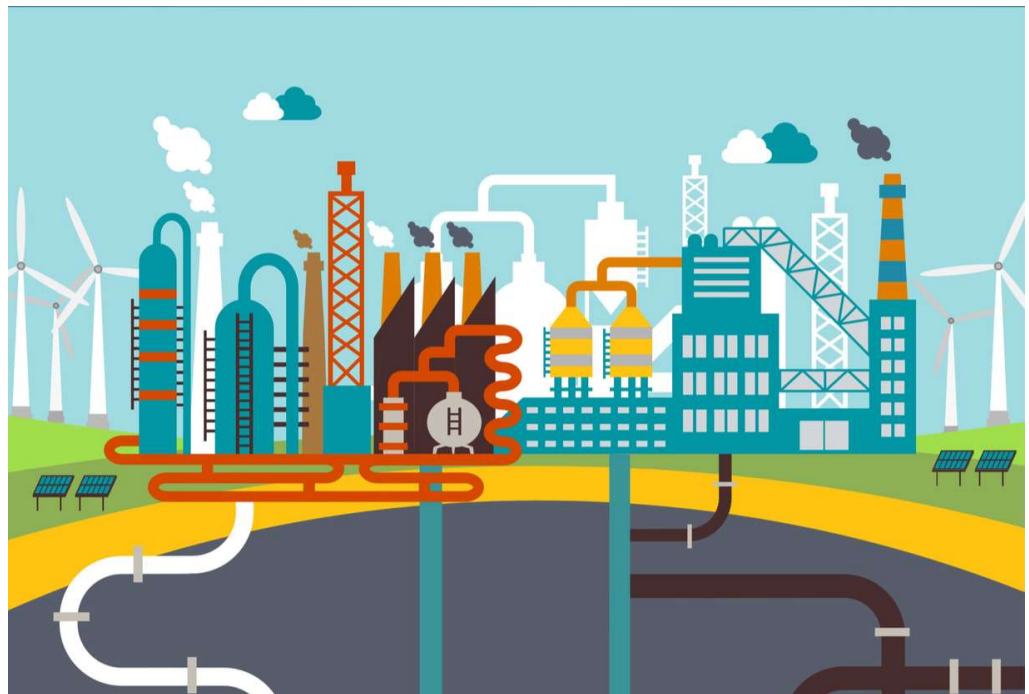




AUSTRALIAN ENERGY POLICY



May 2020

National energy regulation and policy
– Performance since 2008



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TABLE OF CONTENTS

TABLE OF CONTENTS III

INTRODUCTION 1

BACKGROUND 1

ASSESSMENT OF PERFORMANCE 2

 Economic outcomes 2

 Consumer sentiment 8

 Drivers of performance outcomes 10

 Wholesale electricity market outcomes..... 12

 Gas market outcomes..... 13

 Monopoly network and pipeline outcomes 14

 Retail market outcomes 17

 Conclusions about performance outcomes 17



INTRODUCTION

Australia's energy markets and systems are facing a time of rapid change, both due to new and emerging technologies and changes to the regulatory frameworks and market arrangements. Coupled with large scale supply disruptions, concerns about energy affordability and identified market dysfunction, now is a critical time to make sure the energy policy and regulatory arrangements are appropriate, adequate and functional.

The risks of ineffective arrangements are to make energy inaccessible, unaffordable and unreliable for Australian consumers. This could detrimentally affect Australia's economy and Australians' quality of life. As such, this would be the opposite outcome to the purpose of the national energy arrangements over the past 20 years.

The following document provides a high level analysis and conclusions that can be drawn over the performance of the national energy legislative and policy arrangements since 2008.

BACKGROUND

The energy sector regulatory and policy arrangements are the result of a reform programme that commenced in the 1990s. Initially, the reform process was focused on delivering a wholesale electricity market covering eastern mainland Australia, from Queensland through to South Australia and extending to Tasmania in 2006. This expanded to broader electricity arrangements and natural gas services following COAG recognition of the benefits of national arrangements.

Over the years, the reform programme has resulted in individual state and territory arrangements being replaced by national regulatory frameworks, independent institutional arrangements, energy-specific consumer protections and clear and transparent reform processes. Specifically, this covers:

- Establishment of the National Electricity Law, Regulations and Rules; the National Gas Law, Regulations and Rules; and the National Energy Retail Law, Regulations and Rules
- Establishment of the Australian Energy Regulator (AER), Australian Energy Market Commission (AEMC) and Australian Energy Market Operator (AEMO)
- Establishment of independent rule change processes
- Establishment of simple and complementary statutory objectives.

Within these arrangements, there are aspects that are common to both electricity and gas, while other elements vary based on the nature of the services being regulated and the historical arrangements in different states and territories. As such, energy regulation and policy are a complex mixture of state, territory and Commonwealth arrangements, which brings with it challenges and opportunities.

The following analysis looks only in those areas where the national arrangements have been applied since 2008. For electricity, this means the National Electricity Market (NEM) jurisdictions of Queensland, New South Wales, Australian Capital Territory, Victoria, South Australia and Tasmania.¹ For gas, the National Gas Law has been applied in all states and territories, albeit with mechanical legal differences, and by the Australian Government in offshore areas.

¹ While the Northern Territory applied the National Electricity Law in 2016, with the regulatory arrangements, in large, commencing on 1 July 2019, there is limited evidence around how the National Electricity Law has operated in the Territory.

ASSESSMENT OF PERFORMANCE

The statutory objectives set out in each of the energy laws, which apply in the context of the laws and any rules made under the laws, is specified in terms of delivering the long term interests of consumers.

7—National electricity objective

The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

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

23—National gas objective

The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

13—National energy retail objective

The objective of this Law is to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy.

Sources: *National Electricity (South Australia) Act 1996*; *National Electricity Law—Schedule*; *National Gas (South Australia) Act 2008*; *National Gas Law—Schedule*; and *National Energy Retail Law (South Australia) Act 2011*; *National Energy Retail Law—Schedule*.

In establishing the statutory objectives of the national energy laws, the policy-making body, the Ministerial Council on Energy (MCE)² articulated the paramount objective was to maximise consumer economic welfare. This purpose, in turn was reflected in the objective set out in the AEMA (see paragraph 2.1 (a)).³

This consumer focus was reinforced in a 2012 *Statement of policy intent*:

“In interpreting the [national energy objectives], the long-term interests of consumers (with respect to price, quality, safety, reliability and security of supply) are paramount in the regulation of the energy industry.”⁴

The following assessment of outcomes from the energy policy and regulatory arrangements, therefore, focuses on whether the welfare of consumers over the past decade have been maximised. Welfare in this instance looks at the cost of energy and how this aligns with the quality of the services being provided.

Economic outcomes

Cost of a product is the most significant component of economic welfare for consumers. Where costs increase faster than other products or income, it can compromise the consumers' budgets

² The MCE is the Ministerial Council on Energy established on 8 June 2001, being the Council of Ministers with primary carriage of energy matters at national level comprising the Ministers representing the Commonwealth, the States, the Australian Capital Territory and the Northern Territory. Its role is currently performed by the COAG Energy Council.

³ Second reading speech: *National Electricity (South Australia) (New National Electricity Law) Amending Bill*, 9 February 2005, p 1452.

⁴ SCER, *Statement of policy intent; Review framework for the electricity and gas regulatory decision making*, December 2012.

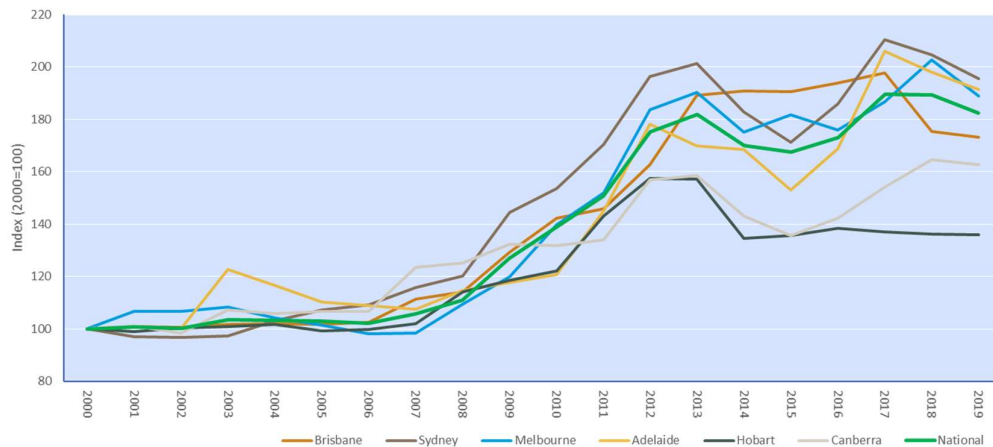
and detrimentally affect the economy (due to need for increased interventions or through closures of businesses).

