International Review of electricity retail markets

For ERANZ

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Executive Summary

Concerns about the retail market for electricity are typically driven by rising prices. As it is retailers who send out the bills, they are the first businesses that get scrutinised by the public and politicians in times of rising prices. The impact is compounded by the increasing difficulty some people have in paying their bills, which translates to rising disconnection rates . This can in turn increase costs through associated disconnection fees.

Of course, retailers are simply the last step in a complex supply chain that includes the costs of generating electricity, transportation to customers, metering and often a range of policy-induced costs as well. Changing demand patterns can also affect costs, and these are an outcome of customer choices and decisions rather than retailers' actions.

Unlike New Zealand, Australia and Great Britain have historically had a highly carbon intensive generation mix dominated by coal. Their attempts to move to lower or zero emission sources have driven up electricity bills, not least because of the multiplicity of emissions reduction policies each has implemented.

Over different timeframes, each country has seen its network charges to households increase, while Great Britain and Australia have experienced rising wholesale prices, but what has not been seen is a dramatic increase in retailer margins. In Australia the average margin is in the order of 8 per cent, or of a similar level to what would be allowed under a reasonable regulated price, while in Great Britain supplier margins may be as low as 3 per cent. Margin information is less clear in the case of New Zealand, but the Electricity Authority's monitoring tools suggest that they are unlikely to have increased materially over the last seven years as prices and costs have risen by similar levels. What has driven concerns that retail markets are working against customers' interests has been the growing dispersion in prices paid by different customers and the consequent conclusion that the retail market is difficult for consumers to navigate.

In Great Britain, multiple waves of regulatory reforms were implemented to attempt to address this concern. The reforms resulted in lower competition and switching rates, niche tariffs that suited certain customer types disappearing and average margins increasing, culminating in a law passed in July directing the regulator to implement a retail price cap. In Australia, the focus on the retail sector was initially on the implementation of hardship schemes, but in recent years this has shifted to

regulating retailer communication with customers, especially those on default standing offers in an attempt to induce “sticky customers” to engage. Following a major review by the Australian Competition and Consumer Commission (ACCC), a default regulated price appears likely to be implemented.

New Zealand can learn from the failures of Great Britain and Australia. The issues in New Zealand are not as acute: the cost drivers are not as significant, price dispersion (which is a normal outcome in a competitive market, but which attracts concerns around “fairness”) is not as great, customers are generally aware of the option to switch, prepayment is a cost-effective option, the take-up of new technologies by customers is modest, while smart meters have been successfully rolled out. Regulatory reforms in Great Britain and Australia have failed to achieve their goals: in Britain, tariff simplification failed to drive greater engagement and resulted in higher retail margins, while in Australia hardship policy has failed to stem a rise in disconnections. Meanwhile, New Zealand’s electricity system has been well-served by the competition-oriented reforms and limited government intervention to date.

The perennial concern that some households struggle to pay their electricity bills is of course legitimate. But is an outcome of multiple factors including general poverty levels, the welfare system, and the efficiency of the housing stock. It is not solved by heavy-handed retail regulation, which may even make the situation worse.

1 Introduction

The debate about electricity prices and other policy issues is often carried out in highly parochial terms. Often, though, similar debates are taking place elsewhere in the world and it can provide a useful perspective to compare the issues and outcomes in different jurisdictions. While each electricity industry has its own features and challenges, there is often a lot of commonality, particularly where the basic industry structure and regulatory framework is similar. In this light, this report compares three electricity markets that have all been through the process of competition reform and full or partial privatisation, resulting in: a competitive wholesale market, a set of regional monopoly networks subject to incentive-based price regulation, and a competitive retail market. The three markets are: the New Zealand market, Australia's National Electricity Market (which excludes Western Australia and the Northern Territory) and Great Britain. The focus is on the implications of the market and policy settings for household retail customers rather than business customers and on electricity rather than gas. Many of the issues referenced below do also apply to gas supply and to larger customers and where this is the case it is highlighted in the text.

2 Background to the three electricity markets

This section is a brief overview of the history and major characteristics of the electric industry in each country, including the timing and nature of the restructuring and competition reform that created the contestable retail market.

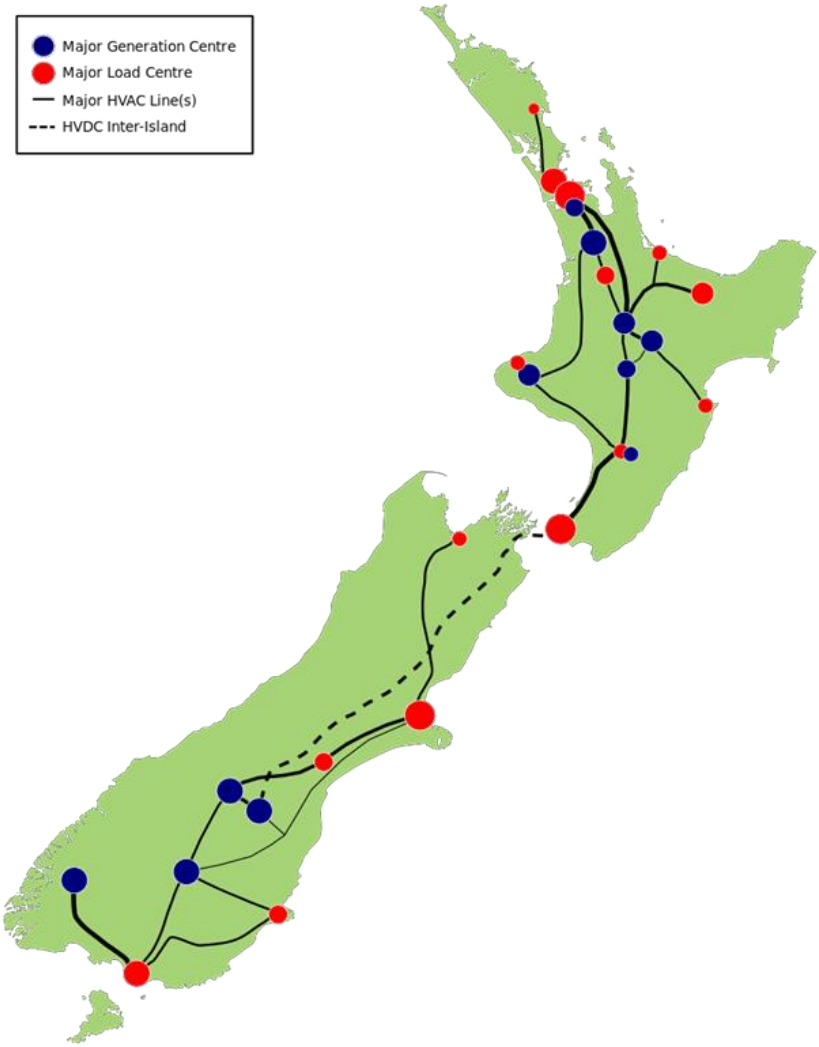
2.1 New Zealand

2.1.1 Physical characteristics of the industry

New Zealand's electricity generation sector is dominated by dispatchable renewable plant: mostly hydroelectric and geothermal. Compared to other International Energy Agency (IEA) countries' electricity systems, New Zealand has one of the highest proportions of such plant [1]. New Zealand has some indigenous fossil fuel production but given the small amount of fossil fuelled plant, international gas and coal prices are not a major driver of wholesale electricity prices. There are some wind farms and a modest amount of rooftop solar PV. New Zealand's two main islands are interconnected by a transmission line, but there is no connection to other countries. The interconnection mostly flows South to North reflecting the large amount of hydro in the South Island

while the North Island has more of the major load centres and thermal generation (although the South Island does host an aluminium smelter, the country's single largest user, and the interconnection does flow North to South for extended periods when South Island hydro inflows are limited). The sparsely populated nature of the country means that there are a large number of small distribution networks, with distribution lines totalling 153,000km. Annual consumption is around 39TWh[1], spread across 2 million customers. Residential demand is a third of the total. Demand is higher in winter due to residential space heating requirements, as there is limited penetration of reticulated gas.

Figure 1: Map of New Zealand electricity system



[1] Calculated using demand data at www.emi.ea.govt.nz

Source: New Zealand: Electricity Retail Services Market Reform, [2]

2.1.2 History of reform

Up to the 1970's, the New Zealand Electricity Department (NZED) owned and ran almost all the large-scale generation, the transmission network and carried out system operation. Local distribution systems and the retailing of electricity to users were managed by 69 local supply authorities. Between 1987 and 1999, the industry went through a major restructuring, including corporatisation and separation of the major generating units into four separate businesses, who now make up four out of the five large gentailers in the market. Transmission and system operation were separated out into Transpower. Meanwhile the local distributors were functionally separated into distribution and retail and a period of demergers and mergers resulted, with the distribution businesses becoming somewhat aggregated (there are now 29) and the retail businesses ultimately merging with generators.

