: a report prepared for IPART*, September 2017, pp 9, 17, 28, 31-32, 34.

⁶⁰³ Independent Pricing and Regulatory Tribunal, *Review of the performance and competitiveness of the retail electricity market in NSW: From 1 July 2016 to 30 June 2017*, November 2017, p 21.

⁶⁰⁴ Australian Energy Regulator, *State of the Energy Market*, May 2017, p 129.

AEMC – reported in December 2017

- Wholesale – 34.5 per cent
- Network – 52.7 per cent
- Green schemes – 6.0 per cent
- Residual – 6.8 per cent.⁶⁰⁵

⁶⁰⁵ Australian Energy Market Commission, *Final Report:: 2017 Residential Electricity Price Trends*, 18 December 2017, p 96.

Appendix 2 Submissions

No.	Author
1	Mr Ronald Cross
2	Australian National University
3	Solar Citizens
4	Climate Change Balmain-Rozelle
5	Name suppressed
6	Transgrid
7	Public Interest Advocacy Centre (PIAC)
8	Energy Networks Australia
9	Ausgrid
10	Energy & Water Ombudsman
11	Essential Energy
12	Ms Janet Dawson
13	Mr Warren Birkinshaw
14	Ms Marie Mattinson
15	Mr Brendan Diacono
16	Ms Kim Sun
17	Mr Stefan Bruggisser
18	Mr Garry Jennings
19	Mr Robert Watson
20	Ms Tracey Esler
21	Ms Trude Helm
22	Name suppressed
23	Mr David Froggatt
24	M Ian Crick
25	Mr Lionel Doolan
26	Mr Bruce Dickson
27	Ms Meredith Brownhill
28	Ms Rose Miners
29	Ms Joanne Harris
30	Ms Rebecca Nash
31	Ms Mary Notestine

No.	Author
32	Mr David Ford
33	Ms Katja Klikauer
34	Ms Sandra Walsh
35	Mr William Crumley
36	Mr Peter Wyatt
37	Confidential
38	Ms Karen Regan
39	NSW Business Chamber
40	St Vincent de Paul Society (NSW)
41	Combined Pensioners and Superannuants Association
42	NSW Council of Social Service (NCOSS)
43	Grattan Institute
44	Ms Karen Hising
45	Mr Michael Schien
46	Mr Max Purves
47	Mr Adam Nelson
48	Mr Claude Stanislaus
49	Mr Graeme Jessup
50	Ms Anne Stanton
51	Mr Sheldon Sowter
52	Mr Gordon Newton
53	Mr Stephen Mellor
54	Mr Robert Holley
55	Mr Geoff Pettett
56	Mr Ari Murad
57	Mr Colin Scott
58	Mr George Kozlowski
59	Mr Glen Cozens
60	Ms Tassia Kolesnikow
61	Ryde Gladesville Climate Change Action Group
62	Ms Pamela Reeves
63	Mr Peter Hearn
64	Mr Abel Terre
65	Mr Ken Martin
66	Ms Linda Spithill

No.	Author
67	Ms Cathy Cook
68	Mr Mick Lyons
69	Mr David Hogston
70	Mr Des Hooler
71	Mr Anthony Tucker
72	Mr Joe Reilly
73	Mr Richard Stanford
74	Mr Nigel Tanner
75	Mr Sam McGuinness
76	Mr Brian Adams
77	Mr Benjamin Rufi
78	Mr Gordon Stevens
79	Ms Sue Ware
80	Mr William Conolly
81	Mr John Lock
82	Ms Vera Yee
83	Mr Alan Smith
84	Mr Graham Patterson
85	Mr John Mackie
86	Mr Darren Turnbull
87	Mr Darren Johnson
87a	Mr Darren Johnson
88	Mr Stephen Ticehurst
89	Mr Garry Moffatt
90	Mr Tony Bennett
91	Mr Ben Conway
92	Ms Anne Bradbury
93	Mr Barry Dollisson
94	Mr Patrick Attard
95	Mr David Every
96	Mr Allan Drummond
97	Ms Kathy Giles
98	Mr Mark Shields
99	Mr Tony McCabe
100	Mr Les Crockford

No.	Author
101	Mr Allan Richmond
102	Ms Margaret Deans
103	Ms Kerry Oakes
104	Ms Michelle Georgiou
105	Ms Beverley Duncan
106	Ms Devleena Ghosh
107	Mr Phillip Foster
108	Mr Jim Tilley
109	Mr Chris O'Brien
110	Mr Ian Anderson
111	Mr Denis Whitehouse
112	Ms Virginia Rawling
113	Mr John Gillings
114	Mr Lesley Adamson
115	Ms Margaret Henley
116	Mr Peter Tough
117	Mr Volker Pfannenber
118	Dr Andrew Grey
119	Ms Vicky Carter
120	Mr Emmo Willinck
121	Mr Thomas Duss
122	Ms Lyn Eccleston
123	Mr Peter Lamb
124	Mr Vince Giglio
125	Mr Rudolf Tobys
126	Mr Paul Bourne
127	Mr Denis James
128	Ms Nancy Knudsen
129	Mr Michael Kerr
130	Ms Jan Mitchell
131	Mr Chris Jones
132	Mrs Stella Aird
133	Mr John Hunter
134	Mr Terry Holdom
135	Mr Rob Peddie

No.	Author
136	Mr Allan Seymour
137	Mr Andrew Thomson
138	Mr John James
139	Mr Rick Priddin
140	Mr Robert Coenraads
141	Ms Deborah Sharp
142	Mr Richard Sinton
143	Mr Janos Ertz
144	Mr David Hunt
145	NSW Government
146	Mr Colin Christie
147	Mr Philip Tran
148	Mr Phillip Birch
149	Ms Amanda Denniss
150	Mr Barry Graham
151	Ms Heather Ford
152	Mr Lex Wilkie
153	Mr William Healy
154	Mr Chris Clarke
155	Mr Craig Smith
156	Mr Peter Green
157	Mr Greg Mason
158	Ms Elie Sukkar
159	Mr Kevin Baker
160	Mr David Newman
161	Mr Wayne Vizgoft
162	Mr Peter Fraser
163	Mr Somnath Chatterjee
164	Mr Bruce Vickery
165	Ms Virginia Gatgens
166	Mr Ray Williams
167	Ms Caroline Kades
168	Mr Jeff Garland
169	Ms Wendy Reid
170	Mr Robert Jones

No.	Author
171	Name suppressed
172	Ms Silva Rigutti
173	Mr Nigel Sheridan
174	Mr Paul Pavlou
175	Ms Phyllis Setchell
176	Ms Lindie Ward
177	Mr Michael Duffett
178	Mr Michael Taylor
179	Mr Oliver Elphick
180	Mr Brian Taylor
181	Ms Cheryl Whitlen
182	Mr Graeme Bell
183	Mr David Mackay
184	Confidential
185	Mr Des Brennan
186	Mr Jack Williams
187	Mr Alex Popof
188	Mr Greg Johnson
189	Ms Martine Lersch
190	Mr Ray Lawrence
191	Mr Nialld Christopher
192	Ms Christine Carmichael
193	Mr Euan Sutherland
194	Mr Bedir Solbudak
195	Mr David Horne
196	Ms Paola Rickard
197	Mr Dale Curtis
198	Mr Peter Saunders
199	Ms Margaret Berryman
200	Mr Kevin McDonnell
201	Mr Robert Skilleter
202	Ms Elizabeth Hutchison
203	Ms Jan Mitchell
204	Ms Lena Martens
205	Mr Harry Johnson

No.	Author
206	Mr Matthew Dowd
207	Mr Paul Austin
208	Ms Tatiana Tinlin
209	Ms Gillian Reffell
210	Mr Kim Zegenhagen
211	Mr David Craddock
212	Mr Robert Arthur
213	Mr Derek Robertson
214	Ms Fay Ross
215	Mr Terry Borland
216	Mr David McLeod
217	Mr Peter Mumford
218	Mr Richard Kowalczyk
219	Mr Greg Newman
220	Mr Tom Flood
221	Ms Anna Yeatman
222	Mr Zoran Sytajnic
223	Mr David Roskell
224	Mr Haydn Washington
225	Mr Mark Sbarrato
226	Mr Wayne Zaunders
227	Mr Michael Barbato
228	Mr Punit Thakker
229	Ms Kristy Walters
230	Mr Hans Zecevic
231	Mr Mark Zanker
232	AGL
233	Ms Samantha McKay
234	ERM Power
235	1st Energy
236	Momentum Energy
237	Australian Taxpayers' Alliance
238	Mr Philip Sacks
239	Mr Geoff Miell
240	Gulf Energy Limited

No.	Author
241	Confidential
242	Cotton Australia
243	Endeavour Energy
244	NSW Minerals Council
245	SMR Nuclear Technology Pty Ltd
246	SolarReserve Pty Ltd
247	Mr Barrie Hill, Dr Robert Barr AM and Mr Robert Parker

Appendix 3 Witnesses at hearings

Date	Name	Position and Organisation
Tuesday, 31 October 2017 Macquarie Room, Parliament House, Sydney	Mary O'Kane	NSW Chief Scientist and Engineer
	David Swift	Energy Adviser to the Chief Executive Officer, Australian Energy Market Operator
	Damien Sanford	Executive General Manager – Operations, Australian Energy Market Operator
Friday 17 November 2017 Macquarie Room, Parliament House, Sydney	Tony Wood	Energy Program Director, Grattan Institute
	Anne Pearson	Chief Executive, Australian Energy Market Commission
	Kris Funston	Executive General Manager, Energy Market Commission
	Matthew Warren	Chief Executive, Australian Energy Council
	Ben Skinner	General Manager Policy, Australian Energy Council
	Peter Adams	General Manager, Wholesale Markets, Australian Energy Regulator
	Imogen Hartcher-O'Brien	Director, Consumer Policy and Engagement, Australian Energy Regulator
	Warwick Anderson	General Manager, Network Finance and Reporting, Australian Energy Regulator
	Andrew Dillon	Interim Chief Executive Officer, Energy Networks Australia
	Garth Crawford	Executive Director, Economic Regulation, Energy Networks Australia
Wednesday, 21 February 2018 Macquarie Room, Parliament House, Sydney	Craig Memery	Policy Team Leader, Energy and Water, Public Interest Advocacy Centre
	Tracy McLeod Howe	Chief Executive Officer, NSW Council of Social Service
	Peter McNamara	Vice President Social Justice, St Vincent de Paul Society (NSW)

Joanne Yates	Executive Director, Executive Secretariat, St Vincent de Paul Society (NSW)
Witness A	
Eliza Littleton	Policy Officer, Combined Pensioners and Superannuants Association
Lynne Gallagher	Director Research, Energy Consumers Australia
Chris Alexander	Director Advocacy, Energy Consumers Australia
Luke Aitken	Senior Manager, Policy, NSW Business Chamber
Robert Millar	Policy Manager, Infrastructure, NSW Business Chamber
Matt Brand	Chief Executive Officer, NSW Farmers
Ash Salardini	Chief Economist, NSW Farmers
Andrew Blakers	Professor of Engineering, Australian National University
Satajeet Marar	Director of Policy, Australian Taxpayers Alliance
Tuesday 8 May 2018	
Macquarie Room, Parliament House, Sydney	
Tim O'Grady	General Manager, Public Policy and Government Engagement, Origin Energy
Jonathan Briskin	Executive General Manager, Retail, Origin Energy
Mark Collette	Energy Executive, Energy Australia
Simon Davey	Policy and Advocacy Manager, Energy Australia
Thomas Maschmeyer	Professor of Chemistry, University of Sydney
Martin Green	Scientia Professor, School of Photovoltaic and Renewable Energy Engineering, University of New South Wales
Ed McManus	Chief Executive, Meridian Energy and Powershop
Tony Pfeiffer	Managing Director, Enova Community Energy
Andrew Bray	National Coordinator, Australian Wind Alliance
Steve Blume	President, Smart Energy Council
Tom Geiser	Senior Market Manager, Neoen