The following analyses the economic outcomes for electricity in the NEM and for gas across Australia.

Electricity

Figure 1 shows that electricity prices in the NEM have increased significantly since the national frameworks commenced in 2008 (across the supply system) in the NEM.

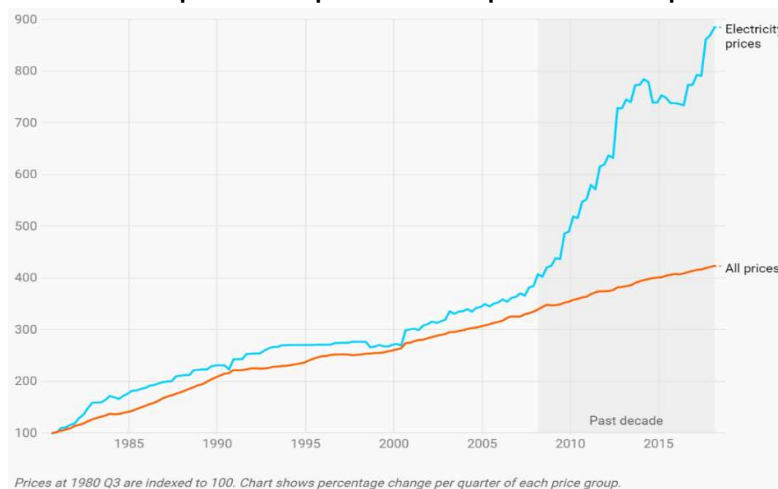
Figure 1. Electricity retail price index in the NEM (inflation adjusted)



Source: AER, *State of the energy market – Data update November 2019, Retail Energy Markets* Figure 1.7.

Figure 2 shows that, to 2018, these price rises are significantly more than the consumer price increase (CPI) over the decade (the shaded area) since the national frameworks commenced in 2008.

Figure 2. Quarterly change in consumer price index of electricity prices compared with all prices since September 1980

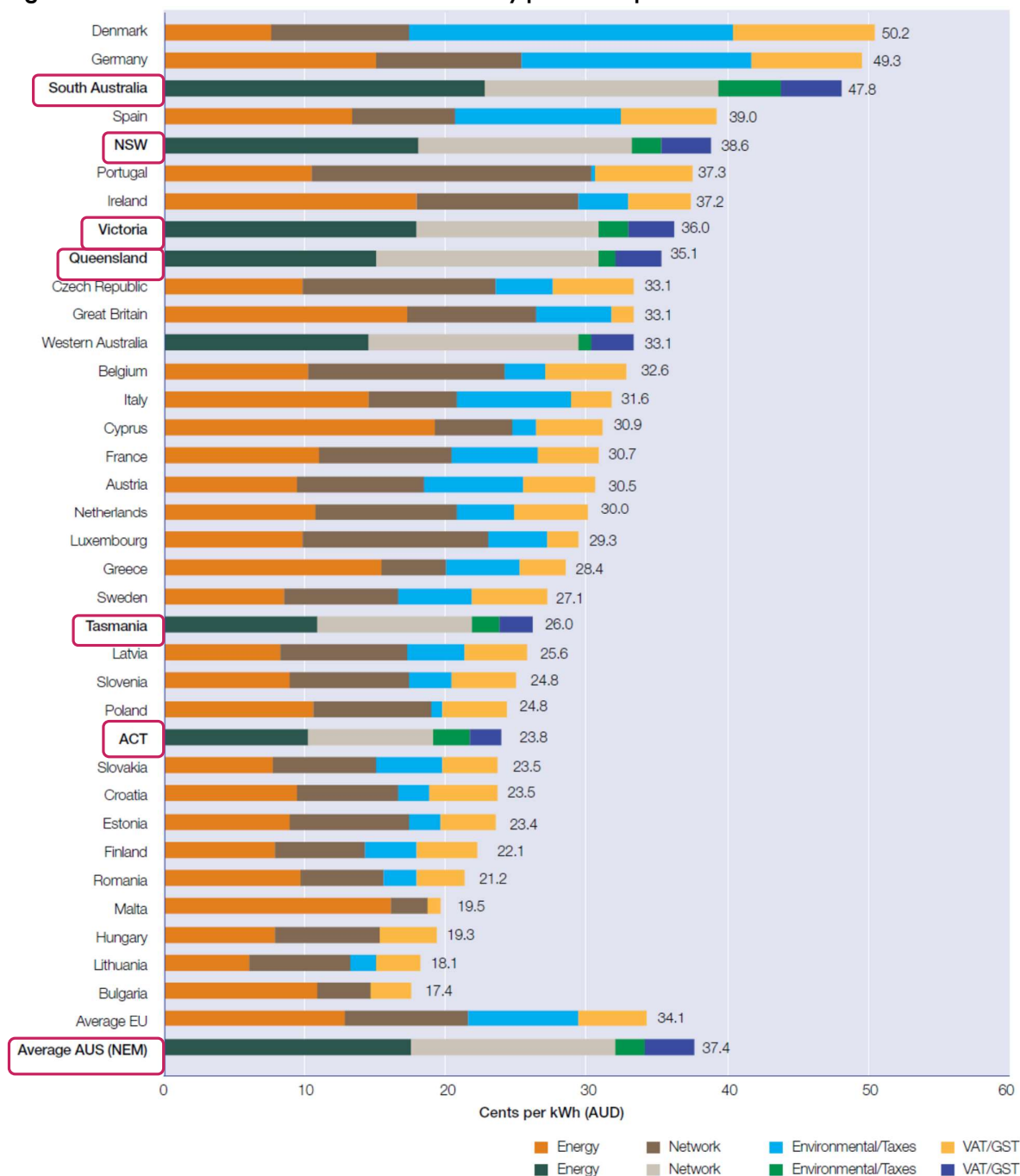


Source: ABC News, <https://www.abc.net.au/news/2018-07-18/electricity-price-rises-chart-of-the-day/9985300>, accessed 1 May 2020.

The delinking of electricity prices from CPI indicates that there is something sector-specific that has driven these increases. Further, comparisons with European countries show this is an Australian specific trend. Historically Australian electricity prices were low by global standards. However,

increases in electricity prices over the past decade mean average Australian prices were, in 2018, around 10 per cent above the European average (see Figure 3).

Figure 3. International household electricity price comparison



c/kWh, cents per kilowatt hour.

Note: 2018 prices, including GST.

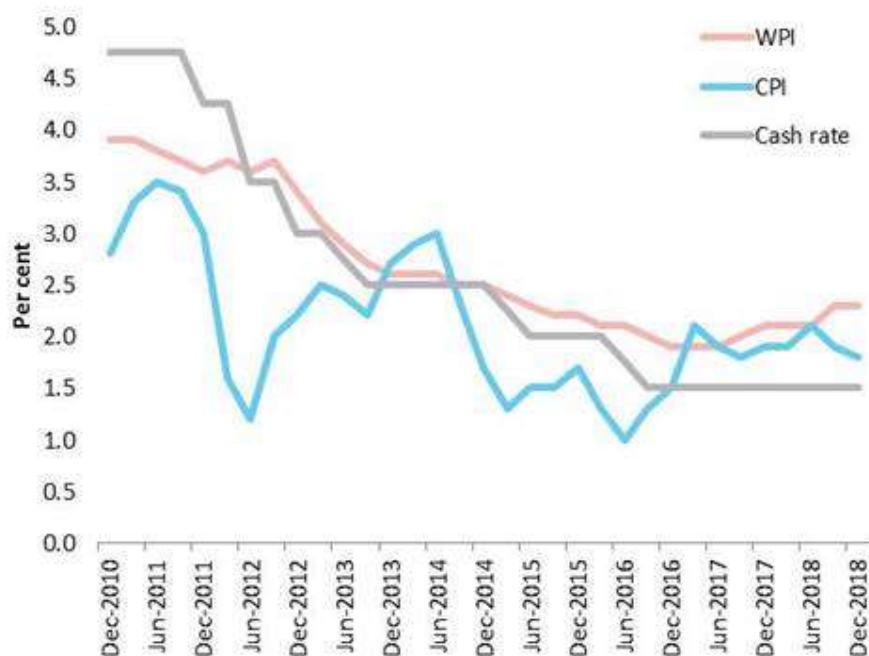
Source: ACCC, *Restoring electricity affordability and Australia's competitive advantage, Retail Electricity Pricing Inquiry—Final report*, June 2018, p. 24.