The restructuring allowed the introduction of competition into the generation and retail sectors, and new entrants soon joined the incumbents. In October 1996 the wholesale electricity market started trading while retail contestability was formally allowed from 1993 but competition in the household sector emerged following reforms in 1999 aimed at supporting new entrants.

2.1.3 Regulatory and governance frameworks

In 2003 the Electricity Commission was established as the regulator for the New Zealand electricity industry. In 2010 the Commission was replaced by the Authority, and the Commission's transmission approval functions were shifted to the Commerce Commission and the Ministry of Economic Development (now MBIE). The Commission's energy efficiency functions were moved to the Energy Efficiency and Conservation Authority (EECA).

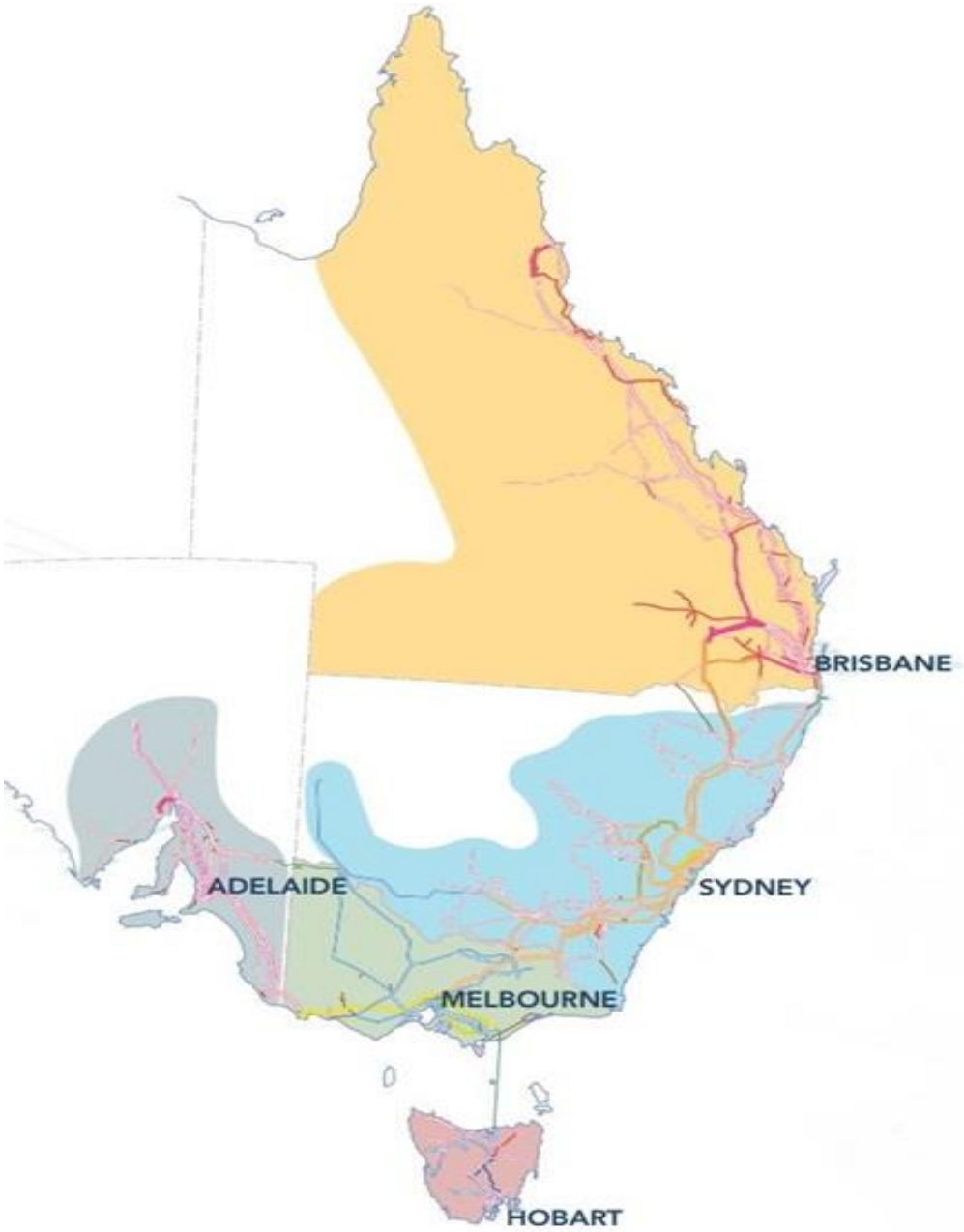
2.2 Australia's National Electricity Market

2.2.1 Physical characteristics of the industry

The National Electricity Market (NEM) is used to describe both the physical system that covers Eastern Australia as well as the market and regulatory framework that applies throughout the system. It is the one of if not the world's longest interconnected system, stretching 5,000km from Port Douglas in Queensland to Port Lincoln in South Australia. Similar to New Zealand, it is an islanded network and the network has low energy density. Having developed from five separate state-based systems, it has

relatively limited interconnection between the states. There are five transmission networks, matched to the state boundaries and thirteen distribution businesses. The NEM supplies about 200TWh of electricity to around 9 million customers each year. Generation capacity (including rooftop solar PV) is over 55GW.

Figure 2 Map of the NEM



Source: AEMO

It has major load centres around the main capital cities. There are also four aluminium smelters, as well as several other large industrial users. Australia has abundant reserves of coal and gas, so the generation mix is dominated by fossil fuels, augmented by two main hydro systems in the Snowy mountains between Victoria and NSW and in Tasmania. A national Renewable Energy Target (RET), in conjunction with other national and state support policies, has driven an influx of new intermittent renewable plant over the last decade. Around the same time there was a softening of demand as two aluminium smelters closed (amongst other factors). These conditions contributed to low wholesale prices until very recently. A series of closures of old coal plant has resulted in this capital cycle culminating in sharp price increases from 2016 onwards.

Demand peaks in the summer due to air conditioning load. The exception is Tasmania (also parts of regional NSW) where there is significant winter heating load. The rest of the NEM either has low heating requirements (e.g. Queensland) or high penetration of reticulated gas (e.g. Victoria).

2.2.2 History of reform

Up to the 1980s, the electricity system was characterised by vertically integrated state-owned monopolies (with some local distribution networks). Competition reform from the 1990s impacted many industry sectors, including electricity. Wholesale trading arrangements were introduced in the late 1990s, with the full NEM market beginning in 1998 (Tasmania joined in 2005 following physical interconnection with the mainland). Retail contestability was introduced gradually in each jurisdiction, with full contestability being achieved between 2002 (Victoria, NSW) and 2014 (Tasmania) [3].

Functional separation also took place, and while there was no requirement to separate ownership of retail from distribution this is largely what happened. Beginning with Victoria in 1995, state assets began to be privatised. As with full retail contestability, the federal nature of Australian politics, with states formally having responsibility for energy policy, means this process has proceeded piecemeal. Today, ownership is mixed, ranging from fully private (Victoria, SA) to fully state-owned (Tasmania), with Queensland and NSW in between.

2.2.3 Regulatory and governance frameworks

The transition to a national market required states to relinquish some direct control over energy regulation and policy. Three independent agencies were formed:

- A rule-maker - Australian Energy Market Commission (AEMC);
- A regulator – Australian Energy Regulator (AER);
- A market and system operator - Australian Energy Market Operator (AEMO).

In 2017 an Energy Security Board was formed to improve co-ordination between the agencies – it comprises the heads of each agency, plus an independent chair and deputy chair. The agencies are accountable to a committee of Energy Ministers – the Council of Australian Governments Energy Council (COAG EC). Most state-based regulation has been transferred to the national framework, but each jurisdiction has its own derogations – notably Victoria has refused to sign up to the national retail code but has instead retained its own regulations.