	Janine Young	Ombudsman, Energy and Water Ombudsman NSW
	Rory Campbell	Manager, Policy and Research, Energy and Water Ombudsman NSW
	Allan Fels	NSW Electricity Price Commissioner
Monday 18 June 2018 Macquarie Room, Parliament House, Sydney	Cameron O'Reilly	Principal Energy Adviser, Department of Planning and Environment
	Katharine Hole	Executive Director, Energy Strategy, Department of Planning and Environment
	Justin Hillier	Chief Financial Officer, Essential Energy
	Natalie Lindsay	Head of Regulatory Affairs, Essential Energy
	Rob Amphlett Lewis	Executive General Manager, Strategy and Regulation, Ausgrid
	Trevor Armstrong	Chief Operative Officer, Ausgrid
	Rod Howard	Chief Operating Officer, Endeavour Energy
	Andrew Schille	General Manager, Regulation and Corporate Affairs, Endeavour Energy
	Tim Nelson	Chief Economist, AGL
	Richard Wrightson	Executive General Manager, Wholesale Markets, AGL
	Anthony Callan	Executive Manager Marketing, Delta Electricity
	Greg Everett	Managing Director, Delta Electricity
	Bruce Mountain	Director, Victoria Energy Policy Centre
	Kerry Schott	Independent Chair, Energy Security Board
	Caroline Taylor	Acting Executive Manager, Regulation, Transgrid
	Paul Italiano	Chief Executive Officer, Transgrid
	Gerard Reiter	Executive Manager, Network Planning and Operations, Transgrid
Wednesday 10 October 2018 Macquarie Room, Parliament House, Sydney	Katherine Hole	Executive Director, Energy Strategy, Department of Planning and Environment

Michelle Dumazel	Executive Director, Policy Division, Office of Environment and Heritage
Baethan Mullen	General Manager, Economic Group, Australian Competition and Consumer Commission
Simone Warwick	Acting Deputy General Counsel, Mergers and Authorisations Law, Australian Competition and Consumer Commission
Hugo Harmstorf	Chief Executive Officer, Independent Pricing and Regulatory Tribunal New South Wales
Anna Brakey	Chief Executive Officer and Executive Director, Independent Pricing and Regulatory Tribunal New South Wales
David Frith	Policy Director, Industry and Environment, New South Wales Minerals Council
Stephen Wilson	Independent Energy Economist and Energy Expert, and Professor, Energy Futures Centre, University of Queensland
Melissa Reynolds	Chief Customer Officer, AGL Energy
Damien Nicks	Interim Chief Financial Officer, AGL Energy
Tony Chappel	General Manager, Government Media and Community Relations, AGL Energy
Jonathan Briskin	Executive General Manager – Retail, Origin Energy
Greg Jarvis	Executive General Manager – Wholesale and Supply, Public Policy and Government Engagement, Origin Energy
Chris Ryan	Customer Executive, EnergyAustralia
Simon Davey	Policy and Advocacy Manager, EnergyAustralia

Appendix 4 Minutes

Minutes no. 1

Friday 1 September 2017

Select Committee on Electricity Supply, Demand and Prices in New South Wales

Room 1136, Parliament House, 12.00 pm

1. Members present

Mr Green, *Chair*

Mr Borsak, *Deputy Chair (Teleconference)*

Mr Buckingham

Mr Franklin

Mr Graham

Mr Martin (from 12.08 pm)

Mr Searle

Mr Mason-Cox (*participating*)

2. Tabling of resolution establishing the committee

The Chair tabled the resolution of the House establishing the committee, which reads as follows:

- "1. That a select committee be established to inquire into and report on electricity supply, demand and prices in New South Wales, and in particular:
 - (a) the reasons for recent large increases in the price of electricity,
 - (b) the impact of the deregulation of electricity prices in 2014,
 - (c) alleged collusion and price gouging by energy retailers,
 - (d) the effectiveness or impact of any current regulatory standards and guidelines,
 - (e) options for future government oversight and responsibility in the re-regulation of electricity prices,
 - (f) the adequacy of planning to meet future electricity demand, including utilising high efficiency, low emissions coal technology as well as the use of nuclear, gas, solar and wind energies, and energy storage through batteries, pumped hydro and hydrogen, and improved transmission between regions,
 - (g) the adequacy of programs to assist low income earners, pensioners and senior card holders to afford electricity as well as the impact of additional fees, such as late payment fees, included in energy bills, and
 - (h) any other related matter.
2. That, notwithstanding anything to the contrary in the standing orders, the committee consist of seven members comprising:
 - (a) two government members,
 - (b) two opposition members, and
 - (c) three crossbench members, being Mr Borsak, Mr Buckingham and Mr Green.
3. That the Chair of the committee be Mr Green and that the Deputy Chair be Mr Borsak.
4. That members may be appointed to the committee as substitute members for any matter before the committee by providing notice in writing to the Committee Clerk, with nominations made as follows:
 - (a) nominations for substitute government or opposition members are to be made by the Leader of the Government, Leader of the Opposition, Government or Opposition Whip or Deputy Whip, as applicable, and
 - (b) nominations for substitute crossbench members are to be made by the substantive member or another crossbench member.

5. That a committee member who is unable to attend a deliberative meeting in person may participate by electronic communication and may move any motion and be counted for the purpose of any quorum or division, provided that:
 - (a) the Chair is present in the meeting room,
 - (b) all members are able to speak and hear each other at all times, and
 - (c) members may not participate by electronic communication in a meeting to consider a draft report.

6. That, unless the committee decides otherwise:
 - (a) submissions to inquiries are to be published, subject to the Committee Clerk checking for confidentiality and adverse mention and, where those issues arise, bringing them to the attention of the committee for consideration,
 - (b) the Chair's proposed witness list is to be circulated to provide members with an opportunity to amend the list, with the witness list agreed to by email, unless a member requests the Chair to convene a meeting to resolve any disagreement,
 - (c) the sequence of questions to be asked at hearings alternate between opposition, crossbench and government members, in that order, with equal time allocated to each,
 - (d) transcripts of evidence taken at public hearings are to be published,
 - (e) supplementary questions are to be lodged with the Committee Clerk within two days, excluding Saturday and Sunday, following the receipt of the hearing transcript, with witnesses requested to return answers to questions on notice and supplementary questions within 21 calendar days of the date on which questions are forwarded to the witness, and
 - (f) answers to questions on notice and supplementary questions are to be published, subject to the Committee Clerk checking for confidentiality and adverse mention and, where those issues arise, bringing them to the attention of the committee for consideration.

7. That the committee report by 9 March 2018.”

3. Conduct of committee proceedings – media

Resolved, on the motion of Mr Searle: That unless the committee decides otherwise, the following procedures are to apply for the life of the committee:

- the committee authorise the filming, broadcasting, webcasting and still photography of its public proceedings, in accordance with the resolution of the Legislative Council of 18 October 2007
- the committee webcast its public proceedings via the Parliament's website, where technically possible
- the committee adopt the interim guidelines on the use of social media and electronic devices for committee proceedings, as developed by the Chair's Committee in May 2013 (attached)
- media statements on behalf of the committee be made only by the Chair.

4. Conduct of the inquiry into electricity supply, demand and prices

4.1 Closing date for submissions

Resolved, on the motion of Mr Searle: That the closing date for submissions be Monday 16 October 2017.

4.2 Stakeholder list

Resolved, on the motion of Mr Buckingham: That the secretariat email members with a list of stakeholders to be invited to make written submissions, and that members have two days from the email being circulated to nominate additional stakeholders.

4.3 Hearing dates

Resolved, on the motion of Mr Searle: That the committee hold initial hearings in 2017 with the first hearing to be held on Tuesday 31 October 2017.

Resolved, on the motion of Mr Searle: That the following witnesses be invited to give evidence on 31 October 2017:

- Dr Alan Finkel
- Professor Mary O’Kane
- Australian Energy Market Operator

The Chair noted his intention to canvass a second hearing date for possibly Monday 20 November 2017.

4.4 Site visits

Resolved, on the motion of Mr Searle: That the committee conduct any site visit/s in February 2018, with final dates and destinations to be determined by the Chair in consultation with the committee.

5. Adjournment

The committee adjourned at 12.09 pm, *sine die*.

Stewart Smith
Clerk to the Committee

Minutes no. 2

Tuesday 31 October 2017

Select Committee on Electricity Supply, Demand and Prices in New South Wales
Macquarie Room, Parliament House, 10.45 am

1. Members present

Mr Green, *Chair*
Mr Buckingham (from 11.00 am until 12.32 pm)
Mr Franklin
Mr Graham
Mr Martin
Mr Searle

2. Apologies

Mr Borsak, *Deputy Chair*

3. Draft minutes

Resolved, on the motion of Mr Searle: That draft minutes no. 1 be confirmed.

4. Correspondence

The committee noted the following item of correspondence:

Received

- 25 September 2017 – letter from Mr Greg Kirk, Senior Executive Leader, Strategy Group Leader, Strategy Group, Australian Securities and Investment Commission (ASIC) to the Chair informing that ASIC will not be making a submission to the inquiry
- 5 October 2017 – letter from Dr Alan Finkel AO, Chief Scientist providing input to the inquiry into electricity supply, demand and prices
- 24 October 2017 – email from the Office of the Chief Scientist advising Dr Finkel will not be able to appear at the hearing on 31 October 2017.

5. Inquiry into Electricity Supply, Demand and Prices

Submission extensions

The committee noted that submission extensions were granted to the following organisations:

- NSW Business Chamber
- NCOSS
- St Vincent de Paul Society NSW
- Combined Pensioners and Superannuants Association of NSW Inc.

Public submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos 1 to 43.

Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings, adverse mention and other matters.

The following witness was sworn and examined:

- Professor Mary O’Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer.

Professor O’Kane tendered the following documents:

- NSW Chief Scientist & Engineer – Initial Report from the Energy Security Taskforce
- NSW Chief Scientist & Engineer – Initial Report from the Energy Security Taskforce - Summary of findings and recommendations

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Damian Sanford, Executive General Manager Operations, Australian Energy Market Operator
- Mr David Swift, Advisor to Chief Executive Officer, Australian Energy Market Operator.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Tony Wood, Energy Program Director, Grattan Institute.

The evidence concluded and the witness withdrew.

6. Tendered documents

Resolved on the motion of Mr Franklin: That the committee accept and publish the following documents tendered during the public hearing:

Professor Mary O’Kane, NSW Chief Scientist & Engineer

- NSW Chief Scientist & Engineer – Initial Report from the Energy Security Taskforce
- NSW Chief Scientist & Engineer – Initial Report from the Energy Security Taskforce - Summary of findings and recommendations

7. Adjournment

The committee adjourned at 4.37 pm, until 9.00 am, Friday 17 November 2017 (public hearing).

Stewart Smith
Committee Clerk

Minutes no. 3

Friday 17 November 2017

Select Committee on Electricity Supply, Demand and Prices in New South Wales

Macquarie Room, Parliament House, 9.00 am

1. Members present

Mr Green, *Chair*

Mr Borsak, *Deputy Chair*

Mr Buckingham (from 9.03 am until 1.46 pm)

Mr Franklin (from 9.15 am)

Mr Graham

Mr Martin (from 9.03 am)

Mr Searle

2. Draft minutes

Resolved, on the motion of Mr Searle: That draft minutes no. 2 be confirmed.

3. Correspondence

The committee noted the following item of correspondence:

Received

- 2 November 2017 – email from Jess Robinson, Director Pricing, Independent Pricing and Regulatory Tribunal New South Wales providing information on electricity prices for residential customers.

4. Inquiry into Electricity Supply, Demand and Prices

4.1 Tabled document

Mr Searle tabled the following document entitled ‘Essential Energy Briefing: AER Federal Court Appeal, Essential Energy 2014-19 revenue determination’, dated 17 May 2017.

Resolved on the motion of Mr Searle: That the committee accept and publish the document.

4.2 Public submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos 44 to 170, 172 to 183 and 185 to 231.

Resolved, on the motion of Mr Searle: That the committee publish submission no. 232.

4.3 Confidential submissions

Resolved, on the motion of Mr Searle: That the committee keep submission nos. 171 and 184 confidential, as per the request of the author.

4.4 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings, adverse mention and other matters.

The following witnesses were sworn and examined:

- Ms Anne Pearson, Chief Executive, Australian Energy Market Commission
- Dr Kris Funston, Executive General Manager, Energy Market Commission.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Matthew Warren, Chief Executive Officer, Australian Energy Council

- Mr Ben Skinner, General Manager, Policy, Australian Energy Council.

The evidence concluded and the witnesses withdrew.

Mr Franklin tabled the following documents:

- AGL Tax invoice for Brooker Holdings Pty Ltd covering the period 1 October 2017 to 31 October 2017
- Brooker Holdings Pty Limited by nus Consulting Group, 29 September 2017.

Resolved on the motion of Mr Franklin: That the committee accept and publish the documents.

The following witnesses were sworn and examined:

- Mr Peter Adams, General Manager, Wholesale Markets, Australian Energy Regulator
- Mr Warwick Anderson, General Manager, Network Finance and Reporting, Australian Energy Regulator
- Ms Imogen Hartcher-O'Brien, Director, Consumer Policy and Engagement, Australian Energy Regulator.