Source: AER, *State of the Energy Market 2018*, page 45.

Comparing the increase in incomes with electricity provides an indication of economic welfare. Figure 4 shows that wages (WPI) are more in line with CPI, which means wage growth is substantially falling behind electricity price rises. The fact that wages have not grown at the same rate as

electricity prices means that households are having to spend a greater proportion of their income on electricity.

Figure 4. Movements in wages, inflation and the target cash rate, 2010–18



Source: Geoff Gilfillan, *The extent and causes of the wage growth slowdown in Australia*, RESEARCH PAPER SERIES, 2018–19, Parliament of Australia—Parliamentary Library, 9 April 2019.

Gas

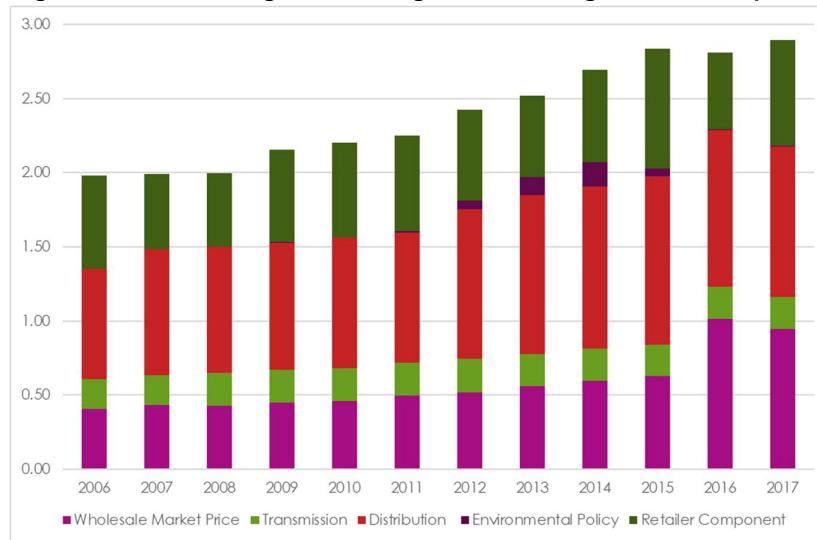
Gas has different characteristics than electricity. Gas is able to be stored, which means supply and demand do not need to balance in real time. In addition, it is possible to substitute electricity for gas where it is being used for heating or cooking. As such, economic welfare is likely to be affected by gas regulatory and policy arrangements differently across different parts of the economy and for different types of consumers.

For residential and small business consumers, there is a lower penetration of gas connections and greater capacity for alternatives, such as electricity or liquid fuels, to gas. The comparative value of gas can vary between residential and business consumers, where businesses may be dependent on gas, which may affect the degree of substitution that is economical.

In contrast, gas for industrial users can be used as a key input into their production processes. This can mean substitution is not possible.

Figure 5 shows that gas prices for residential customers across Australia increased significantly from when the national frameworks commenced in 2008 to 2018.

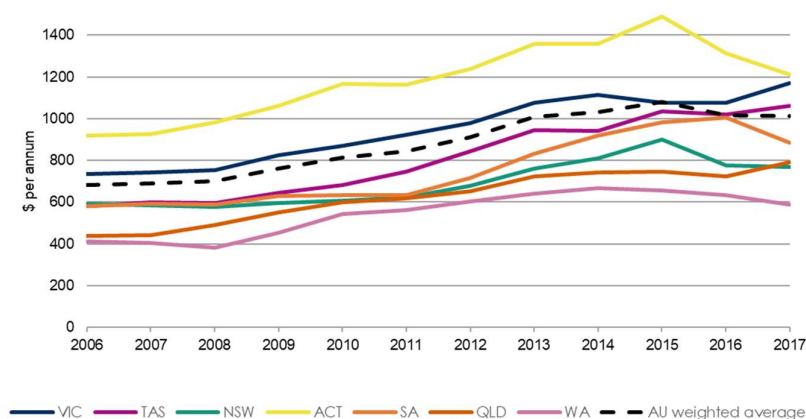
Figure 5. Changes in average residential gas customer prices



Source: Oakley Greenwood Gas Price Trends Review 2017, March 2018

There is some variability across different states and territories (see Figure 6), although the underlying trends in the east coast states are roughly the same.

Figure 6. Cost of gas for households (\$2017)



Source: Oakley Greenwood Gas Price Trends Review 2017, March 2018

Small industrial users' gas supplies are generally secured through retailers. Oakley Greenwood analysed 120 businesses in New South Wales and Victoria and found prices had increased by 142 per cent and 69 per cent, respectively, between 2015 and 2017. This trend was largely consistent with the trend in the wholesale gas price.⁵

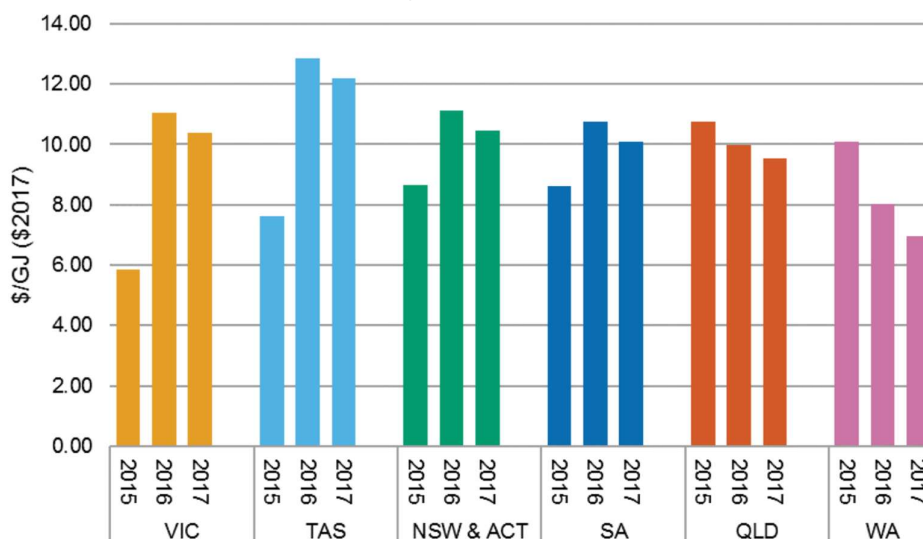
For industrial users, prices are linked most closely to the wholesale price with the additional cost of gas transport incorporated. Generally, this type of gas consumer secures its own gas supply direct from producers with or without transport and may manage any short-term supply or demand imbalance from the trading hubs or short-term trading markets.⁶

⁵ Oakley Greenwood Gas Price Trends Review 2017, March 2018

⁶ Ibid.

In 2017, Oakley Greenwood found that wholesale gas prices have eased, with flow on effects for large industrial users entering into new gas supply agreements.

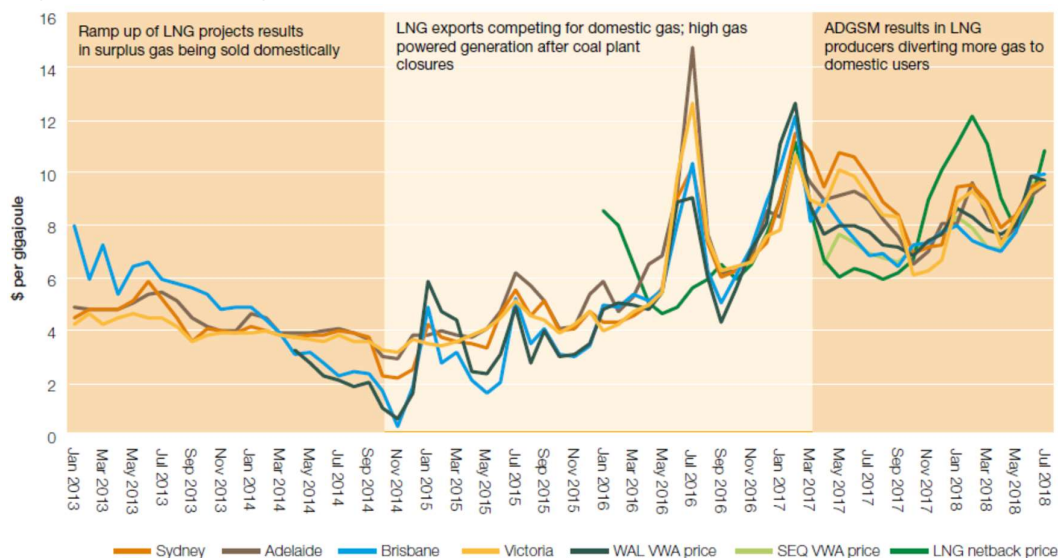
Figure 7. Average delivered gas price comparison 2015, 2016 and 2017 for large industrial users on new gas supply agreements (price includes wholesale gas and transport)



Source: Oakley Greenwood Gas Price Trends Review 2017, March 2018

Similar trends for spot gas and LNG netback prices were observed in the AER's 2018 *State of the Energy Market* (see Figure 8).