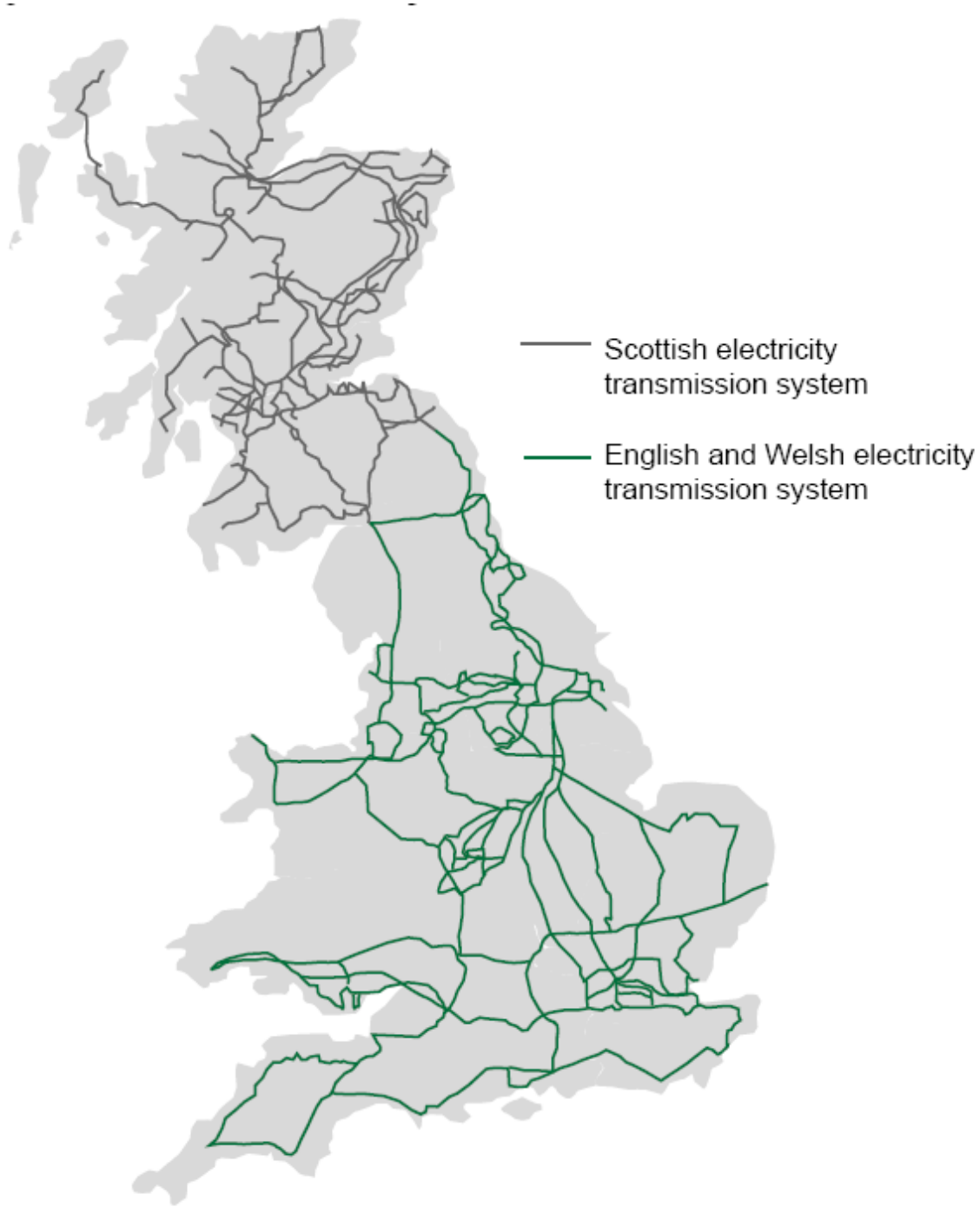
2.3 Great Britain

2.3.1 Physical characteristics of the industry

Great Britain is much smaller than Australia and has a greater population than both Australia and – even more so - New Zealand. Accordingly, its load density is much higher. There is extensive use of reticulated gas for space heating and there has been a decline in heavy industry for many decades, so consumption per person is lower. Most retailers offer dual fuel deals to households that package gas and electricity supply.

Figure 3 below shows the layout of the transmission network, illustrating the more “web-like” configuration of the system compared to Australia and New Zealand.

Figure 3 British electricity transmission network



Source: *The future of Britain's electricity networks - Energy and Climate Change,* UK Parliament [4]

Generation in 2017 was 319TWh (lower than in 1996), which was bolstered by 14TWh of imports. The Great Britain system is interconnected to France, the Netherlands and Ireland, with additional interconnectors planned. The generation mix has changed substantially over several decades. Initially a system completely dominated by coal, the government instituted a program of nuclear power from the 1950s, and nuclear's contribution peaked at around 27 per cent in 1998, but public opposition to new reactors mean it has been in decline ever since. Market reform (see 2.3.2 below) led to a "dash for gas" in the 1990s as retailers sought to secure their own generation supplies and later climate policies drove investment in wind solar and biomass. Coal generation is now around 5 per cent and due to be phased out completely by 2025. Installed capacity for the UK is 71GW (including around 2GW in Northern Ireland).

2.3.2 History of reform

Like the New Zealand and Australian electricity systems, the original expansion of the British electricity system was undertaken by the state. The National Electricity Generation Board built and operated the large-scale generation and the transmission network, while distribution and retailing were undertaken by 12 regional electricity companies (RECs). In 1990, Great Britain became one of the first countries to embark on restructure and privatisation of its electricity industry. The government retained the nuclear power stations (until 1996) but sold part or all of the remaining assets as two generating businesses, a transmission business and 12 retailer distributors. Competition reform imposed structural (but not ownership) separation of the retail and distribution arms of the RECs to ensure the retail arms could compete in each other's distribution area. Retail competition was given a shot in the arm by allowing the incumbent gas supplier, British Gas (now Centrica), to compete in electricity retail and vice versa.

At a wholesale level, the original market system (NETA) was replaced in 2005 by the British Electricity Trading and Transmission Arrangements (BETTA), which also integrated the English, Welsh and Scottish systems. Centrica and the other RECs did not want to be dependent on the two large generation businesses and so began building (mostly CCGTs, given their lower capital cost) and in some cases buying power plants.

2.3.3 Regulatory and governance frameworks

The Office of Electricity Regulation (OFFER) was established to oversee the industry and develop the market. It merged with its gas counterpart to become the Office of Gas and Electricity Markets (Ofgem) which has been the regulator ever since. Notably, its core duty was "to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition". The bias towards competition drove progressive deregulation and competition, not just of wholesale and retail but also metering, connections and offshore transmission projects. Later governments added a plethora of other duties, including "the reduction of greenhouse gases, and security of supply, and [customers'] interests in the fulfilment of the objectives set out in the EU energy directives[2]" as well as referencing the needs of old age pensioners, rural customers, low income and the sick or disabled. The overall effect of these well-meaning clauses was obfuscation rather than clarification, as it was not obvious how trade-offs or conflicts between these goals and the overall primary duty should be resolved.

2.4 Recent policy and market developments

This section outlines the major policy and market issues that have affected the electricity industry in each country, including impacts of climate policy, network costs and wholesale price drivers and market power issues.

2.4.1 New Zealand

New Zealand has had relatively stable policy settings since it embarked on liberalisation. There have been two significant reform packages. In 1999, four independent generation companies were created from the Contact Energy assets. These businesses were permitted to vertically integrate, stimulating retail competition as they restructured as gentailers and competed against each other in both wholesale and retail markets. Together with Trustpower, these businesses make up the five large gentailers.

In 2009 the market was reviewed, and some steps were taken to improve competition in the retail market by mandating physical and asset swaps between the generators in order to improve the geographic balance of the main gentailers [2]. Distribution companies were also permitted to re-enter

[2] https://www.ofgem.gov.uk/sites/default/files/docs/2014/12/corporate_strategy_0.pdf

the retail market without restriction outside their own distribution service area and steps were taken to improve liquidity in the hedge market. Notably, all these reforms were market-oriented rather than trying to regulate the behaviour of market participants.

An Emission Training Scheme (ETS) was introduced in 2008 to help meet New Zealand's Kyoto Protocol obligations. The stationary energy sector, encompassing electricity generation, was initially required to surrender one emission 'unit' for every two tonnes of CO2 emitted (or other equivalent emissions) from July 2010. A fixed surrender price of $25/tonne provided a cap on the costs, but in the event the price declined from $20 to $2 in 2014 before recovering to trade close to the cap price in recent years. Given the dominance of carbon free generation sources, the ETS has only had a limited impact on electricity prices.