The following documents tendered by the Australian Energy Regulator were accepted by the committee:

- Australian Energy Regulator Work Program 2017-18
- Australian Energy Regulator Statement of Intent 2017-18
- Australian Energy Regulator State of the Energy Market May 2017.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Andrew Dillon, Interim Chief Executive Officer, Energy Networks Australia
- Mr Garth Crawford, Executive Director, Economic Regulation, Energy Networks Australia.

The evidence concluded and the witnesses withdrew.

5. **Tendered documents**

Resolved on the motion of Mr Searle: That the committee accept and publish the following documents tendered during the public hearing:

Mr Warwick Anderson, General Manager, Network Finance and Reporting, Australian Energy Regulator

- AER Chart illustrating total revenue 2006 -2017.

6. **Adjournment**

The committee adjourned at 3.10 pm, *sine die*.

Rebecca Main
Committee Clerk

Minutes no. 4

20 February 2018

Select Committee on Electricity Supply, Demand and Prices in New South Wales
Australian Nuclear Science and Technology Organisation, 10.00 am

1. Members present

Mr Green, *Chair*

Mr Borsak, *Deputy Chair*

Mr Buckingham

Mr Graham

Mr Martin

Mr Searle

Mr Mason-Cox (*participating*)

2. Apologies

Mr Franklin

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Site visit

The committee conducted a site visit to the Australian Nuclear Science and Technology Organisation (ANSTO) facility at Lucas Heights and met with the following representatives from ANSTO:

4. Adjournment

The committee adjourned at 2.40 pm, until 8.50 am, Wednesday 21 February 2017 (public hearing).

Alex Stedman

Committee Clerk

Minutes no. 5

21 February 2018

Select Committee on Electricity Supply, Demand and Prices in New South Wales
Macquarie Room, Parliament House, 8.52 am

1. Members present

Mr Green, *Chair*

Mr Buckingham

Mr Franklin (arrived 9.05 am)

Mr Graham

Mr Searle.

2. Apologies

Mr Borsak, *Deputy Chair*

Mr Martin

Mr Mason-Cox (*participating*).

3. Draft minutes

Resolved, on the motion of Mr Searle: That draft minutes no. 3 be confirmed.

4. Correspondence

The committee noted the following item of correspondence:

Received

- 6 December 2017 – letter from Dr Alan Finkel, Chief Scientist providing information regarding the potential role of gas in Australia’s energy supply
- 22 December 2017 – Final report of the Energy Security Taskforce, dated 19 December 2017, provided by Professor Mary O’Kane, NSW Chief Scientist and Engineer.

5. Inquiry into Electricity Supply, Demand and Prices**5.1 Public submissions**

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos 189 to 237.

5.2 Partially confidential submission

Resolved, on the motion of Mr Buckingham: That the committee authorise the publication of submission no. 171 with the exception of the name and other identifying details of the author which are to remain confidential.

5.3 Answers to questions on notice

The committee noted that answers to questions on notice from the following witnesses were published by the committee clerk under the authorisation of the resolution appointing the committee:

- NSW Chief Scientist and Engineer, received on 27 November 2017
- Australian Energy Market Operator, received on 28 November 2017
- Australian Energy Council, received 5 December 2017
- Australian Energy Regulator, received 13 December 2017
- Australian Energy Market Commissioner, received 15 December 2017
- Energy Networks Australian, received 15 December 2017.

5.4 Site visit to Tesla Battery, Jamestown, South Australia

Resolved on the motion of Mr Searle: That the Chair seek the authorisation the House, with the approval of the President, for the Committee to travel interstate to South Australia on 12 – 13 June 2018 to visit the Tesla Battery in Jamestown..

5.5 Inquiry time frame

Resolved on the motion of Mr Searle: That the Chair seek the approval of the House to extend the reporting date from 9 March 2018 until the last sitting day in November 2018.

Mr Buckingham left the meeting at 8.55 am.

5.6 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings, adverse mention and other matters.

The following witness was sworn and examined:

- Mr Craig Memery, Policy Team Leader – Energy and Water, Public Interest Advocacy Centre.

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Ms Tracy McLeod Howe, Chief Executive Officer, NSW Council of Social Service.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Ms Eliza Littleton, Policy Officer, Combined Pensioners and Superannuants Association

- Mr Peter McNamara, Vice President Social Justice, St Vincent de Paul Society (NSW)
- Ms Joanne Yates, Executive Director, Executive Secretariat, St Vincent de Paul Society (NSW)
- Witness A, service recipient, St Vincent de Paul Society (NSW).

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Lynne Gallagher, Director Research, Energy Consumers Australia
- Mr Chris Alexander, Director Advocacy, Energy Consumers Australia.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Robert Millar, Policy Manager, Infrastructure, NSW Business Chamber
- Mr Luke Aitken, Senior Manager, Policy, NSW Business Chamber.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Matt Brand, Chief Executive Officer, NSW Farmers.
- Mr Ash Salardini, Chief Economist, NSW Farmers.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Professor Andrew Blakers, Professor of Engineering, Australian National University

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Satyajee Marar, Director of Policy, Australian Taxpayers Alliance.

The evidence concluded and the witnesses withdrew.

6. Sensitive personal information in the hearing transcript

Resolved on the motion of Mr Searle: That the committee authorise the secretariat to work with Witness A, service recipient, St Vincent de Paul Society (NSW), to redact certain sensitive personal information from the transcript transcribed at the public hearing on 21 February 2018.

7. Tended documents

Resolved on the motion of Mr Buckingham: That the committee accept and publish the following documents tendered during the public hearing:

Mr Ash Salardini, Chief Economist, NSW Farmers:

- NSW Farmers, Submission to IPART's Retail Electricity Market Monitoring 2017, June 2017
- NSW Farmers, Discussion Paper, 'The Future of Electricity in Regional NSW'.

8. Adjournment

The committee adjourned at 4.07 pm, until 8.50 am, 8 May 2018 (public hearing).

Donna Hogan
Committee Clerk

Minutes no. 6

Tuesday, 8 May 2018

Select Committee on electricity supply, demand and prices in New South Wales
Macquarie Room, Parliament House, Sydney, 9.17 am**1. Members present**

Mr Green, *Chair*
Mr Franklin
Mr Graham
Mr Martin
Mr Searle.

2. Previous minutes

Resolved, on the motion of Mr Searle: That draft minutes no. 4 be confirmed.

Resolved, on the motion of Mr Franklin: That draft minutes no. 5 refer to the witness that attended the public hearing on 21 February 2018 as a service recipient, St Vincent de Paul Society (NSW), as 'Witness A'.

Resolved, on the motion of Mr Franklin: That draft minutes no.5 be confirmed.

3. Correspondence

The Committee noted the following items of correspondence:

Received

- 2 March 2018 - Email from Ms Catherine Kheller, Manager of Government Affairs, ANSTO to the secretariat – attaching three papers authored by Dr Adi Patterson
- 13 March 2018 – Email from Mr Satyajeet Marar of the Australian Taxpayers' Alliance containing clarification of membership figures
- 13 April 2018 – Email from Ms Kate McCue, Manager Corporate Affairs, Endeavour Energy – request to defer hearing appearance
- 13 April 2018 – Email from Mr Roger Marshall, General Manager Customer & Stakeholder Engagement, Essential Energy – request to defer hearing appearance
- 13 April – Email from Ms Selina O'Connor, Government & Stakeholder Relations Manager, Ausgrid – request to defer hearing appearance
- 17 April 2018 – Letter from Mr Geoff Miell providing additional information to Submission No 239
- 1 May 2018 – Email sent to Mr Mark Bretherton, Media Manager, Clean Energy Council – acknowledgement of verbal request to defer hearing appearance.

4. Inquiry into Electricity Supply, Demand and Prices**4.1 Answers to Questions on Notice**

The committee noted that answers to questions on notice from the following witnesses were published by the committee clerk under the authorisation of the resolution appointing the committee:

- Professor Andrew Blakers, Australian National University, received 28 February 2018
- Mr Satyajeet Marar, Australian Taxpayers' Alliance, received 13 March 2018
- Chris Alexander, Energy Consumers Australia, received 23 March 2018.

4.2 Transcript corrections

Resolved, on the motion of Mr Martin: That paragraph 10 on page 28 of the 21 February 2018 hearing transcript be amended by replacing the figures quoted by Ms Lynne Gallagher with the revised figures provided by Mr Chris Alexander.

The committee noted that the secretariat redacted certain sensitive personal information regarding Witness A from the transcript of the public hearing held on 21 February 2018 at the request of Mr Felix Delhomme, Public Policy Advisor, St Vincent de Paul Society in accordance with the committee's previous resolution.

4.3 Witnesses for 18 June hearing – Independent Pricing and Regulatory Tribunal (IPART) unable to attend

Resolved, on the motion of Mr Searle:

- That the committee accept IPART's offer to provide written responses to any questions posed in writing by the committee.
- That committee members prepare questions for IPART and provide them to the secretariat for circulation to the committee as a whole for comment and submission to IPART.
- That the committee invite IPART to attend a potential future public hearing after 18 June 2018.

4.4 12 and 13 June site visits – Adelaide and the Hornsdale Power Reserve

Resolved, on the motion of Mr Franklin: That the committee agree to proceed with travel to South Australia on 12 and 13 June based on indicative cost estimate of approx. \$13,200.

4.5 Confidential submission

Resolved, on the motion of Mr Franklin: That the committee keep submission no. 241 confidential, as per the request of the witness.

4.6 Public Hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings, adverse mention and other matters.

The following witnesses were sworn and examined:

- Mr Tim O'Grady, Origin Energy General Manager, Public Policy & Government Engagement
- Mr Jon Briskin, Origin Energy Executive General Manager, Retail
- Mr Mark Collette, Energy Australia Energy Executive
- Mr Simon Davey, Energy Australia Policy and Advocacy Manager

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Professor Thomas Maschmeyer, Sydney University Professor of Chemistry
- Professor Martin Green, University of NSW Scientia Professor at the School of Photovoltaic and Renewable Energy Engineering

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Ed McManus, Meridian Energy and Powershop Chief Executive
- Mr Tony Pfeiffer, Enova Energy Managing Director

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Steve Blume, Smart Energy Council President

- Mr Andrew Bray, Australian Wind Alliance National Coordinator

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Tom Geiser, Neoen Senior Market Manager

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Ms Janine Young, Energy and Water Ombudsman NSW
- Mr Rory Campbell, Energy and Water Ombudsman NSW Manager, Policy and Research

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Professor Allan Fels, NSW Electricity Price Commissioner

4.7 Tendered documents

Resolved, on the motion of Mr Graham: That the committee accept and publish the following documents tendered during the public hearing:

- Professor Martin Green – document containing 6 charts referenced during Professor Green’s opening statements
- Mr Steve Blume, Smart Energy Council – opening statements to the committee
- Mr Andrew Bray, Australian Wind Alliance – document containing graphs and tables referred to during Mr Bray’s evidence

5. Adjournment

The committee adjourned at 4:26 pm, until 7.45 am, 29 May 2018 (site visit).

Alex Stedman
Committee Clerk

Minutes no. 7

Tuesday 29 May 2018

Select Committee on electricity supply, demand and prices in New South Wales
Hospital Road, Parliament House, 7.45 am

1. Members present

Mr Green, *Chair*
Mr Graham
Mr Searle
Mr Martin (from 10.32 am)

2. Apologies

Mr Borsak, Deputy Chair
Mr Buckingham

3. Inquiry into Electricity Supply, Demand and Prices

Site visit

The committee conducted a site visit to Origin Energy's Eraring Power Station, Dora Creek NSW and met with the following representatives from Origin Energy:

- Mr Tim O' Grady, General Manager, Public Policy and Government Engagement.
- Mr Bill Renshaw, General Manager, Generation Operations.
- Mr Tony Phillips, Plant Manager.
- Mr Antony Cotic, Facilities and Logistics Manager.

4. Adjournment

The committee adjourned at 3.46 pm, until 9.15 am, Wednesday, 30 May 2018 at Hospital Road, Parliament House (site visit).

Alex Cobb
Committee Clerk

Minutes no. 8

Wednesday 30 May 2018

Select Committee on Electricity Supply, Demand and Prices in New South Wales
Hospital Road, Parliament House at 9.15 am

1. Members present

Mr Green, *Chair*
Mr Buckingham
Mr Graham
Mr Martin
Mr Searle
Mr Franklin

2. Apologies

Mr Borsak, *Deputy Chair*

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Site visits

The committee conducted a site visit to the Gullen Solar Farm, Banister NSW and met with the following representatives from Goldwind Australia and Beijing Jingneng Clean Energy Australia (BJCE):

- Mr Derek Powell, Deputy Manager, BJCE.
- Mr John Titchen, Goldwind Australia.
- Mr Leo Pearce, Gullen Range Wind Farm Assets Manager.
- Ms Jodie Marr, Gullen Windfarm Site Manager.
- Elizabeth Picker, Corporate Liaison.