Figure 8. Spot gas and LNG netback prices



ADGSM, Australian Domestic Gas Security Mechanism; SEQ, south east Queensland; VWA, volume weighted average; WAL, Wallumbilla.

Note: Spot prices are monthly weighted averages. LNG netback prices are based on domestic spot market prices on the first day each month and expected netback prices for LNG cargoes to Asia in the following month. The 1 April LNG netback price, for example, is based on domestic spot prices for the 1 April gas day, and the netback on expected LNG spot prices for cargoes to Asia in the following month.

Source: AER; AEMO; ACCC (LNG netback prices).

Source: AER, *State of the Energy Market 2018*, page 211.

While there is evidence that LNG producers are diverting more gas to domestic users, the prices are still materially higher than historical prices. In April 2019, the ACCC noted current gas prices are two

to three times higher than historical prices. As such, they remain a critical issue for industrial gas users in the east coast markets.⁷

In its 2020 update, the ACCC advised that industrial users were continuing to try to reduce their overall gas costs, although most had largely exhausted all opportunities to reduce their gas use through energy efficiency improvements. Consequently, users are now actively exploring alternative energy sources or looking at other ways to reduce their gas costs, including by sourcing gas directly from producers and making greater use of short-term trading markets.⁸

This situation may be exacerbated due to supply shortfalls in the near future. In its Gas Statement of Opportunities, AEMO forecasts that a supply gap will emerge in the southern states from 2024, due to continued decline in production from existing gas fields and lower than expected production from as yet undeveloped gas fields. AEMO considers that additional investment in infrastructure to transport gas from Queensland, or to import via LNG import terminals, will likely be needed to avoid supply shortfalls.⁹

Conclusions about economic welfare

The above analysis is intended to demonstrate whether, at a high level, national energy policy and regulatory arrangements have maximised the economic welfare of Australian consumers by comparing outcomes in the energy markets with the broader economy and the capacity of consumers to pay. The trends identified above provide anecdotal evidence that economic welfare has not increased. Instead, the findings indicate that, since 2008, there has been a significant increase in energy costs that have not been accompanied by a comparable increase in income or economic growth, meaning energy consumers, whether industrial, business or residential, need to spend a larger proportion of their incomes on energy.

This is consistent with findings by the AER that average electricity and gas debt has increased for consumers in recent years.¹⁰ Further, the AEMC commissioned research that identified 20 per cent of retail customers are likely to be vulnerable to energy affordability issues.¹¹

With regards to gas, the above shows that the economic integrity of large industrial users is likely to remain precarious and, as the ACCC identified in its 2020 report, lead to closure of uneconomic plant or liquidation of gas dependent businesses.¹²

Consumer sentiment

The above findings about economic outcomes are consistent with consumer views about the effectiveness of the policy and regulatory arrangements. The AEMC reported in 2018 that consumer confidence that the market is working in their long term interests had dropped to 25 percent.¹³ For context, this is lower than confidence in the banking sector at that time. In the 2019 report, confidence had rebounded slightly, but remained poor at 31 percent.¹⁴

This increase between 2018 and 2019 was attributed to the adoption of an industry Energy Charter. However, the continued evidence that the regulatory and policy arrangements are not maximising the welfare of consumers over the long term remains a critical issue that needs to be addressed for trust in the policy and regulatory arrangements to be improved.

⁷ ACCC, *Gas inquiry report 2017-2020 Interim report April 2019*.

⁸ ACCC, *Gas inquiry 2017-2025 Interim report January 2020*.

⁹ AEMO, *Gas Statement of Opportunities*, March 2020.

¹⁰ AER, *State of the Energy Market 2018*, pp 65-66.

¹¹ Newgate Research, *Understanding vulnerable customer experiences and needs, consumer research report prepared for the AEMC*, June 2016.

¹² ACCC, *Gas inquiry 2017-2025 Interim report January 2020*.

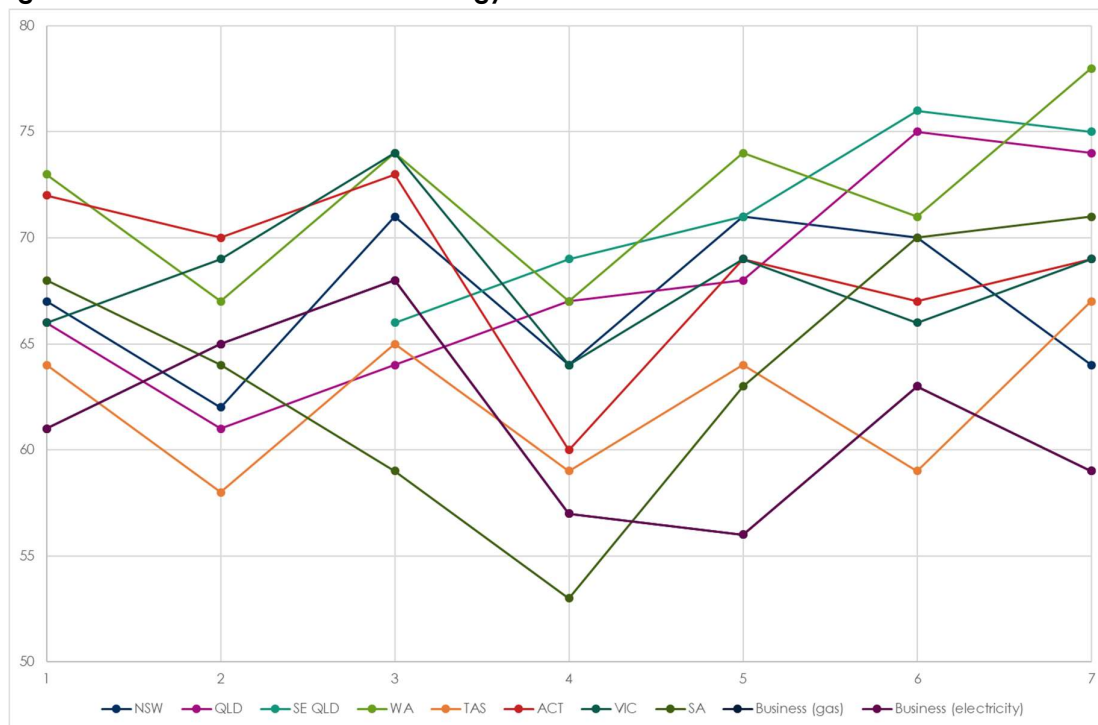
¹³ AEMC, *2018 Retail Energy Competition Review*, page xvi.

¹⁴ AEMC, *2019 Retail Energy Competition Review*, page v.

Energy Consumers Australia's biennial reports on consumer sentiment provides a breakdown of matters that are important for consumers at a point in time. This itemisation is a useful tool for policy-makers, as it allows for the identification of priority areas of strategic interest, based on feedback from consumers. This enables a policy-objective approach to regulatory reform, rather than targeting specific reforms of aspects of the supply chain or regulatory arrangements. A policy-objective approach better reflects the lived experience of consumers, who pay for services as a whole, rather than separately for each part of the supply chain.