2.4.2 Australia's National Electricity Market

Australia has been plagued by policy instability in respect of climate change policy for over a decade. Both major parties went into the 2007 national election proposing to introduce an ETS. The victorious Labor government failed to get its legislation to implement the ETS through the senate due to lack of support from the Green Party and the opposition's change of mind (and leader). Their climate change ambitions were dealt a further below by the failure of the Copenhagen talks to deliver meaningful global agreement. Following the 2010 election, Labor found itself in minority government with the Greens who used this as leverage to increase the initial fixed price of the ETS from $10/tonne to $23/tonne. This meant that Australia had a higher carbon price than those from other schemes, such as the EU and New Zealand ETS schemes and the North American regional cap and trade schemes. The high fixed price combined with Australia's high emissions intensity of electricity generation meant that when the scheme was introduced it raised wholesale prices from $30-40/MWh to $50-60/MWh. Meanwhile, in the light of a national ETS, various individual state schemes were wound up. In 2013, the Liberal/National coalition campaigned on a platform to abolish the carbon price and won the election. They swiftly followed through on their promise, and for good measure commissioned an independent review of the Renewable Energy Target that was the last remaining policy measure to encourage new renewable investment. The review took over a year to resolve, freezing renewable investment in the meantime.

Although the Coalition government pledged significant new emission reduction targets for 2030 at the Paris climate summit, they could not agree on a policy to drive reductions in the electricity sector,

successively ruling out various mechanisms. So just as renewable investment picked up under the revised RET, investment in other forms of plant was stymied by the lack of certainty over future climate policy. Meanwhile state governments began to reintroduce their own schemes to fill the policy vacuum, fracturing policy further.

Although the abolition of the ETS led to a reversal of the wholesale price rise, it had been preceded by a large increase in network costs. This had multiple causes but was a combination of a new and poorly designed national regulatory framework combined with jurisdictional policies mandating expensive reliability investments or smart meters. It was then swiftly followed by a trebling in gas prices as a result of a new gas export industry exposing the country to international gas pricing. The price rises kicked off an unending round of reviews and inquiries as governments at both national and state level had to be seen to be doing something. Reviews overlapped and there was no time to evaluate the effect of previous reforms before embarking on the next wave. Some of the major reviews include:

- Productivity Commission Inquiry into Electricity Network Regulation (2013)
- Parliamentary inquiries into the Performance and Management of Electricity Network Companies (2015), Modernising Australia's Electricity Grid (2017) and a Select Committee on Electricity Prices (2012).
- Independent review into the Future Security of the National Energy market (2017)
- The ACCC Retail Electricity Pricing Inquiry (2018)

These are only the national ones - most jurisdictions have also carried out reviews and inquiries. The AEMC has also carried out over 20 market reviews, plus several standing annual reviews in the last five years.

2.4.3 Great Britain

Great Britain has seen significant reform of wholesale markets as well as climate change policies since the initial market start. As noted in 2.3.2 above the original market structure was overhauled in 2005 and replaced by the BETTA model. Fears of insufficient reserve margin as old coal and nuclear plant retired led to the addition of a capacity market. The first capacity auction was held in 2014.

In order to spur decarbonisation, a dizzying array of climate change policies were implemented from the late 1990s onwards. EU policies such as the ETS and the Large Combustion Plant directive (which severely constrained the operation of older fossil fuel plants) were supplemented by small scale feed-

in tariffs for rooftop solar PV and other smaller-scale renewables, a Renewables obligation on retailers, Contracts for difference between a government fund and renewables providers, a Carbon price floor to shore up the ETS, emissions performance standards and a formal commitment to phase out coal plant by 2025. Funding for most of these is through a Climate Change Levy. The estimated annual subsidy costs are 5.5bn rising to 8.8bn (based on committed projects only) by 2020 [5]. This does not include additional system cists that may occur due to the changing generation mix. Unlike Australia, there has been a good deal of bipartisanship regarding the need to decarbonise.

Networks policy has been more stable, but the last decade has seen a shift from conventional price cap regulation to Ofgem's Revenue, Innovation, Incentives and Outputs (RIIO) model, which uses a suite of regulatory mechanisms to balance cost control with the need to ensure service levels are maintained and networks are able to contribute to the R&D needed to deliver a decarbonised system.

The result of all these reforms and programmes is complexity. "The sheer number of interventions in the UK energy market is so great that few if any participants…regulators, ministers or civil servants can have grasped them all" [5]. This is likely to increase cost of energy, and complexity increases scope for capture by rent-seekers, making it harder to unwind.

2.4.4 Comparison and key themes

New Zealand has experienced a relatively stable regulatory and policy framework over the last two decades when compared to Australia and Great Britain. This applies to both electricity policy and to climate change policy, which has significantly impacted electricity systems and prices in the other two countries. New Zealand's reforms have been measured and focussed on ways to improve competition, rather than trying to regulate the behaviour of competitive businesses. It has avoided the pitfalls of excessive complexity arising from multiple, overlapping policy interventions, unlike Great Britain and Australia.

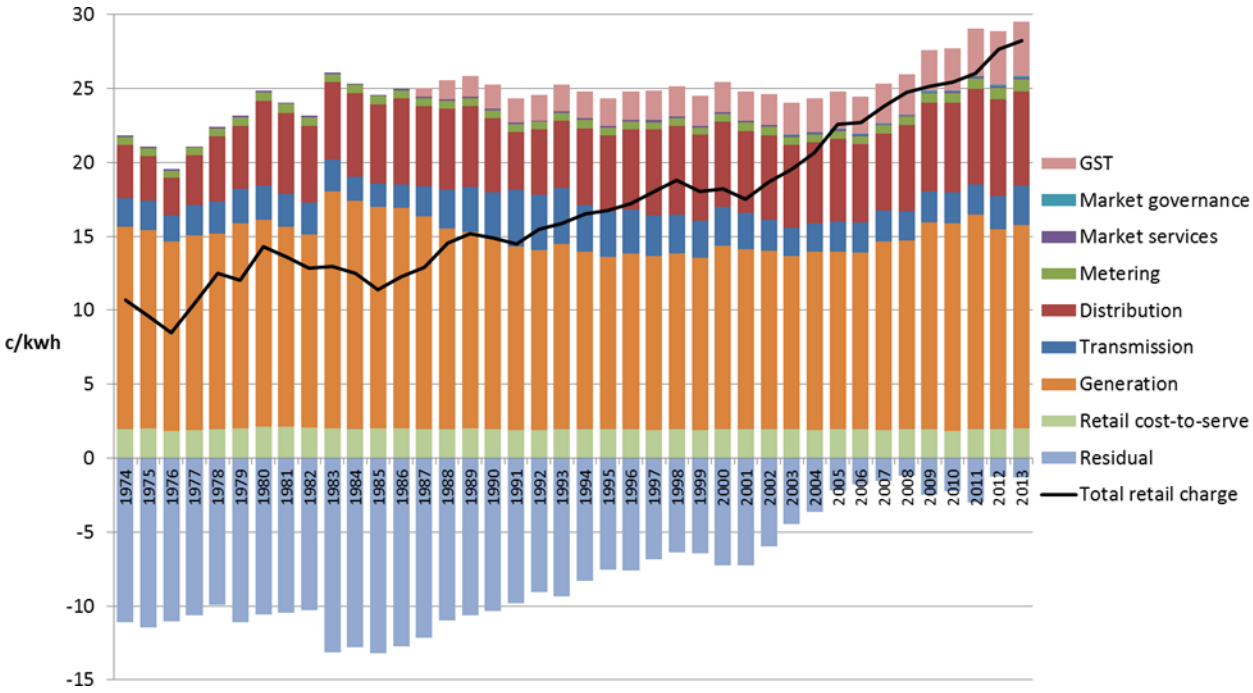
3 Retail price drivers

This section reviews the cost drivers that have impacted household bills in each of the three markets. For a range of reasons, regulatory authorities have taken different approaches to assessing the actual costs a retailer faces in supplying a typical household and so the analyses presented are not directly comparable across each market. Each is useful however, for understanding that market's cost drivers over time.

3.1.1 New Zealand

The most comprehensive assessment of long-run cost drivers in the New Zealand electricity system was undertaken by the Electricity Authority in 2014[3]. A fundamental challenge in carrying out such an assessment is how to allocate shared system costs in the period before restructuring and privatisation. For much of this period, there was a surplus of hydro capacity and so the marginal cost to supply different types of consumers with an additional kWh of electricity was essentially nil. Electricity tariffs did not reflect the economies of scale inherent in supplying larger users or that users (such as heavy industrial users) with flat load profiles are typically cheaper to serve on a per kWh basis than those with more volatile load profiles (such as households). The analysis therefore indicates that households were effectively cross-subsidised by larger users and that one of the outcomes of restructuring and competition is that tariffs have become more cost-reflective.