4. Adjournment

The committee adjourned at 4.00 pm, until 8.00 am, Thursday 31 May 2018 at the reception of Amaroo Hotel, 55 Capper St, Tumut NSW (site visit).

Alex Cobb
Committee Clerk

Minutes no. 9

Thursday 31 May 2018

Select Committee on Electricity Supply, Demand and Prices

Reception of Amaroo Hotel, 55 Capper St, Tumut NSW at 8.00 am

1. Members present

Mr Green, *Chair*
Mr Buckingham
Mr Graham
Mr Martin
Mr Searle
Mr Franklin

2. Apologies

Mr Borsak, *Deputy Chair*

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Site visit

The committee conducted a site visit to the Snowy Hydro Tumut 3 Power Station, Tumut NSW and met with the following representatives from Snowy Hydro Limited:

- Mr Roger Whitby, Chief Operating Officer, Snowy Hydro.
- Ms Stephanie McKew, General Manager of Corporate Affairs and Media, Snowy Hydro.
- Ms Cesilia Kim, General Counsel and Group Executive, Procurement and Regulatory Affairs, Snowy Hydro.
- Mr Guy Boardman, Area Manager of the Lower Tumut Region, Snowy Hydro.

4. Adjournment

The committee adjourned at 1.00 pm, until 6 am, Monday 4 June 2018, Sydney Airport Domestic Terminal, Virgin Australia check-in counter (site visit).

Alex Cobb

Committee Clerk

Minutes no. 10

Monday 4 June 2018

Select Committee on Electricity Supply, Demand and Prices

Sydney Airport Domestic Terminal (Virgin Australia Check-in counter) at 6.00 am

1. Members present

Mr Green, *Chair*
Mr Graham
Mr Martin
Mr Franklin (from 9.45 am)

2. Apologies

Mr Borsak, *Deputy Chair*
Mr Buckingham
Mr Searle

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Site visit

The committee conducted a site visit to the Cape Byron Power's Condong facility, Condong NSW and met with the following representatives from Quinbrook Infrastructure and Cape Byron Management Pty Ltd :

- David Scaysbrook, Chairman
- Brian Restall, Senior Director
- Rachel Louie, Company Secretary
- Gerhard Laubscher, General Manager
- Anthony Lount, Commercial Manager
- Grant Hudson, Site Manager

4. Adjournment

The committee adjourned at 12.15 pm, until 9:45 am, Tuesday 12 June at Sydney Airport Domestic Terminal 3, departure gate for QF0741 (site visit).

Alex Cobb
Committee Clerk

Minutes no. 11

Tuesday 12 June 2018

Select Committee on Electricity Supply, Demand and Prices
Sydney Airport Qantas Domestic Terminal at 9.45 am

1. Members present

Mr Green, *Chair*
Mr Graham
Mr Searle
Mr Franklin

2. Apologies

Mr Borsak, *Deputy Chair*
Mr Martin
Mr Buckingham

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Private briefing

The Committee conducted a private briefing at 2:30 pm with the following representatives of the South Australian Department of Premier and Cabinet's Resource and Energy Group in the old chamber of the South Australian Parliament:

- Sam Crafter, Executive Director Energy Implementation, DPC
- Rebecca Knight, Director Energy Markets, DPC

4. Adjournment

The committee adjourned at 4.05 pm, until 5.50 am, Tuesday 13 June 2018 at the reception of the Hotel Grand Chancellor Adelaide to depart for the Hornsdale Power Reserve, Jamestown South Australia (site visit).

Alex Cobb
Committee Clerk

Minutes no. 12

Wednesday 13 June 2018

Select Committee on Electricity Supply, Demand and Prices

Reception of the Hotel Grand Chancellor, Adelaide, 5.45 am

1. Members present

Mr Green, *Chair*

Mr Graham

Mr Searle

Mr Franklin

2. Apologies

Mr Borsak, *Deputy Chair*

Mr Martin

Mr Buckingham

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Site visit

The committee conducted a tour of the Hornsdale Power Reserve (Tesla Battery) and wind farm, Hornsdale, South Australia. They met with representatives from Neoen, Siemens and Tesla, including:

- Clément Viaud, Neoen Asset Manager
- Chris Earl, Siemens Site Manager

4. Adjournment

The committee adjourned at 12.30 pm, until 9.15 am, Monday 18 June 2018 at Macquarie Room, Parliament House (public hearing).

Alex Cobb

Committee Clerk

Minutes no. 13

Monday 18 June 2018

Select Committee on Electricity Supply, Demand and Prices

Macquarie Room, Parliament House, Sydney, at 9.18 am

1. Members present

Mr Green, *Chair*

Mr Graham

Mr Martin

Mr Searle

Mr Franklin

2. Previous minutes

Resolved, on the motion of Mr Graham: That draft minutes no. 6, 7, 8, 9, 10, 11 and 12 be confirmed.

3. Correspondence

The Committee noted the following items of correspondence:

Received

- 4 May 2018 – Email from Mr Amer Hussein, Manager Government & Community Affairs AGL to the secretariat – requesting deferral of hearing appearance to a later date.
- 7 May 2018 – letter from Mr Richard Gross, CEO Ausgrid – proposal for AER 2019-24 transmission network determination and proposed parliamentary info sessions – received by Mr Borsak.
- 9 May 2018 – Email from Mr Andrew Bray, National Coordinator, Australian Wind Alliance (AWA), to secretariat, including:
 - Mr Bray's opening remarks from the inquiry's 8 May hearing
 - AWA report referenced during evidence
 - Renew Economy article referenced during evidence.
- 17 May 2018 – letter from Mr David Parker AM, Chair of the Clean Energy Regulator – declining to appear at 18 June hearing.
- 22 May 2018 – Email from Mr Geoff Miell - providing additional information to Submission No 239.
- 1 June 2018 – email from Mr Brad Williams, GM Corporate Affairs at the Australian Renewable Energy Agency (ARENA) – declining to appear at 18 June hearing.
- 5 June 2018 – email from Mr Steve Blume, President, Smart Energy Council (SEC) to secretariat including documents referred to during 8 June hearing:
 - SEC submission to Senate Inquiry into Resilience of Electricity Infrastructure
 - SEC submission to the Energy Security Board regarding consultation on the National Energy Guarantee (NEG)
 - SEC position paper on the NEG provided to States & Territories Energy Ministers.
- 8 June 2018 – letter from Ms Lisa Anne Ayres, Director Executive Office, Australian Consumer and Competition Commission (ACCC) – declining to appear at 18 June hearing.

Sent

- 8 June 2018 – Letter from the Chair to Mr Tim O'Grady, General Manager Public Policy and Government Engagement, Origin Energy, thanking Origin for hosting the committee's visit to the Eraring Power Station.
- 8 June 2018 – Letter from the Chair to Mr Derek Powell, Deputy Manager, Beijing Jingneng Clean Energy Australia (BJCE), thanking BJCE for hosting the committee's visit to the Gullen Range Wind Farm.
- 8 June 2018 – Letter from the Chair to Mr John Titchen, Managing Director, Goldwind Australia, thanking Goldwind for hosting the committee's visit to the Gullen Solar Farm.
- 8 June 2018 – Letter from the Chair to Ms Stephanie McKew, General Manager, Corporate Affairs and Media, Snowy Hydro Ltd, thanking Snowy Hydro for hosting the committee's visit to the Tumut 3 Power Station.
- 8 June 2018 – Letter from the Chair to Mr Gerhard Laubscher, General Manager, Cape Byron Power, thanking Cape Byron Power for hosting the committee's visit to the Condong Power Station.

4. Inquiry into Electricity Supply, Demand and Prices**4.1 Answers to questions on notice and supplementary questions**

The committee noted that answers to questions on notice from the following witnesses were published by the committee clerk under the authorisation of the resolution appointing the committee:

- Neoen – answers to questions on notice provided by Mr Tom Geiser, Senior Market Manager – received 15 May 2018
- Energy Australia – answers to questions on notice and supplementary questions provided by Mr Simon Davey, Policy and Advocacy Manager, Energy Australia – received 4 June 2018.
- Energy and Water Ombudsman NSW – answers to questions on notice provided by Ms Janine Young, Ombudsman – received 1 June 2018.
- Meridian Energy and Powershop – answers to questions on notice provided by Mr Ed McManus, Chief Executive – received 29 May 2018.

- Origin Energy – answers to questions on notice and supplementary questions provided by Mr Tim O'Grady received – received 6 June 2018.

4.2 Confidential answer to question on notice

Resolved, on the motion of Mr Searle: That the committee keep confidential and not publish or circulate the answer to Origin Energy question on notice number 6, regarding the company's retail revenue and profit margin, as requested by the author on the basis that the information is commercially sensitive and potentially market sensitive in accordance with ASX listing rules.

4.3 Public submissions

The committee noted that the following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee:

- Submission 242, Cotton Australia, received Friday 18 May 2018.

4.4 Further hearing

Resolved, on the motion of Mr Searle: That the committee hold a further hearing in early October 2018 and that the secretariat canvass availability with members.

4.5 Site visits

Resolved, on the motion of Mr Martin: That the committee undertake a site visit to a gas-fired peaking station with the date and venue to be determined by the Chair in consultation with members.

4.6 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Ms Katharine Hole, Executive Director, Energy Strategy, NSW Department of Planning and Environment
- Mr Cameron O'Reilly, Principal Energy Advisor, NSW Department of Planning and Environment.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Justin Hillier, Chief Financial Officer, Essential Energy
- Ms Natalie Lindsay, Head of Regulatory Affairs, Essential Energy

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Rob Amphlett Lewis, Executive General Manager, Strategy & Regulation, Ausgrid
- Mr Trevor Armstrong, Chief Operating Officer, Ausgrid
- Mr Rod Howard, Chief Operating Officer, Endeavour Energy
- Mr Andrew Schille, General Manager Regulation and Corporate Affairs, Endeavour Energy

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Greg Everett, Managing Director, Delta Electricity
- Mr Anthony Callan, Executive Manager Marketing, Delta Electricity
- Mr Richard Wrightson, Executive General Manager, Wholesale Markets, AGL

- Assoc. Prof. Tim Nelson, Chief Economist, AGL

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Assoc. Prof. Bruce Mountain, Director, Victorian Energy Policy Centre and Director, Carbon and Energy Markets (CME)

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Dr Kerry Schott, Independent Chair, COAG Energy Security Board

The evidence concluded and the witnesses withdrew.

Mr Searle withdrew from the meeting at 2:53 pm.

The following witnesses were sworn and examined:

- Mr Paul Italiano, Executive General Manager, Regulation, Transgrid
- Gerard Reiter, Executive Manager Network Planning & Operations, Transgrid
- Caroline Taylor, A/Executive Manager Regulation, Transgrid

The evidence concluded and the witnesses withdrew.

The public and the media withdrew.

The public hearing concluded at 3.30 pm.

4.7 Tendered documents

Resolved on the motion of Mr Graham: That the committee accept and publish the following documents tendered during the public hearing:

- Paul Italiano, Executive General Manager, Regulation, Transgrid – slide deck including 5 graphs referenced during opening remarks.
- Delta Electricity – 'Summary of residential electricity components, comparison 1996 to 2017.'
- Tendered by Delta Electricity: Independent Pricing and Regulatory Tribunal (IPART) – 'Electricity Prices,' March 1996.
- Delta Electricity – Australian Energy Market Commission (AEMC) – 'Final Report 2017 Residential Electricity Price Trends,' 18 December 2018.
- Ausgrid – 'Ausgrid and Our Customers, Executive Summary'.
- Endeavour Energy – 'Affordable, Safe and Reliable Electricity, An Overview of Our Plans 1 July 2019 to 30 June 2024.'
- Energy Security Board – 'National Energy Guarantee Draft Detailed Design Consultation Paper', 15 June 2018.
- Energy Security Board – 'The health of the National Electricity Market, 2017 Annual Report,' .

5. Other business

5.1 Proposed further travel and briefings

Resolved on the motion of Mr Searle: That the committee:

- seek authorisation of the House, with the approval of the President, to travel to Melbourne to meet with the Victorian Department of Environment, Land, Water and Planning to discuss the Victorian Renewable Energy Auction Scheme and that the secretariat canvass availability with members

- hear from the Australian Capital Territory's Environment, Planning and Sustainable Development Directorate, via a public hearing or private briefing, regarding the ACT's renewable energy reverse auctions process.