The June 2019 survey shows a general improvement in sentiment in most states and territories, compared with a low base 12 months before. Figure 9 shows the trend of sentiment over time, which is that it is relatively stable (an average of around ± 4 percent) over the since the surveys commenced and are generally positive. However, there is a large proportion of surveyed consumers who are not satisfied (neutral or dissatisfied) with their energy services (about an average of 33 percent).¹⁵

Figure 9. Overall satisfaction energy services



Source: Energy Consumers Australia, *Energy Consumer Sentiment Survey*, June 2019

Businesses using both electricity and gas are more dissatisfied than households. In addition, their negative sentiments are more prevalent over time than for households.¹⁶

Satisfaction with value for money for electricity services is essentially unchanged in NSW and Victoria, but up in all other states and territories, most notably up 10 percent in Queensland (to 55 percent) and up 8 percent in South Australia (46 percent). However, this still leaves every state and territory behind all other comparable services compared in this survey.¹⁷

This upswing in household satisfaction with value for money outcomes is reflected in confidence the market is working in consumers' interests most states steady or improving, off a low base. Queensland saw the biggest increase on this measure, up 15 percent to 36 percent. While these

¹⁵ Energy Consumers Australia, *Energy Consumer Sentiment Survey*, June 2019.

¹⁶ Ibid.

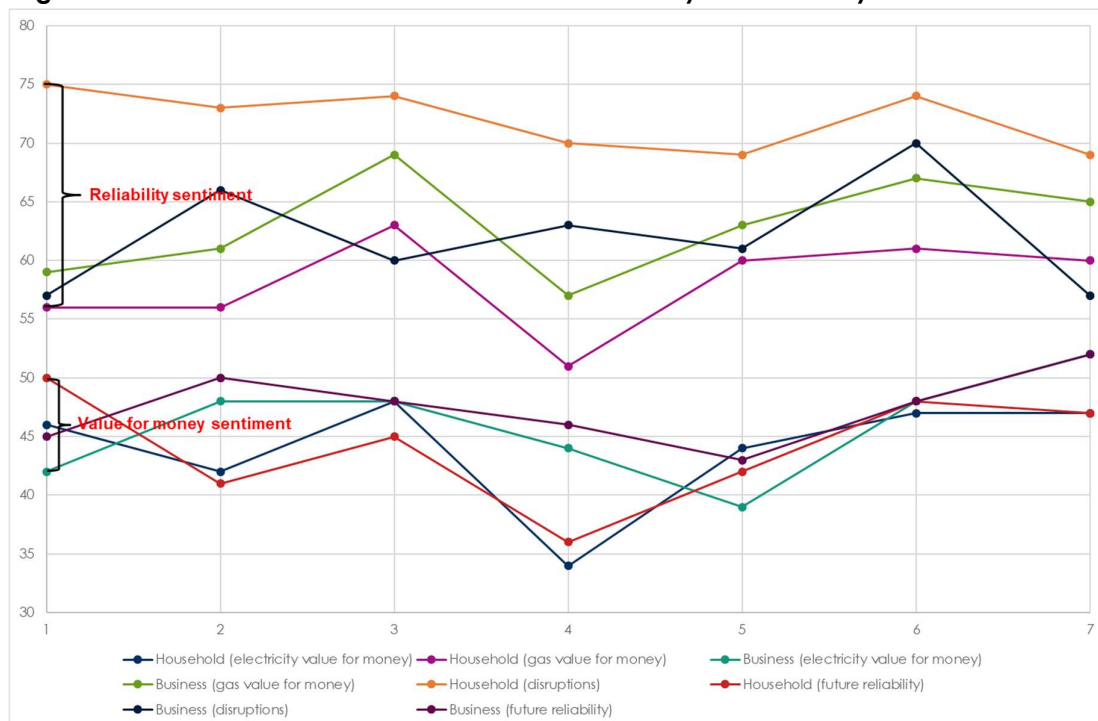
¹⁷ Ibid.

movements are in a positive direction, it still reflects a large level of dissatisfaction (of over 60 percent).¹⁸

There is a mixed picture with the changes in household satisfaction with reliability (electricity), but nationally, 69 percent of consumers are satisfied on this measure. However, there is a significant disjoint between satisfaction with reliability and satisfaction with value for money, which is at 47 percent nationally (see Figure 10).¹⁹

The disjoint between reliability and value for money is something that policy and regulatory decision-makers will need to grapple with going forward. Relevantly, it is a useful indicator of whether the balance in the regime as a whole is reflecting consumer interests (that is, if it is delivering sustainable price and reliability outcomes).

Figure 10. Consumer satisfaction in value for money and reliability



Source: Energy Consumers Australia, *Energy Consumer Sentiment Survey*, June 2019

Nationally, small businesses satisfaction with electricity on all measures is up relative to a year ago and the gap is closing with comparable services.

Drivers of performance outcomes

The combination of economic performance and consumer sentiment indicate the energy regulatory and policy frameworks are not, in combination, maximising consumer economic welfare in the way that was intended, which is reflected in the level of dissatisfaction with the cost of energy in Australia. In considering reforms to address the drivers of these outcomes, it is useful to identify the nature of the price increases since 2008.

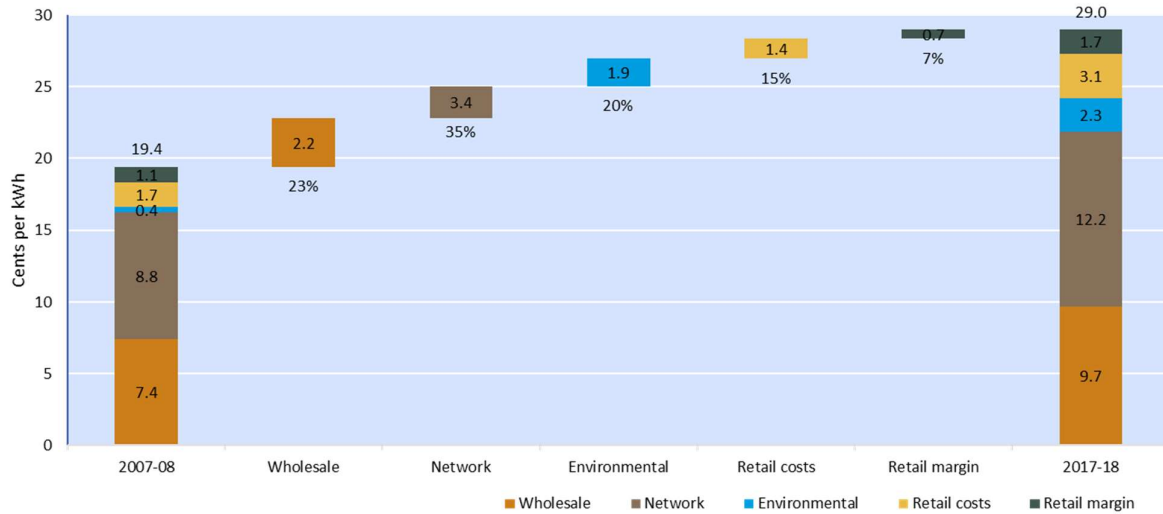
Figures 11 and 12 provide a comparison of the breakdown in retail prices in 2007-08 and 2017-18 for electricity and gas, respectively.²⁰

¹⁸ Ibid.

¹⁹ Ibid.

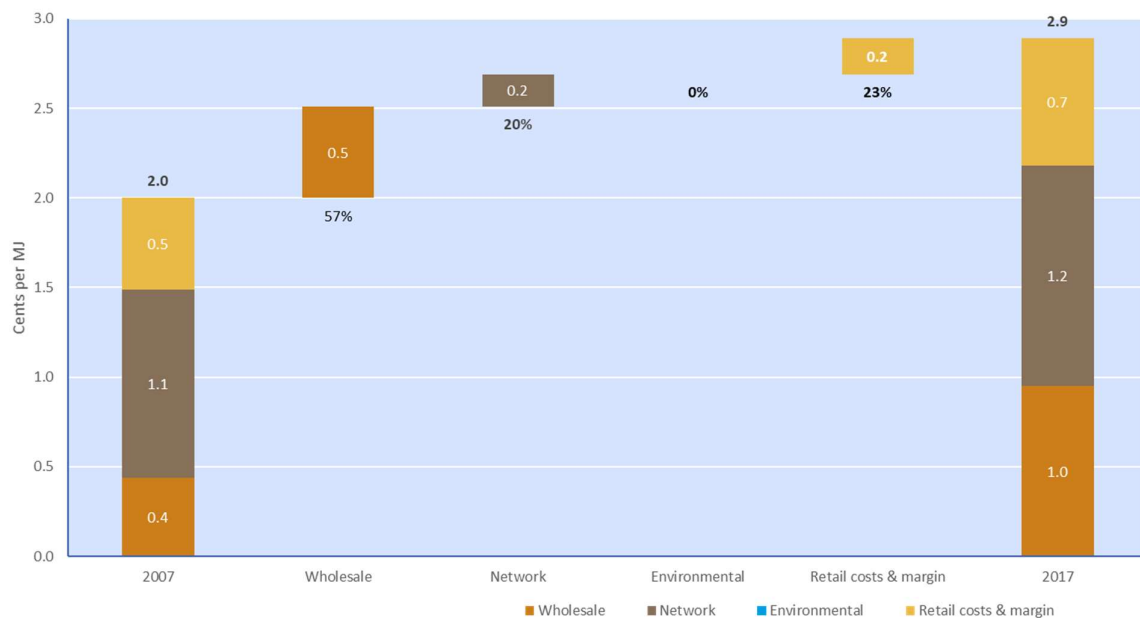
²⁰ Retail prices are used in this instance as a proxy for consumer welfare.