Figure 4: New Zealand residential cost components (Real $2013) [6]



Source: Electricity Authority

Aside from the introduction of and then rate increases in sales tax (GST), the underlying cost drivers were fairly neutral between 1983 and 2013. Consumers saw their bills increase largely because of the

[3] Analysis of historical electricity industry costs - Final report, Electricity Authority, 2017

removal of cross-subsidisation, according to this analysis. This is a logical outworking of the introduction of a competitive market, where if a supply tried to maintain cross-subsidies, another supplier could cherry pick the customer types who were paying for the cross-subsidy. Even in 2013, the price appeared to be slightly lower than this analysis suggested the actual costs of supply were. Additionally, the retail price data may not have fully accounted for discounting, so may overstate what households were actually paying.

Looking past 2013 (which after all, is five years ago), the Electricity Authority's ongoing monitoring measures cost drivers (calculated by NZIER for the Authority[4]) and compares them to prices on an indexed basis.

Figure 5: New Zealand Residential price trends 2010-2017

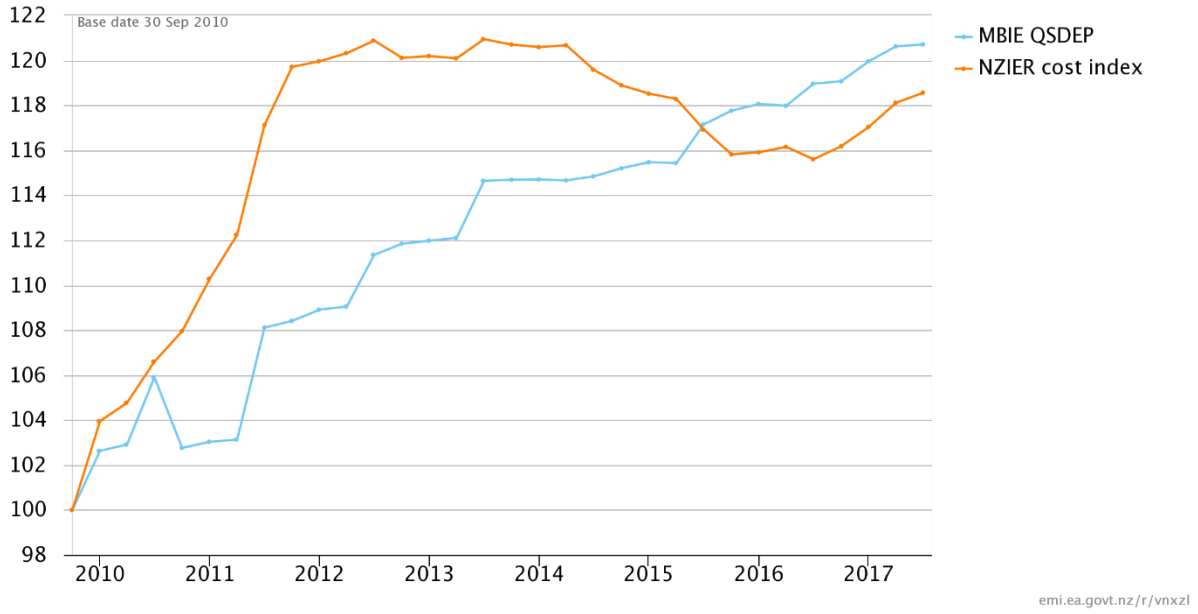


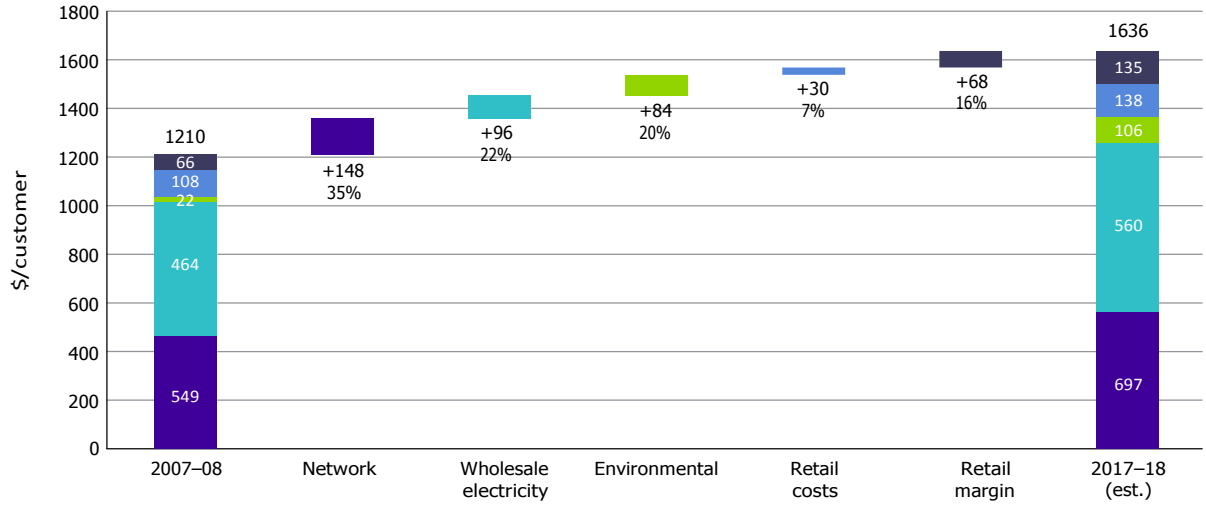
Figure 5 indicates that prices have, over the period as a whole risen at a similar rate to costs, albeit with a lag to costs from 2011-2015. From this it can be inferred that margins are unlikely to have risen materially over the period.

[4]https://www.emi.ea.govt.nz/Retail/Datasets/_AdditionalInformation/SupportingInformationAndAnalysis/2014/20140720_NZIER_SyntheticRetailPrice

3.1.2 Australia's National Electricity Market

The Australian Competition and Consumer Commission (ACCC) was recently empowered to review the retail market. The ACCC has extensive information-gathering powers and used them to gather and analyse retailer price and cost data over many years. As a result, it was able to produce the most comprehensive assessment of costs and drivers over recent years [7].

Figure 6: Changes in average Australian residential customer bill from 2007–08 to 2017-18

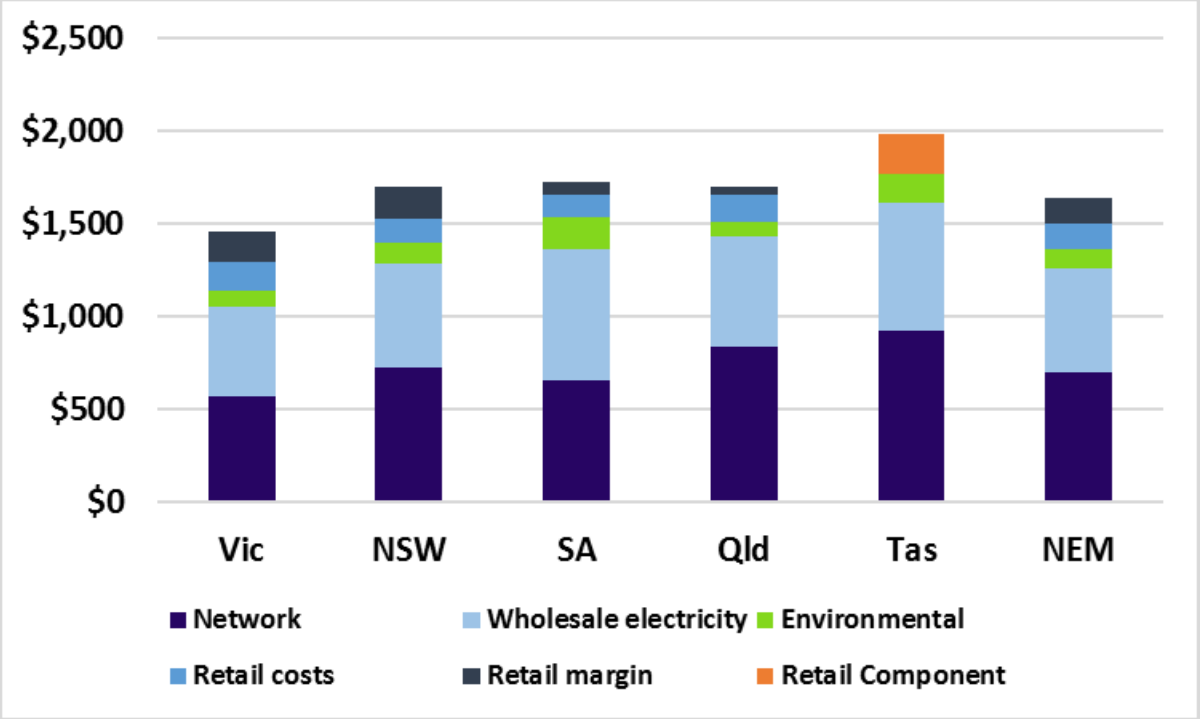


Notes: NEM-wide – real values in 2016–17 dollars, excluding GST

Source: ACCC

The analysis clearly showed that network costs were the largest single driver of price increases, followed by wholesale, and then environmental costs. The period of analysis includes 2016-17, when a large hike in wholesale prices following the closure of a large brown coal fired generator took public and political concern about energy prices to a new level. A state by state analysis is shown below.