5.2 Tabled documents

Resolved on the motion of Mr Searle: That the following documents, tabled by Mr Searle, be published on the inquiry webpage:

- Letter to the Hon. Adam Searle MLC from Ms Paula Conboy, Chair of the Australian Energy Regulator regarding distribution network price determinations, 22 May 2018.
- Assoc. Prof. Bruce Mountain, Renew Economy – 'Market Insight Residential Electricity Price Series,' 4 May 2018.
- Carbon and Energy Markets (CME) – 'Australia's retail electricity markets: who is serving whom?' – August 2016.

6. Adjournment

The committee adjourned at 3.32 pm.

Alex Stedman

Clerk to the Committee

Minutes no. 14

Monday 10 September 2018

Select Committee on Electricity Supply, Demand and Prices

Parliament House, Hospital Road, 10:40 am

1. Members present

Mr Green, *Chair*

Mr Graham

Mr Martin

Mr Franklin

2. Apologies

Mr Borsak, *Deputy Chair*

Mr Searle

Mr Buckingham

3. Inquiry into Electricity Supply, Demand and Prices

3.1 Private briefing

Committee to conduct site visit to Snowy Hydro's Colongra gas-fired power station, Scenic Dr, Colongra NSW. The committee was hosted by:

- Ms Stephanie McKew, General Manager of Corporate Affairs and Media, Snowy Hydro.
- Ms Cesilia Kim, General Counsel and Group Executive, Procurement and Regulatory Affairs, Snowy Hydro.
- Mr Roger Whitby, Chief Operation Officer, Colongra Power Station, Snowy Hydro.
- Mr Gary Blanch, Area Manager, Gas and Diesel, Snowy Hydro.

4. **Adjournment**

The committee adjourned at 2:15 pm, until 9 am Tuesday 11 September 2018 at Sydney Airport Domestic Terminal 3.

Alexander Cobb
Committee Clerk

Minutes no. 15

Tuesday 11 September 2018

Select Committee on Electricity Supply, Demand and Prices

Sydney Airport Domestic Terminal at 9.00 am

1. **Members present**

Mr Green, *Chair*
Mr Searle
Mr Martin
Mr Franklin

2. **Apologies**

Mr Borsak, *Deputy Chair*
Mr Graham
Mr Buckingham

3. **Inquiry into Electricity Supply, Demand and Prices**

3.1 **Private briefings**

Committee travelled from Sydney to Melbourne to conduct two private briefings—with the City of Melbourne and the Victorian Department of Environment, Land, Water and Planning (DELWP).

At the City of Melbourne, the committee was briefed on the Melbourne Renewable Energy Project and was hosted by:

- Ms Nikki Jordan, Senior Sustainability Officer.

At DELWP, the committee was briefed on the Victorian Renewable Energy Auction Scheme, and hosted by:

- Mr Matt Dickie, Director, Major Energy Projects, DELWP
- Ms Kylie White, Deputy Secretary, Environment and Climate Change, DELWP
- Mr Steve Brown, Office of the Victorian Minister for Energy, Environment and Climate Change.

4. **Adjournment**

The committee adjourned at 4 pm, until Wednesday 10 October 2018 at Macquarie Room, Parliament House (public hearing).

Alexander Cobb
Committee Clerk

Minutes no. 16

Wednesday 10 October 2018

Select Committee on Electricity Supply, Demand and Prices

Macquarie Room, Parliament House at 10.45 am

1. Members presentMr Green, *Chair*

Mr Amato (substituting for Mr Martin)

Mr Graham

Mr Searle

Mr Franklin (11.02 am until 3.15 pm)

2. ApologiesMr Borsak, *Deputy Chair***3. Previous minutes**

Resolved on the motion of Mr Searle: That draft minutes nos 13, 14 and 15 be confirmed.

4. Adjournment

The Committee noted the following items of correspondence:

Received

- 18 June 2018 – Letter from Ms Renee Campbell, A/General Manager, Wollongong City Council to The Hon Paul Green MLC – providing information on the Australian Industrial Energy consortium's announcement for Port Kembla as preferred site for NSW LNG import terminal
- 10 August 2018 – Email from Mr Barrie Hill to the secretariat offering to provide the committee with a briefing about the South Korean electricity supply sector
- 10 September 2018 – Email from Mr Robert Pritchard, Executive Director, Energy Policy of Australia to the secretariat attaching note: 'Without the NEG' and public policy paper 'Reliable Electricity Supply in Australia – at Least Cost'
- 12 September 2018 – Email from Ms Nikki Jordan, Senior Sustainability Officer- Integration, Melbourne City Council to the secretariat, attaching 'Renewable Energy Procurement Guide' and 'Climate Migration Strategy (draft and consultation)'
- 14 September 2018 – Email from Mr Robert Pritchard - Executive Director - Energy Policy Institute of Australia, attaching article 'Energy innovation hubs and nuclear power' published online in Energy Magazine
- 18 September 2018 – Email from Fiona Towers, Executive Director, Independent Pricing and Regulatory Tribunal (IPART), indicating IPART unable to attend 10 October hearing
- 20 September 2018 – Letter from Hugo Harmstorf, CEO IPART, accepting offer to attend 10 October hearing
- 2 October 2018 – Email from Fiona Towers, Executive Director IPART - confirming IPART attendees for 10 October hearing
- 4 October 2018 – Email from Jawad Shamsi, Next Gen Project Coordinator, Environment, Planning and Sustainable Development Directorate, ACT Government, declining invitation to appear at the hearing on 10 October.

Sent

- 17 September 2018 – Letter from the Chair to Ms Nikki Jordan, Senior Sustainability Officer, City of Melbourne Council, thanking the Council for hosting the committee on 11 September
- 17 September 2018 – Letter from the Chair to Ms Kylie White, Deputy Secretary, Environment and Climate Change at the Victorian Department of Environment, Land, Water and Planning, thanking the department for hosting the committee on 11 September

- 17 September 2018 – Letter from the Chair to Ms Stephanie McKew, General Manager Corporate Affairs at Snowy Hydro Limited, thanking Snowy Hydro for hosting the committee at Colongra Power Station on 10 September
- 19 September 2018 – Letter from the Chair to Dr Boxall, Chair of the Independent Pricing and Regulatory Tribunal (IPART) – formally inviting IPART to appear at the 10 October hearing.

5. Inquiry into Electricity Supply, Demand and Prices

5.1 Answers to questions on notice and supplementary questions

The committee noted that answers to questions on notice from the following witnesses were published by the committee clerk under the authorisation of the resolution appointing the committee:

- Essential Energy – answers to questions on notice provided by Mr Roger Marshall, General Manager Customer & Stakeholder Engagement – received 17 July 2018
- Essential Energy – answers to supplementary questions provided by Mr Roger Marshall, General Manager Customer & Stakeholder Engagement – received 17 July 2018
- NSW Department of Planning and Environment – answers to questions on notice provided by Bahar Yildirim, Senior Ministerial Liaison Officer – received 17 July 2018
- Transgrid – answers to questions on notice provided by Mitchell Hume, Public Relations Specialist – received 17 July 2018
- Ausgrid – answers questions on notice provided by Selina O'Connor, Government & Stakeholder Relations Manager – received 18 July 2018.

5.2 Public submissions

The following submissions were published by the committee clerk under the authorisation of the resolution appointing the committee: submission nos 243, 244, 245 246, 247.

5.3 Witnesses for 10 October hearing – ACT Environment, Planning and Sustainable Development Directorate (the Directorate) unable to attend

The committee noted that correspondence was received from Jawad Shamsi, advising that the Directorate will be unavailable to attend 10 October the public hearings. The Directorate has advised that they can provide information regarding the ACT Government's renewable energy reverse auction scheme on request.

Resolved on the motion of Mr Searle: That the committee accept the ACT Environment, Planning and Sustainable Development Directorate's offer to provide the committee with information regarding the ACT Government's renewable energy reverse auction scheme.

5.4 Return of answers to question on notice

The committee to consider the timeframe for the return of answers to questions taken on notice during the public hearing.

Resolved on the motion of Mr Graham: That the committee request that answers to questions taken on notice from the public hearing be returned within 14 days of receipt of receipt of the highlighted transcript.

5.5 Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings, adverse mention and other matters.

The Chair reminded the following witnesses that they did not need to be sworn, as they had been sworn at a previous hearing:

- Ms Katherine Hole, Deputy Secretary, Energy, Water and Portfolio Strategy, NSW Department of Planning and Environment
- Mr Jonathan Briskin, Executive General Manager – Retail, Origin Energy
- Mr Simon Davey, Policy and Advocacy Manager, Energy Australia

The following witnesses were sworn and examined:

- Ms Katherine Hole, Deputy Secretary, Energy, Water and Portfolio Strategy, NSW Department of Planning and Environment (sworn previously)
- Ms Michelle Dumazel, Executive Director, Policy Division, NSW Office of Environment and Heritage.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission
- Ms Simone Warwick, Acting Deputy General Counsel, Mergers and Authorisations Law, Australian Competition and Consumer Commission.

Mr Mullen tendered the following document:

- 'Final report of the retail electricity pricing inquiry conducted by the Australian Competition and Consumer Commission', published in June 2018.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Hugo Harmstorf, Chief Executive Officer, Independent Pricing and Regulatory Tribunal NSW
- Ms Anna Brakey, Chief Operating Officer, Independent Pricing and Regulatory Tribunal NSW.

Ms Brakey tendered the following document:

- Graph of NSW retail price deregulation from 2007 to 2019

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr David Frith, Director, Industry and Environment, NSW Mineral Council
- Professor Stephen Wilson, Director, Centre for Energy Futures, University of Queensland.

Mr Frith tendered the following documents:

- Document entitled 'Australia's National Energy Market' containing national energy market data for each Australian state
- Public Policy Paper by Professor Stephen Wilson entitled 'How to reform the electricity market before we reach the top of the cliff', dated February 2017
- Opening statement of Professor Stephen Wilson and related reference material, dated 10 October 2018
- Curriculum Vitae of Professor Stephen Wilson.

The evidence concluded and the witnesses withdrew

The following witnesses were sworn and examined:

- Ms Melissa Reynolds, Chief Customer Officer, AGL Energy
- Mr Tony Chappel, General Manager, Government, Media and Community Relations, AGL Energy

- Mr Damien Nicks, Interim Chief Financial Officer, AGL Energy
- Mr Jonathan Briskin, Executive General Manager – Retail, Origin Energy
- Mr Greg Jarvis, Executive General manager, Wholesale and Supply, Origin Energy
- Mr Chris Ryan, Customer Executive, Energy Australia
- Mr Simon Davey, Policy and Advocacy Manager, Energy Australia.

The evidence concluded and the witnesses withdrew.

The public and the media withdrew.

The public hearing concluded at 4.48 pm.

5.6 Tendered documents

Resolved on the motion of Mr Searle: That the committee accept and publish the following documents tendered during the public hearing:

- 'Final report of the retail electricity pricing inquiry conducted by the Australian Competition and Consumer Commission', dated June 2018, tendered by Mr Mullen
- Graph of NSW retail price deregulation from 2007 to 2019, tendered by Ms Brakey
- Document entitled 'Australia's National Energy Market' containing national energy market data for each Australian state, tendered by Mr Frith
- Public Policy Paper by Professor Stephen Wilson entitled 'How to reform the electricity market before we reach the top of the cliff', dated February 2017, tendered by Mr Frith
- Opening statement of Professor Stephen Wilson and related reference material, dated 10 October 2018, tendered by Mr Frith
- Curriculum Vitae of Professor Stephen Wilson, tendered by Mr Frith.

6. Adjournment

The committee adjourned at 4.50 pm, *sine die*.

Alexander Cobb
Committee Clerk

Monday 12 November 2018
Select Committee on Electricity Supply, Demand and Prices
McKell Room, Parliament House at 10.09 am

1. Members present

Mr Green, *Chair*
Mr Searle
Mr Martin
Mr Franklin
Mr Borsak, *Deputy Chair* (from 10.21 am)
Mr Graham
Mr Buckingham

2. Apologies

3. Previous minutes

Resolved on the motion of Mr Graham: That draft minutes no. 16 be confirmed.

4. Correspondence

The Committee noted the following items of correspondence:

Received

- 18 October 2018 – email from Tom Sanderson, Research Coordinator, Australian Water Exploration Company - declining to present to the committee.
- 24 October 2018 - email from Robert Pritchard, Executive Director Energy Policy Institute of Australia – sharing policy research note with the committee entitled 'the Likely Viability of Nuclear Power in Australia'.
- 9 November 2018 – letter from Mr Shane Rattenbury MLA, ACT Minister for Climate Change and Sustainability – providing information regarding the ACT's reverse auction program.