Figure 11. Change in average residential electricity customer prices in the NEM



Source: AER, *State of the energy market – Data update November 2019, Retail Energy Markets* Figure 1.5.

Figure 12. Change in average residential gas customer prices in the NEM



Source: AER, *State of the energy market – Data update November 2019, Retail Energy Markets* Figure 1.6.

From the above figures, it can be seen that the drivers behind price outcomes varies for electricity and gas. For electricity, retail prices increased by about 50 percent on 2007-08 prices, with the largest drivers of this increase relating to network and wholesale cost increases. For gas, retail prices increased by 45 percent on 2007-08 prices, with the largest drivers relating to wholesale and retail costs.

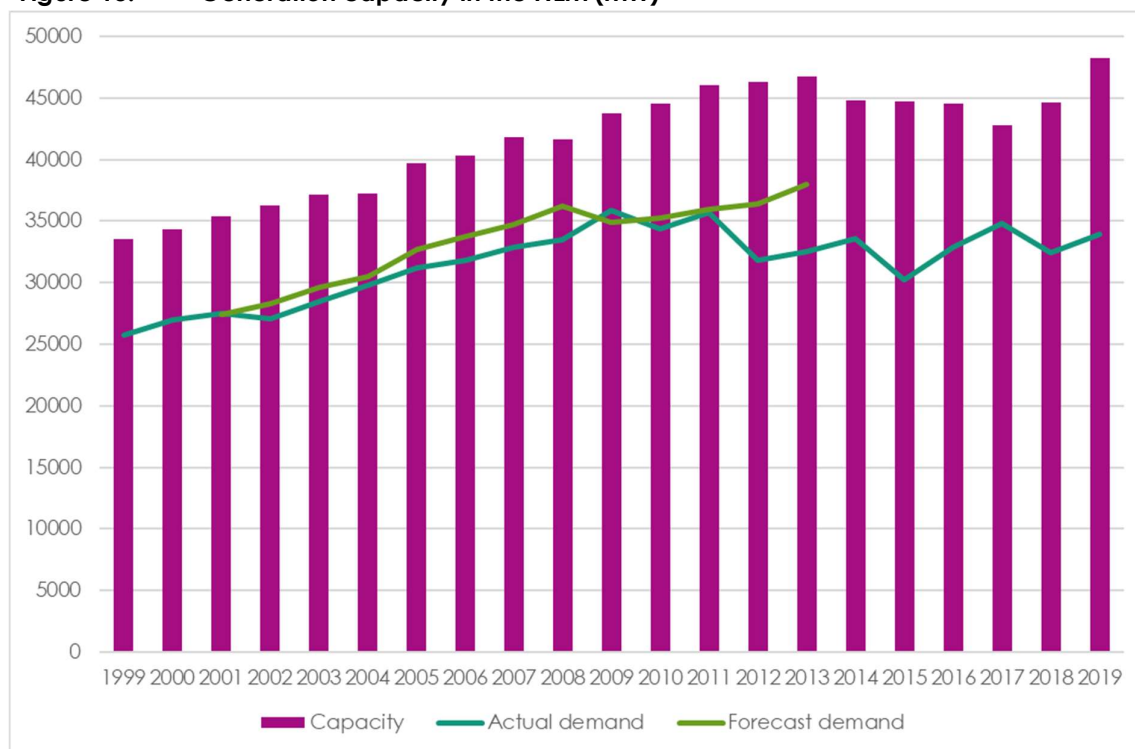
The following analysis of each of these key drivers will provide insights into common policy or regulatory issues that could be addressed from a strategic perspective (rather than trying to 'fix' the regulation in the different areas separately).

Wholesale electricity market outcomes

The wholesale electricity market in the NEM is displaying signs of ineffective outcomes. Relevantly, there is a growing disjoint between electricity generation capacity and consumption levels.

Generation capacity in the NEM has exceeded peak demand and forecast peak demand since market start. Until 2012, capacity has largely tracked the patterns in demand, which is a reflection of a market operating effectively. However, since 2012, capacity and demand trends have decoupled. This implies that something apart from market signals is driving the investment in generation capacity.

Figure 13. Generation capacity in the NEM (MW)



Note: Years in table denote end of financial year date

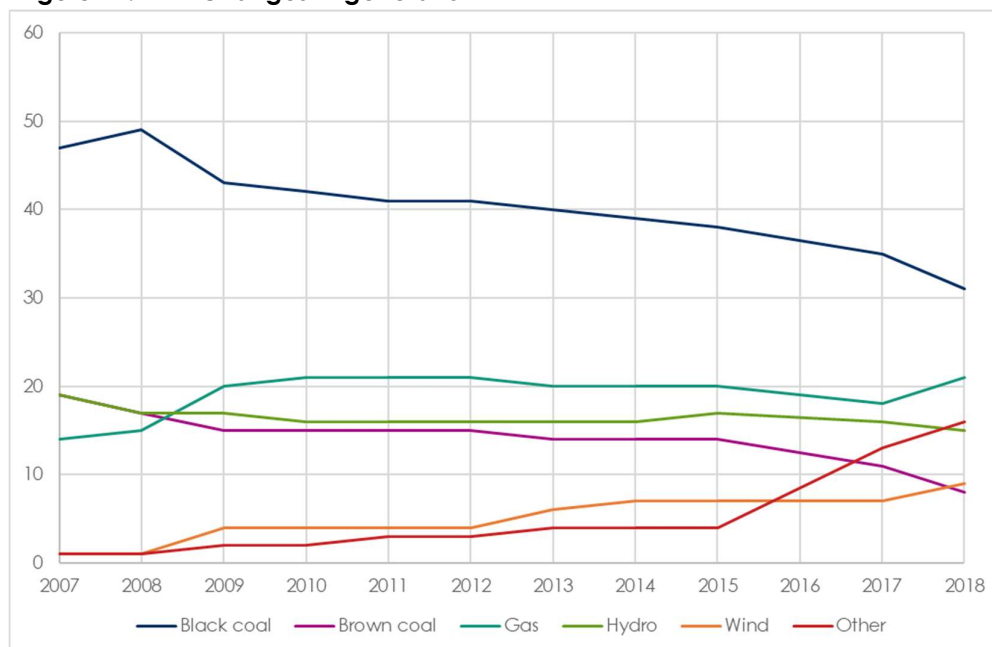
Source: AER *Generation capacity and peak demand*

Figure 14 below shows that this investment has been in renewable technologies, which has been primarily driven by environmental policies (rather than market signals). The biggest gain has been in the period since the carbon price was removed, where the renewable energy target remained the principal Commonwealth policy aimed at reducing emissions. This has driven a significant investment in wind generation, particularly in states and territories with pro-wind arrangements.

During this period, there has been an increasing number of interventions in the market by AEMO and the number of reviews and rule changes that are aimed at maintaining a secure system. This trend provides anecdotal evidence that both the regulatory and policy frameworks are facing increasing stress.

The effectiveness of their reform will depend on determining the optimal arrangements to support the market, including mechanisms to maximise competition, the removal of barriers to entry and exit and minimising distortionary policies and regulations. However, underlying any reforms must be the clear link to the paramount objective of maximising consumer economic welfare. This necessitates driving efficiencies across the system as a whole and managing risks for consumers, which, in turn, requires modelling and managing negative impacts a key part of the policy and regulatory development process.

Figure 14. Changes in generation mix



Notes: Years in table denote end of financial year date
From 2017 'Other' includes rooftop solar PV, which was the main driver of growth in this category.