Figure 7: Average Australian residential bills by state, 2017–18, $ per customer excluding GST



Source: ACCC

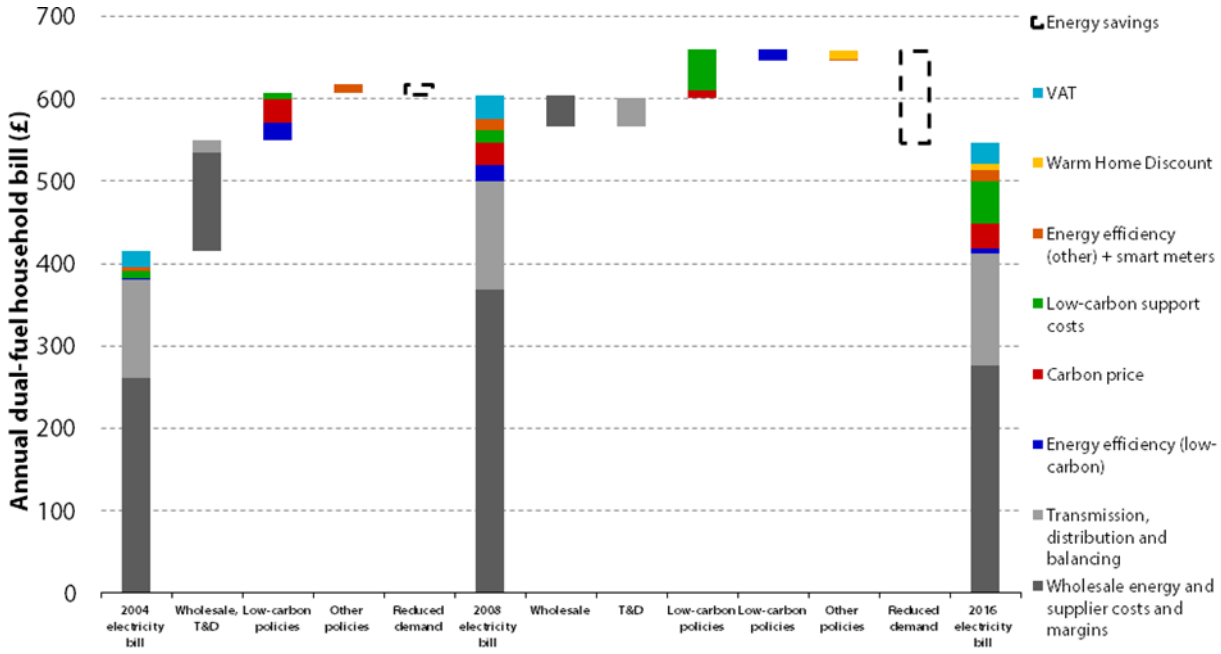
Of the jurisdictions shown, Victoria, NSW and South Australia are all fully deregulated, Queensland is partly deregulated while Tasmania is still fully regulated. The average percentage margin across the NEM is estimated to be 8 per cent. While the ACCC declined to publish retail costs and margins separately for Tasmania, the regulated retail margin is 5.7 per cent. This is higher than the average margins reported for both South Australia and Queensland. So, while deregulation has resulted in the emergence of significant price differentials (see 4.3.2 below), it has not led to significantly greater margins overall.

The ACCC noted the significant impact of bad debt in terms of increasing retailers cost to serve. Based on data from retailers the ACCC found that the cost of bad debt and debt collection is 22 per cent of retailers' costs to serve, which translates to an annual cost of about $20 on average for each customer in the NEM [7]. As discussed in section 5.1.2 below the ACCC made several recommendations to reduce this impact via targeted support measures for vulnerable consumers.

3.1.3 Great Britain

In the period since 2004 (which was the point at which bills were cheapest), the major drivers of bill increases have been wholesale costs and the impacts of carbon policies. Network costs have also risen. The increases have been offset by lower consumption, partly reflecting energy efficiency initiatives, but also price elasticity, i.e. customers forgoing amenity to save on energy bills.

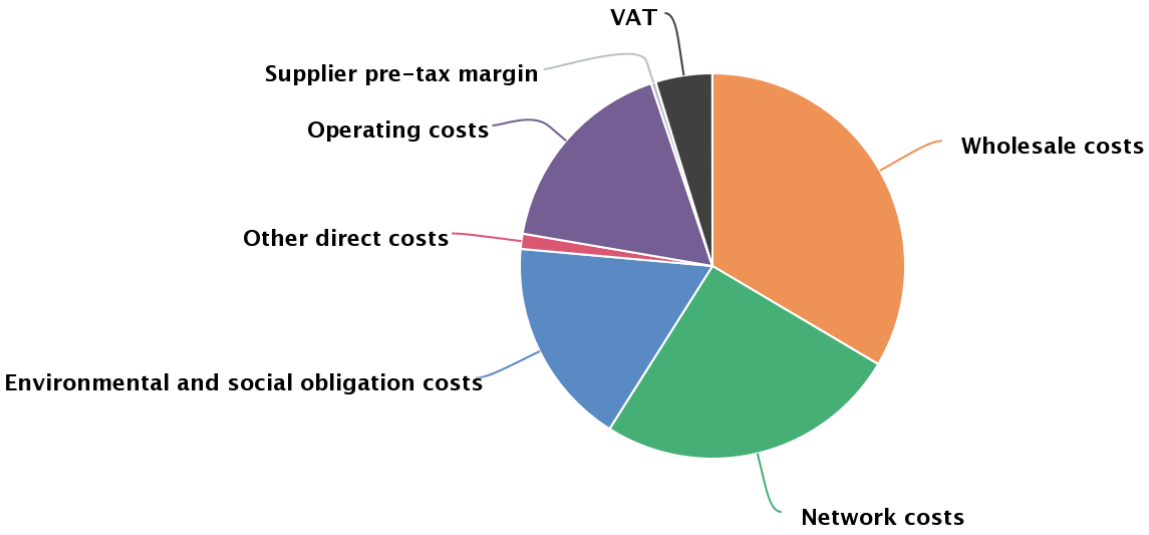
Figure 8: Changes in dual-fuel Great Britain household electricity bills (2004-2008-2016) [8]



Source: Energy Prices and Bills - impacts of meeting carbon budgets, Committee on Climate Change, 2017