5. Inquiry into Electricity Supply, Demand and Prices

5.1 Answers to questions on notice and supplementary questions

The committee noted that answers to questions on notice from the following witnesses were published by the committee clerk under the authorisation of the resolution appointing the committee:

- EnergyAustralia – answers to question on notice provided by Simon Davey, Policy and Advocacy Manager, EnergyAustralia – received 24 October 2018
- Australian Competition & Consumer Commission – answers to question on notice provided by Daniel Freed, Senior Parliamentary Liaison Officer, ACCC – received 24 October 2018
- NSW Office of Environment and Heritage – answers to questions on notice provided by Ms Michelle Dumazel – received on 24 October 2018
- NSW Department of Planning and Environment – answers to questions on notice provided by Ms Katherine Hole – received on 25 October 2018
- Independent Pricing and Regulatory Tribunal – answers to questions on notice provided by Jess Robinson, Director, Pricing – received 30 October 2018
- AGL – answers to question on notice provided by Amer Hussein, Manager Transition & Government Relations – received 5 November 2018
- Delta Electricity – answers to question on notice and answers to supplementary questions provided by Greg Everett, Managing Director, Delta Electricity – received 17 July 2018.

5.2 Consideration of Chair's draft report

Consideration of Chair's draft report, entitled *Electricity supply, demand and prices in New South Wales*.

Chapter 1

Resolved, on the motion of Mr Searle: That paragraph 1.21 be amended by inserting at the end: 'While they were until recently owned by the State Government of NSW, a majority share of Ausgrid and Endeavour and the whole of Transgrid were leased for 99 years or sold. Essential Energy remains wholly owned by the NSW Government'.

Resolved, on the motion of Mr Franklin: That paragraph 1.34 be amended by inserting at the end: 'which is a decline from 89 per cent in the previous year'. [FOOTNOTE: Australian Energy Regulator, Annual Report on Compliance & Performance of the Retail Energy Market: 2015-16, 22 November 2016, p 13.]

Mr Searle moved: That the following new paragraph be inserted after paragraph 1.35:

'Evidence before the committee was that the retail margin comprised nearly twenty percent of electricity bills. The retail profit in NSW was found by the ACCC to be 10 per cent. This is much higher than the profit margin for many other businesses'. [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 8.]

Mr Graham moved: That the motion of Mr Searle be amended by inserting 'Further it found that retail margins accounted for 29 per cent of the total increase in prices' after 'ten per cent'. [FOOTNOTE: Tabled

document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 14.]

Amendment of Mr Graham put and passed.

Original question of Mr Searle, as amended, put and passed.

Resolved, on the motion of Mr Searle, that the following new finding be inserted after 1.35:

'Finding X

Given the significant increase in electricity bills in recent years, the committee finds that such a profit margin for at least the big vertically integrated retailers is excessive.

The Committee notes that in response to concerns about the level of profits being made by the private insurers involved in the Compulsory Third Party motor accident scheme in NSW, the NSW Parliament created a mechanism to oversight the level of profit being made and to ensure that excessive profits were returned to customers. The Committee finds that there is no reason why such an approach should not be taken to the electricity retail sector, at least in respect to the big vertically integrated energy companies'.

Resolved, on the motion of Mr Searle, that the following new recommendation be inserted after 1.35:

'Recommendation X

The Committee recommends that the NSW Government develop and implement a legislative mechanism to oversight the level of profit being made by the big vertically integrated energy companies and to ensure that excessive profits are returned to consumers'.

Resolved, on the motion of Mr Searle: That paragraph 1.62 be amended by inserting at the end: 'However, this is not a universally-held view'.

Resolved, on the motion of Mr Graham: That paragraph 1.73 be amended by omitting 'electricity price guarantee' and inserting instead 'electricity network price guarantee'.

Resolved, on the motion of Mr Graham: That paragraph 1.74 be amended by omitting 'price guarantee' and inserting instead 'network price guarantee'.

Resolved, on the motion of Mr Graham: That paragraph 1.75 be amended by omitting 'price guarantee' and inserting instead 'network price guarantee'.

Resolved, on the motion of Mr Graham: That paragraph 1.76 be amended by omitting 'price guarantee' and inserting instead 'network price guarantee'.

Mr Searle moved: That the following new paragraph be inserted after paragraph 1.76:

'However, the Committee notes that significant increases at both the wholesale and retail ends have significantly increased overall electricity bills in NSW and that this is at least partly due to privatisation of the generators and deregulation of the retail electricity market'.

Question put.

The committee divided.

Ayes: Mr Borsak, Mr Buckingham, Mr Graham, Mr Green, Mr Searle

Noes: Mr Franklin, Mr Martin.

Question resolved in the affirmative.

Mr Searle moved: That paragraph 1.80 be amended by omitting 'the long-term leasing of' after 'generators and'.

Question put.

The committee divided.

Ayes: Mr Borsak, Mr Buckingham, Mr Graham, Mr Searle

Noes: Mr Franklin, Mr Green, Mr Martin.

Question resolved in the affirmative.

Resolved, on the motion of Mr Searle: That the section heading after paragraph 1.80 be amended by omitting 'Lease of network businesses' and inserting instead 'Lease/Sale of network businesses'.

Resolved, on the motion of Mr Searle: That paragraph 1.82 be amended by omitting 'was leased to a' and inserting instead 'was effectively leased/sold to a'.

Resolved, on the motion of Mr Searle: That the following new paragraph be inserted after paragraph 1.90:

'The committee notes that the sale of Vales Point power station for \$1 million has seen the value of that asset now assessed to be worth \$720 million. The electricity sold from that power station is at a significantly higher price than when the asset was in public hands'. [FOOTNOTE: Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 29.]

Resolved, on the motion of Mr Graham: That the following new paragraph be inserted after paragraph 1.90:

'Since the sale of Vales Point power station by the NSW Government for \$1 million, its new owners gave evidence to the committee that last year they made profits "in the order of \$90 million." They further gave evidence on notice that their profit in 2016/17 was \$30.6 million, and in 2015/16 was \$26.1 million. Since taking ownership they have taken \$39.9 million out of the company in a share buyback. The owners intend to keep the power station running well past the Government's previous indicative closing date'. [FOOTNOTE: Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 29; Answers to questions on notice, Delta Electricity, 17 July 2018, p 1; Evidence, Mr Greg Everett, Managing Director, Delta Electricity, 18 June 2018, p 30.]

Resolved, on the motion of Mr Searle: That that paragraph 1.94 be amended by inserting at the end: 'However, it is fair to say that there was strong evidence before the committee that deregulation has led to higher not lower electricity bills for consumers across New South Wales'.

Mr Searle moved: That paragraph 1.103 be amended by inserting at end: 'and has driven electricity prices significantly higher for consumers'.

Question put.

The committee divided.

Ayes: Mr Borsak, Mr Buckingham, Mr Graham, Mr Searle

Noes: Mr Franklin, Mr Martin, Mr Green

Question resolved in the affirmative.

Chapter 2

Mr Searle moved: That paragraph 2.30 be amended by inserting at following dot point at the end:

- 'deregulation of the retail electricity market'. [FOOTNOTE: Tabled document, Carbon and Energy Markets (CME), 'Australia's retail electricity markets: who is serving whom?', August 2016, p 24.]

Question put.

The committee divided.

Ayes: Mr Borsak, Mr Buckingham, Mr Graham, Mr Searle

Noes: Mr Franklin, Mr Green, Mr Martin.

Question resolved in the affirmative.

Resolved, on the motion of Mr Graham: That paragraph 2.39 be amended by:

- omitting 'price guarantee' and inserting instead 'network price guarantee'
- inserting 'in network costs' after 'per cent reduction'.

Resolved, on the motion of Mr Searle: That that paragraph 2.47 be amended by:

- omitting 'A tightening' and inserting instead 'Anxiety around possible tightening'
- inserting ', at least for a period of time' after 'electricity generation'.

Resolved, on the motion of Mr Searle: That the following new paragraph be inserted after paragraph 2.47: 'As has been noted in an earlier report of the Legislative Council, Australia produces far more gas than it needs for its combined domestic household and industrial needs. Our country could provide cheap gas energy for homes and businesses while still supporting a profitable export market. Market failure and the desire for corporate profit first, however, has oversold our gas overseas, causing difficulties in obtaining gas at reasonable prices. This has not only caused gas bills to increase but has also contributed to high electricity prices'. [FOOTNOTE: Select Committee on the Supply and Cost of Gas and Liquid Fuels in New South Wales, NSW Legislative Council, Supply and cost of gas and liquid fuels in New South Wales, (2015)]

Resolved, on the motion of Mr Searle: That the following paragraphs be inserted after paragraph 2.48:

'While coal-fired power was once a reliable source of energy it is now becoming increasingly unreliable. This has been revealed by the frequent outages by one of more turbines at the ageing Liddell power station, unplanned outages at other coal-fired stations and the difficulties surrounding Mt Piper's coal supply brought to public attention when the Springvale coal mine near Lithgow looked as if it could not continue producing coal in 2017.

As new coal-fired power stations are very expensive, no energy company has any plans to invest in one and financial institutions have indicated they would not provide finance to support any proposed coal-fired station. Even were one or more new coal-fired stations built, the levelled cost of the produced electricity to consumers would make electricity bills even higher than they presently are.

As renewables are the cheapest form of new-build electricity generation, as our ageing fleet of coal-fired power stations reach the end of their lives in the next decade or so, the future of our energy supply will increasingly be from renewable sources'.

Resolved, on the motion of Mr Franklin: That paragraph 2.54 be amended by inserting 'In reference to the now closed solar bonus scheme' before 'Mr Mullen commented'.

Resolved, on the motion of Mr Franklin: That the following new paragraph be inserted after paragraph 2.65:

'The package also provides assistance to certain households to encourage the uptake of energy efficient lighting and air conditioning. It is estimated that this could result in an annual saving of \$500 per household'. [FOOTNOTE: Submission 145, NSW Government, p4.]

Resolved, on the motion of Mr Graham: That paragraph 2.80 be amended by inserting at the end 'that has seen the average NSW Electricity bill increase over ten years by \$366 after inflation'. [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 13.]

Mr Franklin moved: That Recommendation 1 be amended by omitting 'publicly disclose the recommendations that it supports'.

Question put.

The committee divided.

Ayes: Mr Martin, Mr Franklin.

Noes: Mr Green, Mr Borsak, Mr Searle, Mr Graham, Mr Buckingham.

Question resolved in the negative.

Resolved, on the motion of Mr Franklin: That Recommendation 1 be amended by inserting 'and State and Territory Governments through COAG Energy Council' after 'the Australian Government'.

Resolved, on the motion of Mr Buckingham: That paragraph 2.85 be amended by inserting at the end 'In this spirit, the Climate Change Fund should be expended on projects that either mitigate climate change or assist with the adaptation to climate change.'

Resolved, on the motion of Mr Searle: That paragraph 2.86 be amended by inserting at the end 'and to assist them accessing renewable energy which is the cheapest form of energy'.

Resolved on the motion of Mr Buckingham: That Recommendation 2 be amended by inserting 'expended on projects that either mitigate climate change or assist with the adaptation to climate change' after 'the NSW Climate Change Fund be'.

Resolved, on the motion of Mr Searle: That Recommendation 2 be amended by inserting at the end 'and to assist them accessing renewable energy which is the cheapest form of energy'.

Resolved, on the motion of Mr Graham: That the following new paragraphs be inserted after paragraph 2.90:

'The ACCC observed that:

In retail markets, privatisation generally resulted in the transfer of a large customer base to each of a small number of retailers... This model of competition has not delivered a dynamic and competitive market in which many retailers compete vigorously, driving efficiencies and providing innovative products to attract and retain a broad range of customers'.

[FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p xi.]

Resolved on the motion of Mr Graham: That the following new paragraph be inserted after paragraph 2.109: 'The ACCC reports that "Australian electricity prices, gross margins and net margins are among the highest in the world."' [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 23]

Resolved on the motion of Mr Graham: That the following new figure be inserted after paragraph 2.109:

'Figure 1.20: 2018 nominal international prices c/kWh, including GST' [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 24.]

Resolved on the motion of Mr Graham: That the following new paragraph be inserted after paragraph 2.109: 'The ACCC reports that "a larger proportion of the retail component is made up of retail margin than retail costs for NSW and Victoria compared to the EU average."' [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 25.]

Resolved on the motion of Mr Graham: That the following new figure be inserted after paragraph 2.109: 'Figure 1.21: Gross margins, 2016-17, c/kWh, Australian states and overseas' [FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p 25.]