Source: AER *State of the Energy Market* (various years)

Gas market outcomes

A number of recent reviews have looked into natural gas services in Australia. In 2017, the ACCC was tasked with a review the supply of and demand for wholesale gas in Australia, as well as to publish regular information on the supply and pricing of gas until 2020. In addition, in 2017 Oakley Greenwood was engaged by the Gas Major Projects Implementation Team, a COAG Energy Council officials' group, to review gas price trends over 2016-17. The review was intended to address the limited information in the public domain about the gas prices paid by industrial and residential customers.

In the April 2019 interim report, the ACCC noted that, when the inquiry commenced in April 2017, the gas market was dysfunctional. Those domestic gas buyers in the east coast that could get offers for gas supply were receiving offers at prices that were well in excess of export parity prices.²¹

In response, the Australian Government reached a Heads of Agreement with the LNG producers. Under the terms of this agreement, the LNG producers committed to offer sufficient gas to the domestic market on reasonable terms. This made more gas available into the domestic market, domestic price offers reduced substantially and by 2018 converged with LNG netback prices.²²

However, domestic prices remain challenging for commercial and industrial gas users. This is particularly true for smaller commercial and industrial gas users, who do not have the option of sourcing gas from producers, and instead rely on supply from retailers. Most have had to settle for prices above \$10 per gigajoule, and some above \$11 per gigajoule.²³

²¹ ACCC, *Gas inquiry report 2017-2020 Interim report April 2019*.

²² Ibid.

²³ Ibid.

Many commercial and industrial gas users informed the ACCC that at those gas prices, their operations are not sustainable in the medium to longer term. Several commercial and industrial gas users recently went into administration, citing rising gas costs as a contributing factor.²⁴

In response to the ACCC's *Inquiry into the East Coast Gas Market* and the AEMC's *Eastern Australian Wholesale Gas Market and Pipelines Framework Review: Stage 2 final report*, the Energy Council launched its Gas Market Reform Package. The reform package comprises a suite of reforms covering all gas supply segments: gas supply and production, market operation, gas transportation and market transparency.²⁵

Monopoly network and pipeline outcomes

Regulated network costs are the largest component of residential customers' bills. This is reflective of the fact that distribution and transmission networks involve large capital investments. For comparison, energy networks regulated by the AER have a combined regulated asset base of \$83 billion,²⁶ while Telstra, a nation-wide carrier, assets total \$13 billion²⁷ (which is comparable with the asset base of the NEM's two largest electricity distribution networks, Ausgrid in New South Wales and Energex in Queensland).

As networks are natural monopolies, network service provider (NSP) revenues are economically regulated. In NEM jurisdictions and the Northern Territory, NSPs are regulated by the AER, and in Western Australia they are regulated by the Economic Regulation Authority (ERA).²⁸

Regulated network charges in 2017-18 represented approximately 30 to 50 per cent of a typical residential electricity bill for a consumer depending on their location. Of this, the transmission cost represented approximately 4 to 12 per cent, the distribution cost represented 23 to 40 per cent and metering costs represented 2 to 6 per cent. The network costs as a component of the bill has slightly decreased as a proportion of a typical residential consumers' annual electricity bill from 2016-17.²⁹

For all jurisdictions in the NEM, approved regulated revenues have declined since their peak in 2015. Network revenues are forecast to be around 16 per cent lower on average in current regulatory periods (at 1 July 2018) than in previous regulatory periods. Lower revenues are forecast for every transmission network in the NEM and for every distribution network outside Victoria.³⁰

Lower commercial rates of return have been a key driver of lower network revenues. Weaker electricity demand has also eased network investment, stemming the previously rapid growth in network assets and associated capital costs (depreciation and returns on assets). Additionally, networks are implementing efficiencies to better control their operating costs. Lags in the regulatory cycle and lengthy legal appeals for some networks mean the trend towards lower revenues and the scale of reductions has varied between jurisdictions.³¹

With regards to the operation of the regulatory and policy frameworks, the AER has noted longer term trends in network revenues saw a steep rise from 2006 until around 2015. Changes to the energy rules in 2006 led to rapid growth in network investment at a time of globally high interest rates, compounding the impact on revenues. Operating expenditure also rose, with 45 per cent real growth from 2006–2014, putting further pressure on revenues.³²

²⁴ Ibid.

²⁵ COAG Energy Council, *Gas Market Reform Package*, August 2016.

²⁶ AER, *State of the Energy Market 2018*.

²⁷ Telstra, *Telstra Annual Report 2018*.

²⁸ AEMC, *2018 Residential Electricity Price Trends*, December 2018.

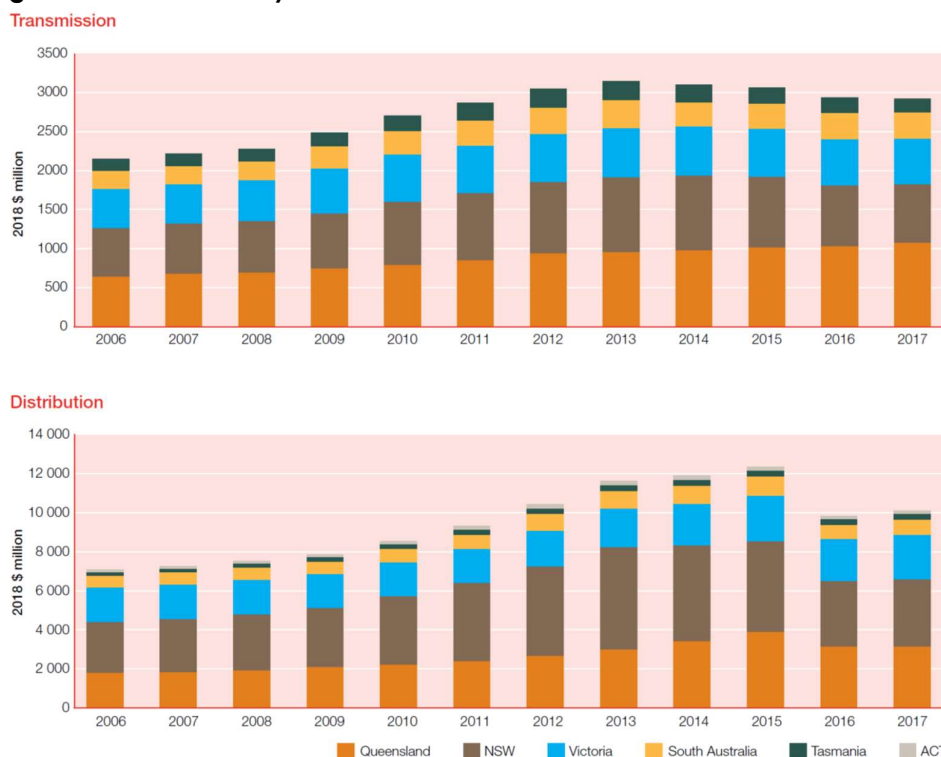
²⁹ Ibid.

³⁰ AER, *State of the Energy Market 2018*.

³¹ Ibid.

³² Ibid.

Figure 15. Electricity network revenues



Note: Actual outcomes, CPI adjusted to June 2018 dollars. Assumptions set out in notes to figures 3.7 and 3.8.
Source: Economic benchmarking RIN responses, AER regulatory decisions and regulatory proposals from businesses.

Source: AER *State of the Energy Market 2018*

Many AER decisions also faced legal challenges in this period, often resulting in the Tribunal or Full Federal Court further increasing network revenues (of the 38 appeals in this period, none reduced revenues). A key cost driver in Queensland and New South Wales was stricter reliability standards imposed by state governments, which required new investment and operating expenditure to meet targets.³³

A similar trend can be observed in gas, where approved revenues are lower than for the previous regulatory control period.

The AER has cautioned that while network revenues are generally moving lower, network costs will continue to reflect over-investment from 2006-13 for the economic lives of those assets; which can be up to 50 years.³⁴ This demonstrates that network costs are highly sensitive to whether the costs at a point in time are efficient. Of concern, there has been no systemic or detailed policy consideration of whether the network regulatory framework is delivering efficient outcomes, noting that if it is not, then consumer welfare cannot be maximised.

The principal driver in outcomes from the regulatory and policy framework for the provision of monopoly services have been the pro-investment framework. Relevantly, the 'propose-respond' arrangements set out under the rules were introduced to mitigate the risk of under-investment caused by regulatory opportunism.