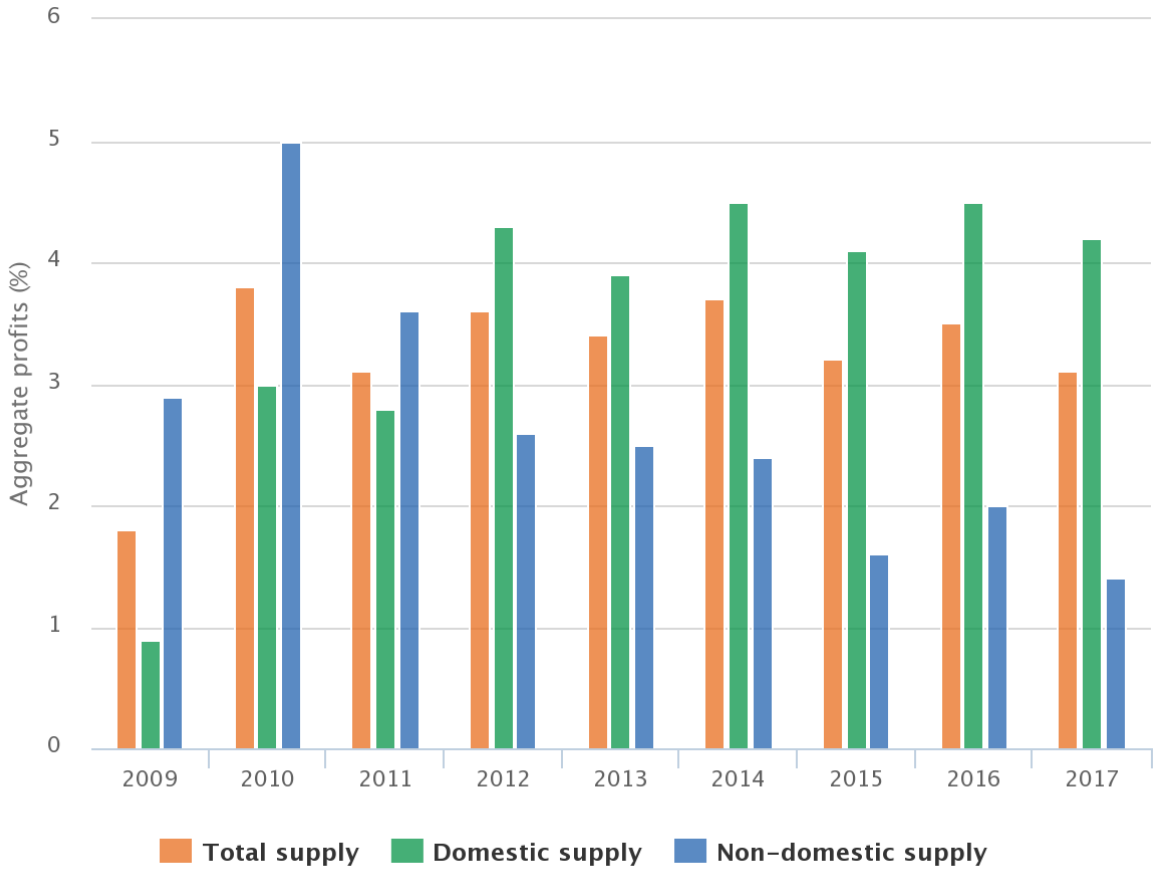
Electricity prices rose a further 5.7 per cent in 2017 [9]. In Figure 8 above, wholesale, retail and supplier margins are all lumped together. For the avoidance of doubt, supplier margins are not, on average a key driver. Figure 9 below shows Ofgem's most up to date view of the retail cost stack, while Figure 10 shows dual fuel margins over time.

Figure 9: Breakdown of a typical Great Britain electricity bill



Source: Ofgem

Figure 10: Time series of Great Britain Big 6 aggregate profits, electricity and gas



Source: Ofgem

The above chart covers profit margins on both gas and electricity. In general gas is more profitable than electricity. The Competition and Markets Authority (CMA) assessed margins (on an EBIT basis) to be around 2.5 per cent on sales to household electricity customers [10]. Given the extent of price dispersion, it seems likely that the most competitive offers are loss leaders; in other words, if consumers switched *en masse* to the cheapest tariffs, they would not be sustainable, and suppliers would have to raise the price of these tariffs to stay solvent.

4 Retail market characteristics

4.1 Market structure

A high-level comparison of the three markets is shown below.

Table 1 High level metrics of each market

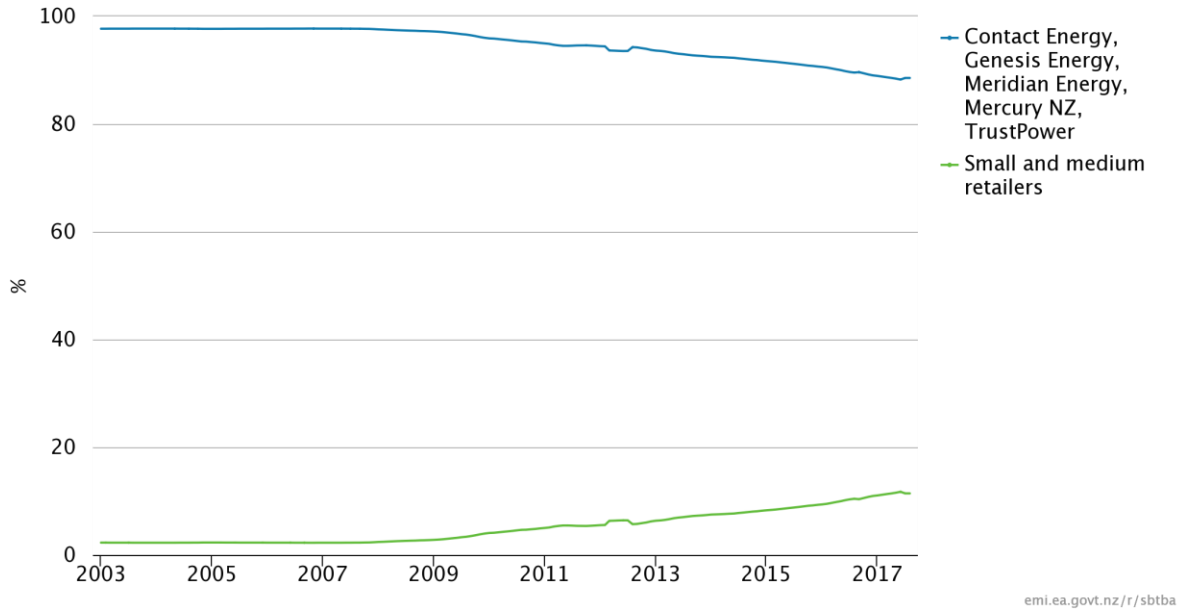
Item	New Zealand	NEM	Great Britain
Market size (million customers)	2	8.6	25
Number of retailers	36	33	64
Number of "major"/incumbent retailers	5	3	6
Market share of major retailers	89%	>75%	78%
Switching rate (annual)	20%	17-27%	11-18%
Average time to switch (days)	3-4	c. 15	16

Sources: Electricity Authority, Ofgem, AEMC, Advisory Panel

4.1.1 New Zealand

New Zealand's retail market has been maturing over time, with the number of retailers growing and new entrants eating into the market share of the five largest, as shown in Figure 11 below.

Figure 11: market shares of big 5 versus other retailers



Source: EMI

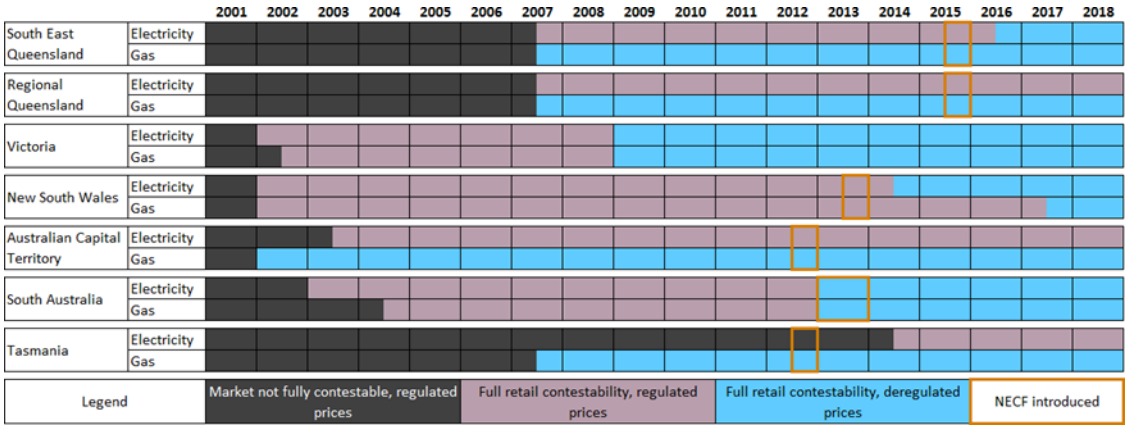
Retail choice varies with region – Auckland has the most to choose from with 35 active retailers in the residential sector, while West Coast has 10. Most regions have at least 20. A few companies own multiple brands, so by parent retailer the figures range from 10 to 22[5].

4.1.2 Australia's National Electricity Market

The NEM is still subject to a good deal of jurisdictional control, despite the adoption of national rules across much of it. The ACT, Tasmania and regional Queensland still operate under price caps and the household market is still dominated by the state-owned incumbent in all three cases. So, retail competition is confined to NSW, Victoria, South Australia and South East Queensland (SEQ). As these are the most populous regions, they cover around 7.5 million residential customers. As Figure 12 shows below, the development of competition and deregulation has occurred over different timeframes for different jurisdictions [11].