Resolved on the motion of Mr Graham: That the following new paragraph be inserted after paragraph 2.124: 'Note that the Draft IPART report at draft finding 6 concludes that for IPART: "A detailed review of electricity retail prices and margins is not necessary as the ACCC has recently completed its Retail Electricity Pricing Inquiry."' [FOOTNOTE: Independent Pricing and Regulatory Tribunal NSW, Review of the performance and competitiveness of the retail energy market in NSW: From July 1 2017 to 30 June 2018—Draft report, October 2018, p10.]

Resolved on the motion of Mr Franklin: That paragraph 2.132 be amended by inserting 'having been significantly impacted by increases in wholesale costs caused by sudden closures of existing generators' after 'since deregulation'.

Resolved on the motion of Mr Graham: That the following new finding be inserted after paragraph 2.132:

'Finding X

Having reviewed the range of analyses of electricity prices the committee prefers that of the ACCC due to the extensive use it has made of its compulsory information gathering powers to reach its conclusions.

The ACCC finds that retail electricity prices over ten years in NSW have increased by 52 per cent in real terms'.

Mr Searle moved: That the following new paragraph be inserted after paragraph 2.132:

The Committee took issue with the conclusions reached by IPART and note that what it describes is not the lived experience of households and businesses across the State, and is not the findings by the ACCC. Perhaps IPART's findings are what should be the case if the market in NSW was in fact working for consumers. The Committee does not believe, on the evidence before it, that the retail electricity market is working in favour for consumers.

Question put.

The committee divided.

Ayes: Mr Green, Mr Borsak, Mr Searle, Mr Buckingham, Mr Graham.

Noes: Mr Martin, Mr Franklin.

Question resolved in the affirmative.

Chapter 3

Resolved on the motion of Mr Searle: That the following new paragraph be inserted after paragraph 3.7:

'In practice, however, the high degree of market concentration in NSW and elsewhere has disadvantaged the smaller retailers'.

Resolved on the motion of Mr Graham: That the following new paragraphs be inserted after paragraph 3.19:

'The ACCC has been critical of decisions in NSW which have diminished competition, to the detriment of consumers. They report:

In generation, against ACCC advice, the Queensland and New South Wales (NSW) governments made decisions regarding the operation and ownership of generation assets giving rise to concentrated markets. In Queensland, the government consolidated the generation assets of three businesses into two. In NSW, as one example, both generators owned by Macquarie Generation were sold to AGL, missing an opportunity to deliver a competitive market structure by selling them to separate buyers.

[FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p v.]

Resolved on the motion of Mr Searle: That paragraph 3.25 be amended by:

- omitting 'price gouging'
- inserting at the end 'However, the evidence does disclose that the big three energy companies are making very significant profits at the expense of their customers, many of whom feel they are being price gouged'.

Resolved on the motion of Mr Searle: That paragraph 3.28 be amended by omitting 'might not be delivering' and inserting instead 'is not delivering'.

Resolved on the motion of Mr Searle: That the following paragraph 3.40 be omitted as follows: 'While the committee did not receive any evidence of price gouging or collusion from large, integrated players, it is clear that their market share in both wholesaling and retailing is allowing a small number of providers to exercise a considerable market power, which could be argued is resulting in poor outcomes for competition', and the following new paragraph be inserted instead:

'It is clear that the market share of the large, integrated players, in both wholesaling and retailing is allowing a small number of providers to exercise a considerable market power, which is clearly resulting in poor outcomes for competition'.

Resolved on the motion of Mr Searle: That paragraph 3.41 be amended by inserting at the end 'and has led to higher electricity prices for consumers'.

Resolved on the motion of Mr Searle: That Finding 1 be amended by inserting at the end 'and has led to higher electricity prices for consumers'.

Resolved on the motion of Mr Franklin: That Recommendation 5 be amended by inserting 'including through the COAG process,' after 'take all necessary steps'.

Chapter 4

Mr Searle moved: That the following new paragraph be inserted after paragraph 4.76:

'It is noted that since 2017, the NSW Labor Opposition has supported a range of measures to re-regulate the retail electricity market including a default offer. Since this time, the ACCC and a range of farming, welfare and consumer groups have also called on State and Federal Governments to adopt this and related measures which the ACCC has assessed would reduce the average household electricity bill by 24 per cent, with similar savings able to be made by small businesses'. [FOOTNOTE: The Hon. Adam Searle MLC, Address to Energy Users' Association: NSW Energy Forum Hilton Hotel, Sydney, 4 September 2017, <https://adamsearlemlc.files.wordpress.com/2015/09/nsw-energy-forum-address-4-9-2017.pdf>; FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p xv.]

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham, Mr Borsak, Mr Green.

Noes: Mr Martin, Mr Franklin.

Question resolved in the affirmative.

Resolved on the motion of Mr Graham: That: the following eight new paragraphs be inserted after paragraph 4.79:

'The ACCC in its report has called for consumers to have a new right to their electricity data, which would allow much more simple comparison of potential electricity contracts for consumers. They indicated in their report:

This is an important opportunity to empower consumers and businesses through greater access to their electricity usage data. Data currently available is of limited use to consumers and also any third party wanting to provide services to a consumer. The application of the Consumer Data Right to the electricity sector will see opportunities for electricity usage data to be made available to consumers and, importantly, agents of consumers where consent is provided. This will then enable consumers themselves to make better use of data and present opportunities for innovation by third parties providing services to consumers in finding the best electricity offer. It should also drive efficiencies in the market more generally as switching becomes more 'frictionless' and consumers are more readily able to identify and move to the best offers. This is a significant, albeit longer-term, opportunity to address the significant retail costs that exist

in the market as retailers will find they do not get returns on their investments in acquiring customers through means other than competitive pricing and innovative product and service offerings'.

[FOOTNOTE: Tabled document, Australian Competition and Consumer Commission, Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry—Final Report, June 2018, p xi]

'Mr Mullen said that government and industry need to work together to achieve uniformity in the way customer data is presented. He said that this would allow retailers and third parties to analyse customer usage patterns and advise them on their energy choices:

What needs to happen is the ACCC, along with the Commonwealth and States, needs to work with industry to come up with a way of getting uniformity in the way that this data is presented so that it can be used in a meaningful way by retailers but also third parties who would be able to look at the consumer's usage pattern over a significant period and provide tailored advice to the consumer on what they can do about their energy choices.'

[FOOTNOTE: Evidence, Mr Baethan Mullen, General Manager, Economic Group, Australian Competition and Consumer Commission, 10 October 2018, p 15.]

'AGL said it supports the development of a customer data right for the energy sector, noting that it 'encourages governments to support this initiative as the most sustainable solution in empowering consumers to access their data to make more informed choices about their energy plan'. [FOOTNOTE: Answers to questions on notice, AGL, 5 November 2018, p 1.]

'EnergyAustralia also expressed support for a consumer data right, saying that it is a significant step towards a transparent market. They stressed that the implementation of such a right should be undertaken in close consultation with energy market participants:

EnergyAustralia believes that the proposed consumer data right is a significant step towards facilitating a more transparent retail energy market that makes it easier for customers to choose the right energy product and service for them...

However, we note that the introduction of a consumer data right across the energy sector will have significant implications. At a time when energy affordability is an extreme focus it must be implemented carefully and in close consultation with energy market participants.

[FOOTNOTE: Answers to questions on notice, EnergyAustralia, 24 October 2018, p 1.]

Resolved on the motion of Mr Graham: That the following new recommendation be inserted after paragraph 4.79:

'Recommendation X

That the NSW Government investigate steps to develop a Consumer Data Right in the electricity sector as a matter of priority'.

Resolved on the motion of Mr Searle: That paragraph 4.81 be amended by omitting 'position to have been put forward' and inserting instead 'conclusion'.

Resolved on the motion of Mr Graham: That the following paragraph be inserted after paragraph 4.81:

'The committee is particularly disturbed about the number of payment plan and hardship customers who are not paying on time and receiving a related 'pay on time discount'. This is further exacerbating the impact of significant headline electricity price increases on the most vulnerable consumers'.

Mr Searle moved: That paragraph 4.86 be amended by inserting 'but is concerned that it is only proposed to have this operating from 1 July 2019 - well after the upcoming NSW election and the expected date of the Commonwealth election' after 'as per the ACCC's recommendation,'.

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham, Mr Borsak, Mr Green.

Noes: Mr Franklin, Mr Martin.

Question resolved in the affirmative.

Resolved on the motion of Mr Searle: That the following new paragraph be inserted after paragraph 4.86:

'The committee notes that in response to concerns in the community to the very high profits being made by the insurers participating in the privately-underwritten Compulsory Third Party motor accident compensation scheme in New South Wales, the Parliament enacted a legislative mechanism to ensure oversight of profits and to be able to force the insurers to return excessive profits (as determined by the mechanism) to consumers. The committee finds that there is no reason why this approach should not be taken to the retail electricity market'.

Resolved on the motion of Mr Searle: That paragraph 4.87 be amended by omitting 'default price' after and inserting instead 'pricing system'.

Resolved on the motion of Mr Searle: That paragraph 4.87 be amended by inserting the following dot point at the end:

- 'creates a legislative mechanism to oversight retail profits and to be able to require profits above a determined level to be returned to consumers'.

Resolved on the motion of Mr Franklin: That paragraph 4.87 be amended by inserting the following dot point at the end:

- 'progresses development of a reference price'.

Resolved on the motion of Mr Searle: That Recommendation 7 be amended by inserting the following dot point at the end:

- 'creates a legislative mechanism to oversight retail profits and to be able to require profits above a determined level to be returned to consumers'.

Resolved on the motion of Mr Franklin: That Recommendation 7 be amended by inserting the following dot point at the end:

- 'progresses development of a reference price'.

Resolved on the motion of Mr Martin: That the following heading and three new paragraphs be inserted after paragraph 4.94:

Tomago Aluminium Smelter

'Tomago Aluminium is one of Australia's largest aluminium smelters and has been operating 24 hours a day since 1983. The company contributes \$1.5 billion annually to the Australian economy, of which \$800 million is sent locally. The smelter produces 580,000 tonnes of aluminium every year, which is 25% of Australia's primary aluminium. 90% of the product made at Tomago is exported to the Asia-Pacific region. Tomago employs 950 staff (full time equivalent) as well as 190 contractors. Tomago is the state's biggest industrial user of electricity and uses around 10% of the New South Wales power supply to produce 580,000 tonnes of aluminium per year. [FOOTNOTE: Tomago Aluminium, About Us, <http://www.tomago.com.au/about-us/our-story>].

Professor O'Kane explained the role that Tomago Aluminium Smelter plays in the National Electricity Market: 'There is another aspect to Tomago. It is an important piece of load balancing in the system—into the security system too, as things are here. So they are actually a contributor to our power system as well'. [FOOTNOTE: Evidence, Professor Mary O'Kane, NSW Chief Scientist and Engineer, Office of the NSW Chief Scientist and Engineer, 31 October 2017, p 14.]

In June 2018, Matt Howell, CEO of Tomago Aluminium said the grid was 'at crisis point' saying a 'once affordable and reliable energy system has been degraded'. A lack of reserve power within the national Electricity Market has resulted in Tomago Aluminium being required to reduce its demand on the

network, which it did by switching off potlines. The consequence of this action is a risk of a catastrophic potline freeze such as what occurred at Portland Aluminium in December 2016'. [FOOTNOTE: The Newcastle Herald, 'Tomago Aluminium hits out after AGL power shortage causes problems', 8 June 2018.]

Chapter 5

Resolved on the motion of Mr Searle: That paragraph 5.5 be amended by inserting 'Because renewables are the cheapest new-build electricity source, our energy supply will increasingly be from those sources if we are to have cheaper and environmentally sustainable power' after 'generators that supply the grid.'

Resolved on the motion of Mr Searle: That paragraph 5.5 be amended by inserting at the end 'if there is not also significant investment in storage technologies including pumped hydro and batteries'.

Resolved on the motion of Mr Graham: That the following new paragraph be inserted after paragraph 5.28:

'Professor Blakers asserted that the cost of renewable generation technologies, including solar PV, were continuing to decline. He said that the cost of solar generation is now approximately \$65 per megawatt hour and that the cost of wind generation is approximately \$55 per megawatt hour. He compared this to current wholesale prices of approximately \$80 to \$90 dollars:

In 2016, there was an arena [the Australian Renewable Energy Agency] 100 megawatt solar support round that provided publically available data, which showed PV was coming in at approximately \$75 per megawatt hour. It is clear that PV is now approximately \$65 and wind is approximately \$55. There is only one direction that those prices are going and that is down. A large number of public auctions overseas had starting prices down around \$30 and \$40 per megawatt hour. We are not sure whether they are pure prices or are slightly subsidised, but they are low. I compare those prices to the current wholesale price, which is \$80 or \$90'.