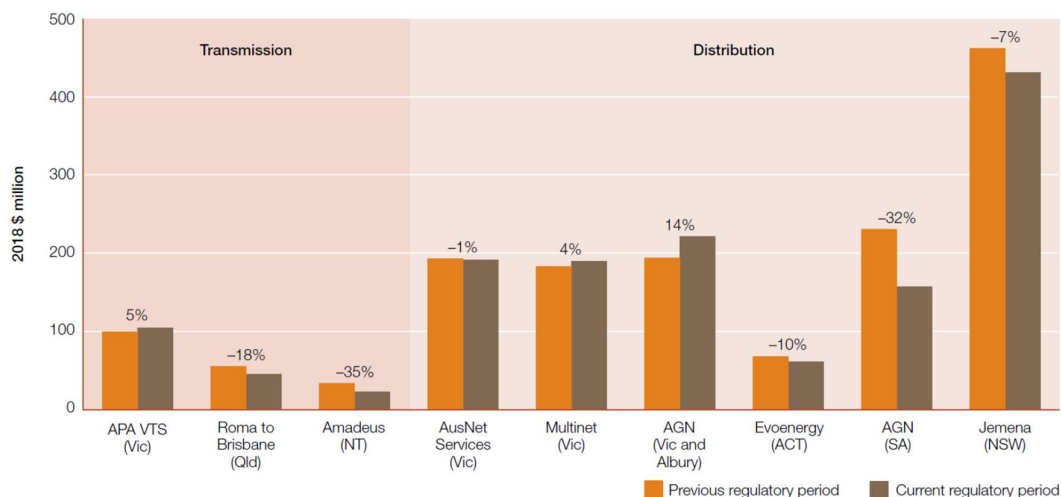
The frameworks were designed and implemented at a time when electricity was produced by large, decentralised generators and transmitted to where it was used via poles and wires – a capital intensive arrangement. In addition, it was at a time when demand was linked to growth in GDP and

³³ Ibid.

³⁴ Ibid.

forecast to continue to grow. As such, the risks of under-investment were considered to be more detrimental to consumer welfare than over-investment on the basis that any spare capacity would be utilised over the long term due to increases in demand.

Figure 16. Gas pipeline revenues



VTS, Victorian Transmission System; AGN, Australian Gas Networks.

Note: Smoothed annual averages. All data are forecasts. Current regulatory period is at 1 July 2018 (tables 5.1 and 5.2). Percentages represent the change between periods. Forecasting updates may result in some outcomes varying from those previously reported.

Source: AER.

Source: AER *State of the Energy Market 2018*

In the decade since, there has been a significant transition in the way electricity is produced and used, through new technologies and services. This means there is a growing proportion of distributed energy and demand growth has flattened. Consequently, the nature and use of energy networks has changed and can be expected to change further in the immediate and medium terms.

While the AEMC has an active work programme aimed at ensuring the existing regulatory frameworks promotes efficiency, there still needs to be a first principles analysis of whether the existing framework, as a whole and individual aspects in isolation, has maximised consumers economic welfare. As the operation of state and territory reliability obligations have been demonstrated to drive investment outcomes (particularly in New South Wales and Queensland), this analysis should also explore the interaction of the national arrangements with state and territory obligations.

Further, the network investment framework under the rules should be reviewed in light of the Victorian Government's recently commenced *National Electricity (Victoria) Amendment Bill 2020*. The bill allows the Victorian energy minister to direct the construction of new transmission lines or upgrades to existing lines, even where these have failed the economic efficiency tests under the national rules.³⁵

This development has two implications for the national energy frameworks. Firstly, it represents a significant step away from the application of uniform arrangements across all NEM jurisdictions. Consistency in application was considered to be one of the principal achievements of the reform agenda. The consequences of a lack of consistency may be observed from the national gas arrangements, where, as discussed above, there are a plethora of frameworks applying at the expense of both industry and consumers.

Secondly, it demonstrates a lack of confidence in the national rules and the rule change process to effectively balance the need for timely investment with efficient outcomes for consumers. Particularly, it moves away from the principal consideration of the long term interests of consumers

³⁵ *National Electricity (Victoria) Amendment Bill 2020*, as commenced on 24 March 2020.

under the national energy rules towards an alternative to be specified by the Victorian energy minister. It is not clear how this approach was considered by the COAG Energy Council, if it was, nor whether it was implemented on the basis of it would or would be likely to maximising consumer economic welfare.

Retail market outcomes

In its Retail Electricity Price Inquiry, the ACCC found that retail costs and retail margins had increased by 28 and 103 percent, respectively, in the decade between 2007-08 and 2017-18. For retail margin, the scale of this increase was only second to the increase in environmental costs over this same period of time.^{36 37}

The ACCC found that since 2007–08, retail costs have increased across the NEM, but peaked in 2013–14 and have since been gradually declining. Generally retail costs on a per customer basis do not vary significantly by state. This is because, for retailers operating across multiple states, costs related to servicing customers are not state specific, but rather spread over the whole customer base.³⁸

In contrast, retail margin varies significantly by state. Victoria and New South Wales have the highest retail margins. Meanwhile, South Australia and Queensland have the lowest margins.³⁹

In this period, retail prices were progressively deregulated across the NEM. The benefits of competition were rigorously pursued, even in advance of having a competitive market. However, in its 2018 Retail Energy Competition Review, the AEMC found that competition was not delivering expected benefits to energy consumers. In particular, the AEMC concluded that the predominant form of retail energy offers at the time — large, pay-on-time conditional discounts, off inconsistent and variable base rates — were not benefiting consumers.⁴⁰

Major regulatory changes have been made to the retail energy market in the past year. The Victorian and Australian Governments re-introduced a form of retail electricity price regulation on 1 July 2019. The Australian Government's changes also introduced a reference price for discounts to be advertised against.

The need for such market interventions is an indication that the regulatory frameworks are not operating as intended. Rather, it provides evidence that the current approach to regulation is not maximising the economic welfare of consumers.

Conclusions about performance outcomes

The above analysis indicates that there are significant failures in the regulatory and policy arrangements currently applying in the energy sector. These failures mean that consumer economic welfare is being put at risk, in contravention of the objectives of the regimes.

From a policy perspective, the national energy regulatory arrangements are complex. For example, in gas there are 5 different approaches to trading under the National Gas Rules⁴¹ and 42 different categories of participants⁴². The effective integration of all the separate aspects of the national arrangements, along with any relevant state or territory measures, is, at a minimum, required to maximise consumer economic welfare.

³⁶ ACCC, *Restoring electricity affordability and Australia's competitive advantage*, June 2018.

³⁷ In a policy and regulatory sense, environmental matters are treated as an externality to the energy market frameworks.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ AEMC, *2018 Retail Energy Competition Review*, June 2018.

⁴¹ <https://www.aemo.com.au/Gas/Gas-Supply-Hubs/Participant-information>, accessed 26 September 2019.

⁴² AEMO, *Gas Market Registration*, https://www.aemo.com.au/-/media/Files/PDF/GAS_MARKET_REGISTRATIONS_final.pdf, accessed 26 September 2019.

The complexity of the frameworks demonstrates the challenges in moving from a state or territory focus to a single national framework aimed at delivering national benefits. As a result, energy policy is sensitive to actions to promote individual jurisdictions interests at the expense of effective markets and efficient outcomes for consumers.

Further, the energy market reform remains largely focused on the promotion of competition through markets, rather than maximising consumer economic welfare.⁴³ While competition was a recognised key component of the National Competition Policy, it is not the objective of the policy. Rather, competition was accepted to be a tool by which consumers economic welfare could be maximised in certain circumstances. Consequently, to be effective for consumers, and to support Australia's economy, energy market reforms need to focus on the implications for consumers, including the transfer of wealth, risks and costs, to ensure that consumers realise the benefits of gas market reform.

The primary barrier to adopting this necessary shift in approach is one of governance. This is evidenced by the prioritisation of individual government interests over the national interest, the development of policy and regulatory arrangements without regard to the implications for consumer welfare and the absence of a strategic approach to reforms.

Governance reforms should be supported by a strategic and first principles review of the policy and regulatory frameworks, to identify impediments to maximising consumer economic welfare. This could explore, among other things, evidence from the way the current arrangements are being managed provides effective frameworks during periods of significant transition.

A failure to adopt a more strategic and first-principles approach is that compound failures now could exacerbate trends to the detriment of consumers. Further, it could embed the inappropriate socialisation of risks onto consumers, which they are not in a position to manage, while prioritising private benefits.

⁴³ See, for example, the COAG Energy Council's Gas Market Vision.