[FOOTNOTE: Evidence, Professor Andrew Blakers, Professor of Engineering, Australian National university, 21 February 2018, pp 53-54.]

Resolved on the motion of Mr Searle: That paragraph 5.31 be amended by inserting the following at the end:

'However, this is inconsistent with a report prepared by the British Department of Industry which found that SMR's could be up to 30 per cent more expensive than other nuclear power. It is also noted that at present no SMR's are operational in the developed world, with the first expected to operate in Utah, USA from 2024'. [FOOTNOTE: UK Government, Department of Energy and Climate Change, *SMR Techno-Economic Assessment - Project 1 – SMRs: Comprehensive Analysis and Assessment SMR TEA Report: Volume 1*, 2016, p 8.]

Mr Buckingham moved: That paragraph 5.70 be omitted as follows: 'The committee considers that the government should prioritise this upgrade and expedite the approval of the project in the interest of helping secure the state's electricity supply. Is therefore recommended that the NSW Department of Planning and Environment expedite the approval of AGL's coal-fired Bayswater Power Station upgrade project'.

Question put.

The committee divided.

Ayes: Mr Buckingham.

Noes: Mr Graham, Mr Searle, Mr Martin, Mr Franklin, Mr Green, Mr Borsak.

Question resolved in the negative.

Mr Buckingham moved: That Recommendation 9 be omitted as follows: 'That the NSW Department of Planning and Environment expedite the approval of AGL's coal-fired Bayswater Power Station upgrade project'.

Question put.

The committee divided.

Ayes: Mr Buckingham.

Noes: Mr Graham, Mr Searle, Mr Martin, Mr Franklin, Mr Green, Mr Borsak.

Question resolved in the negative.

Resolved on the motion of Mr Graham: That paragraph 5.70 be amended by omitting 'expedite the approval' and inserting instead 'expedite the assessment'.

Resolved on the motion of Mr Graham: That Recommendation 9 be amended by omitting 'expedite the approval' and inserting instead 'expedite the assessment'.

Resolved on the motion of Mr Searle: That paragraph 5.106 be omitted as follows: 'However, it is clear that in the long-term, attention must be paid to ensuring the market has enough dispatchable capacity to ensure reliable supply for homes and businesses as the sector transitions. The committee considers that the current incentives driving new investment in renewables does not place adequate value on the need to provide reliable dispatchable electricity' and the following new paragraph be inserted instead:

'However, it is clear that in the long-term, attention must be paid to ensuring the market has enough dispatchable capacity to ensure reliable supply for homes and businesses as the sector transitions. The committee considers that there should be incentives to drive new investment in renewables whilst ensuring there are measures to provide reliable, dispatchable energy. As the majority of our ageing fleet of coal-fired power stations will retire in the next decade and a half, there is concern that NSW could face energy shortfalls and even higher prices if there is not the necessary investment in constructing new, renewable and other energy generation capacity to replace coal-fired retiring generators.

Resolved on the motion of Mr Searle: That the following two new paragraphs be inserted after paragraph 5.106:

'The committee has noted from the information provided by the ACT Government and from its visit to Victoria, that a reverse auction approach has seen very significant investment in renewable energy and energy from those projects being provided at historic low prices.

The committee recommends that the NSW Government explores taking a 'reverse auction' approach to leveraging new investment in renewable energy and storage'.

Resolved on the motion of Mr Searle: That the following new recommendation be inserted after paragraph 5.106:

'Recommendation X

That the NSW Government explores taking a 'reverse auction' approach to leveraging new investment in renewable energy and storage'.

Resolved on the motion of Mr Searle: That paragraph 5.107 be omitted as follows: 'The committee notes that as the transition to renewables occurs, there is a risk to maintaining baseload power. During this transition, energy security, reliability and affordability must be secured at any cost. Small businesses and farmers must not be thrown under the bus as a consequence of a lack of long-term planning or unwise approach to promoting renewables at the expense of other energy sources' and the following new paragraph be inserted instead:

'The committee notes that as the transition to renewables occurs, energy security, reliability and affordability must be secured. Households, small businesses and farmers must not be thrown under the bus as a consequence of a lack of long-term planning or leaving everything to a clearly dysfunctional market'.

Mr Searle moved: That the following paragraph 5.108 be omitted 'The committee finds that as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in baseload power is required to undergird secure, reliable and affordable energy. The government will need to look at

all options for maintaining baseload power well into the long-term. This includes the possibility of public investment in coal-fired power stations in the future' and the following new paragraph be inserted instead:

'The committee finds that as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in flexible and dispatchable power is required to ensure secure, reliable and affordable energy'.

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham, Mr Martin, Mr Franklin.

Noes: Mr Green, Mr Borsak.

Question resolved in the affirmative.

Mr Searle moved that: That Finding 3 be omitted as follows: 'That as New South Wales transitions to a greater reliance on intermittent renewable energy generation, new investment in baseload power is required to undergird secure, reliable and affordable energy. The NSW Government will need to look at all options for maintaining baseload power well into the long-term. This includes the possibility of public investment in coal-fired power stations in the future' and that the following new finding be inserted instead:

'Finding X

That as New South Wales transitions to a greater reliance on intermittent renewable generation, new investment in flexible and dispatchable power is required to ensure secure, reliable and affordable energy'.

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham, Mr Martin, Mr Franklin.

Noes: Mr Green, Mr Borsak.

Question resolved in the affirmative.

Resolved on the motion of Mr Buckingham that the following new paragraph be inserted after paragraph 5.111:

'The committee notes that storage technologies, greater interconnection in the network, and demand management must be developed to facilitate the greater proportion of renewable energy in the grid.'

Resolved on the motion of Mr Buckingham: That the following new recommendation be inserted after recommendation 10:

'Recommendation X

That NSW should work with the COAG Energy Council and implement state-based policies to encourage energy storage, interconnection and demand management'.

Mr Buckingham moved: That Finding 4 be amended by inserting at the end 'That a timetable of power station closures should be facilitated, with regard to emissions reduction targets, to improve strategic planning'.

Question resolved in the negative.

Resolved on the motion of Mr Searle: That paragraph 5.142 be omitted as follows: 'These are all laudable objectives but little detail is actually known about the details of the New South Wales electricity transmission strategy. It is recommended that as a matter of priority the NSW Government release a draft of the New South Wales Transmission Infrastructure Strategy for public consultation' and the following new paragraph be inserted instead:

'The committee notes the NSW Government has released the New South Wales Transmission Infrastructure Strategy'.

Resolved on the motion of Mr Searle that Recommendation 11 be omitted as follows: 'That as a matter of priority the NSW Government release a draft of the New South Wales Transmission Infrastructure Strategy for public consultation'.

Mr Searle moved that the following new paragraph be inserted after paragraph 5.150:

'Whatever the merits of the program, its scale is small and will not provide the resources needed to transition to a cleaner, cheaper energy system'.

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham.

Noes: Mr Franklin, Mr Martin, Mr Borsak, Mr Green.

Question resolved in the negative.

Mr Searle moved: That paragraph 5.151 be amended by omitting 'The committee is particularly supportive of the intent demonstrated by the government in pursuing a technology-neutral approach to the program'.

Question put.

The committee divided.

Ayes: Mr Searle, Mr Graham, Mr Buckingham.

Noes: Mr Franklin, Mr Martin, Mr Borsak, Mr Green.

Question resolved in the negative.

Mr Buckingham moved: That paragraph 5.152 be omitted as follows: 'The committee considers that energy policy, and in particular green schemes, should not be technology specific. Full consideration must be given to all energy opportunities, not just renewables like wind and solar' and the following new paragraph be inserted instead:

'The committee considers that energy policy, and in particular green schemes, should be technology specific. Energy policy should aim to rapidly phase out fossil fuels and support renewable energy and storage'.

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle.

Noes: Mr Franklin, Mr Martin, Mr Green, Mr Borsak.

Question resolved in the negative.

Resolved on the motion of Mr Franklin: That the following paragraph 5.152 be omitted as follows: 'The committee considers that energy policy, and in particular green schemes, should not be technology specific. Full consideration must be given to all energy opportunities, not just renewables like wind and solar' and the following new paragraph be inserted instead:

'The committee considers that energy policy, and in particular green schemes, should not be technology specific. Full consideration must be given to all energy opportunities'.

Mr Searle moved: That the following paragraph 5.153 be omitted as follows: 'Nuclear energy and high efficiency low emissions coal, for example, may provide viable and affordable energy solutions. While the committee does not believe that government should choose a particular technology to favour, it recognises

the potential of nuclear energy and high efficiency low emissions coal technology to provide cost-effective and dispatchable generation to undergird intermittent renewable generation technologies'.

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle Mr Franklin, Mr Martin

Noes: Mr Green, Mr Borsak.

Question resolved in the affirmative.

Mr Searle moved: That the paragraph 5.154 be omitted as follows: 'Accordingly, these options must be considered in the energy security and affordability debate. With nuclear and high efficiency low emissions coal on the table, and a level playing field between renewables and other generators, the market can decide which are affordable to build and operate and get the best outcomes for New South Wales.'

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle. Mr Franklin, Mr Martin

Noes: Mr Green, Mr Borsak.

Question resolved in the affirmative.

Mr Searle moved: That the paragraph 5.155 be omitted as follows: 'The committee therefore considers that the government should ensure that nuclear and high efficiency low emissions coal are not excluded from receiving funding through the Emerging Energy Program'.

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle. Mr Franklin, Mr Martin

Noes: Mr Green, Mr Borsak.

Question resolved in the affirmative.

Mr Searle moved: That paragraph 5.157 be amended by inserting 'including wind, solar, pumped hydro, batteries and other storage technologies' after 'a range of secure, reliable and affordable energy options'.

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle.

Noes: Mr Franklin, Mr Martin, Mr Green, Mr Borsak.

Question resolved in the negative.

Resolved on the motion of Mr Buckingham: That paragraph 5.157 be amended by omitting 'including pumped hydro, nuclear energy, and high efficiency low emissions coal'.

Resolved on the motion of Mr Buckingham: That Recommendation 12 be amended by omitting 'including pumped hydro, nuclear energy, and high efficiency low emissions coal'.

Mr Buckingham moved: That the following new recommendation be inserted after recommendation 12:

'Recommendation X

That in the absence of Commonwealth policy, NSW should consider implementing state-based emissions reduction targets for 2020, 2025, 2030 and 2050'.

Question put.

The committee divided.

Ayes: Mr Buckingham, Mr Graham, Mr Searle.

Noes: Mr Franklin, Mr Martin, Mr Green, Mr Borsak.

Question resolved in the negative.

Mr Buckingham moved: That the following new recommendation be inserted after recommendation 12:

'Recommendation X

NSW should implement a state-based carbon price, potentially through the load-based licensing scheme, to provide a price signal to the electricity market to stimulate the change required to rapidly decarbonise the electricity sector'.

Question put.

The committee divided.

Ayes: Mr Buckingham.

Noes: Mr Graham, Mr Searle, Mr Franklin, Mr Martin, Mr Green, Mr Borsak.

Question resolved in the negative.

Resolved on the motion of Mr Buckingham: That the following new recommendation be inserted recommendation 12:

'Recommendation X

That the NSW Government should direct IPART to provide a fair price for solar by factoring in the environmental and health benefits, similar to Victorian legislation'.

Resolved on the motion of Mr Buckingham: That the following new recommendation be inserted recommendation 12:

'Recommendation X

That the NSW Government should encourage and incentivise that solar power be installed on all new dwellings or business premises where practical'.

Resolved, on the motion of Mr Searle: That:

The draft report, as amended, be the report of the committee and that the committee present the report to the House;

The transcripts of evidence, submissions, tabled documents, answers to questions on notice and supplementary questions, and correspondence relating to the inquiry be tabled in the House with the report;

Upon tabling, all unpublished attachments to submissions be kept confidential by the committee;

Upon tabling, all unpublished transcripts of evidence, submissions, tabled documents, answers to questions on notice and supplementary questions, and correspondence relating to the inquiry, be published by the committee, except for those documents kept confidential by resolution of the committee;

The committee secretariat correct any typographical, grammatical and formatting errors prior to tabling;

The committee secretariat be authorised to update any committee comments where necessary to reflect changes to recommendations or new recommendations resolved by the committee;

Dissenting statements be provided to the secretariat within 24 hours after receipt of the draft minutes of the meeting;

That the report be tabled by Thursday 22 November 2018.

6. Adjournment

The committee adjourned at 1.05 pm, *sine die*.

Alex Stedman
Committee Clerk