[5] Electricity Authority EMI, Consumer choice league table accessed 8/10/18

Figure 12: Progress of retail energy market reform across jurisdictions [11]



Source AEMC

Accordingly, switching levels and market concentration vary across jurisdictions as well. Victoria as the first to liberalise, has typically had the highest switching rate as well as the lowest level of incumbency (59 per cent) [11]. In the competitive regions, all the incumbent retail customers (i.e. those who have never switched) are customers of the Big 3 (Origin, AGL, Energy Australia). These companies between them were the purchasers of the state-owned retailers on privatisation, before which there were lower levels of competition. The Big 3's share has been falling across all competitive jurisdictions, with new entrant retailers capturing between 9 and 16 per cent market share over 2010-2017 [11]. In all there are 33 registered retailers under the National Energy Customer Framework (NECF). As Victoria has yet to sign up to this code, retailers have to register separately, but as the most mature market, it has over 20 retailers [11].

4.1.3 Great Britain

Great Britain is the largest of the three markets under review and the most mature. Unsurprisingly, it has the most suppliers as well as the most "major" suppliers. The six largest (collectively called the "Big six") comprise the five incumbent retailers (consolidated through M&A activity from the original 12 RECs) and the incumbent gas retailer, British Gas. These retailers tend to be dominant in their original "home" area, although it's notable that British Gas became the largest despite not having any

electricity customers to begin with. Small and medium retailers have made significant inroads in recent years, climbing from a 1 per cent share at the end of 2012 to 22 per cent in March 2018[6].

4.2 Price Structure of retail tariffs

This section outlines the structure of retail offers and regulatory barriers or requirements that influence those in each market, i.e. standard tariffs; tariff structures (fixed/variable charges, prevalence of time-of-use or demand charges); discounts (type and quantum).

4.2.1 New Zealand

New Zealand has relatively few regulatory requirements around tariff structure. The main one is the requirement to offer a low fixed price tariff (maximum 30c/day). This is intended to assist low consumption households, defined as those consuming less than 8,000kWh/year. As the First Report notes, low users are not necessarily the same group as low-income customers, so it is not clear that these tariffs are appropriately targeting those who most need assistance [12]. The distortionary effect of the requirement is such that it is estimated that the standard plan that would be offered without the regulations is cheaper for customers using about 6,500kWh or more [12]. The average consumption in New Zealand is 7,100kWh per annum [12].

The prevalence of smart meters allows for time-varying tariffs which are starting to emerge. In addition to long standing tariffs for controlled hot water load, many retailers offer off-peak tariffs for electric vehicle charging and some are starting to offer spot market based tariffs. As in most jurisdictions, such tariffs tend to be driven by network pricing, reform of which is being promoted by the Electricity Authority to promote more cost reflective outcomes.

4.2.2 Australia's National Electricity Market

The core regulatory requirement (both in the national and the Victorian rules) is that retailers must have a standing offer. This can have both a fixed (daily charge) component and a variable (kWh) component. The standing offer can only be changed biannually and contains standard terms and conditions. The standing offer evolved from the regulated tariff that applied previously in many jurisdictions (and still does in Tasmania, the ACT and regional Queensland). Other tariffs are known as market offers and require informed consent from the customer. This is an issue where market offers

[6] https://www.ofgem.gov.uk/data-portal/retail-market-indicators

are time-limited as if the customer does not actively agree to a new offer, they may revert to the standing offer, which as a default offer is often not a competitive price. Customers may also find themselves on standing offers if they move into a property where the electricity is already connected but do not contact a retailer to arrange a supply contract. In this case, supply defaults to the previous owners' retailer. Such customers contribute heavily to retailers' bad debt costs, as they are often slow to provide full contact details to the retailer [13].

Many retailers set their market offers with reference to their standing offer, which allows them to promote a headline discount rate. Where there is no price cap in place, the gap between the standing offer and the leading market offer has grown to allow headline discounts of up to 45 per cent[7]. Some retailers apply the discount to the whole bill and others to the variable element only. This has led to concerns that the headline discount rate is not a good guide to the cheapest tariff.

Retailers argue that their market research shows customers appreciate being offered discounted tariffs, so their tariff design is merely responding to the market. The angst over discounting is compounded by the increase of conditionality on the discount. As most jurisdictions banned late payment fees early in the deregulation process, retailers simply switched to offering a discount for paying on time. Initially this was only a few per cent and was presented as a further discount to the market offer. Over time, many retailers have switched to making the full discount conditional on payment-on-time. It's been pointed out that a, say, 40 per cent pay-on-time discount is equivalent to a 67 per cent late payment charge and that this is not remotely reflective of the costs a retailer incurs on a late payment. Many customers could avoid this risk by agreeing to pay by direct debit, which should guarantee the pay-on-time discount, but those that do not are considered by consumer groups to be most likely to be the sort of customer who can ill-afford a large penalty for missing the payment date by a few days (or failing to take the offer in the first place because of fears they may not be able to pay on time always). Retailer data provided to the ACCC indicates that customers achieve their conditional discounts 73 per cent of the time. The figure is slightly better for concession customers as long as they are not also in hardship. Conversely those on a payment plan only achieve the discount 56 per cent of the time [7].

[7] Per Canstar Blue: https://www.canstarblue.com.au/electricity/compare-electricity-prices-in-victoria/ , accessed 7/10/18

These discounting practices and their consequences have been the subject of much regulatory interest and public and political opprobrium. Despite the concern around discounting the ACCC hasn't proposed to ban the practice but suggested prompt payment discounts should be cost reflective. It's often overlooked that while these practices are common they are by no means universal. Some retailers set their market offer at their standing offer and so rely on the price being competitive, while others adopt more novel pricing approaches. These include Powershop, which allows users to pre-purchase tranches ("Powerpacks") of consumption at a pre-set price[8] and Mojo, which charges a monthly fee and then simply passes through the costs of the rest of the supply chain[9].

There is relatively little time-varying pricing. While networks are formally required to set prices on a cost-reflective basis, the lack of smart meters outside Victoria is a barrier to implementing these, while in Victoria the government ruled that such tariffs could only be made available on an opt-in basis and there has been virtually no take-up.

4.2.3 Great Britain

Ofgem identified customer confusion as an issue in its Supply Probe. It proposed to address this via a tariff simplification drive [14]. After a false start this resulted in retailers being restricted to four tariffs for each of gas and electricity per payment method (direct debit, standard credit and prepayment). All tariffs were to have a simple two-part structure that is a standing charge (which could be zero) and a single unit rate for consumption. As the unit rate could no longer vary with the level of consumption, declining block tariffs were prohibited, which removed a tariff type that suited larger users of electricity. Discounts were ultimately prohibited for reasons other than "dual fuel" (purchasing gas and electricity from the same retailer) and online only billing and had to be expressed in pounds not percentages.

The most basic tariff type is the standard variable tariff, and this is what customers will default to if they don't actively choose a different tariff type. They are typically more expensive than other tariffs. Customers on 'dead tariffs' – those no longer available to prospective new customers - are required to be moved to that supplier's cheapest 'live or open tariff'. This mitigates against the risk of

[8] https://www.powershop.com.au/why-powershop/powershop-experience/

[9]

disengaged customers being moved on to uncompetitive tariffs when their existing tariff expires, although most such customers will be on the standard variable tariff.

In the mid-1990s the majority of customers paid by standard credit but since then there has been a significant shift towards payment by direct debit, with 58 per cent of customers choosing to pay by this method in 2015 and only 27 per cent of customers paying by standard credit. The proportion of customers on prepayment meters doubled over the period, from 7 per cent in 1996 to 16 per cent in 2015. Prepayment customers were identified many years ago as paying a premium over other customers. Accordingly, this was the first customer group for whom a default tariff was introduced. The rollout of smart meters is expected to assist with eroding the disadvantages of prepayment meters.

4.3 Price dispersion

The existence of price differentials, or price dispersion is a contentious issue in electricity, in a way that is not observed in many other markets, where customers typically understand that prices differ and that if they are not prepared to carry out some price comparison they risk paying a higher price than they need to. Accordingly, it is worth considering the logic that drives such outcomes in competitive market for electricity.

The theoretical underpinnings of price discrimination (businesses using varying approaches to offer different prices across their customer base) and price dispersion (the range of prices that customers actually pay) that occur in a competitive market where search costs exist are explained in a paper by the Competition Economists' Group (CEG) submitted to the ACCC inquiry [15]. The paper uses worked examples of simplified competition to illustrate the (counterintuitive) point that "Giving firms the flexibility to discriminate against their existing 'sticky' customer base actually results in lower prices to the 'sticky' customers. However, this is a more intuitive result when it is recognised that that the flipside is that price discrimination gives firms the flexibility, and incentive, to discriminate in favour of competitors' customers by offering them prices close to marginal cost. With all firms doing this to their competitors' customers then all firms are limited in the mark-up on marginal cost they can successfully charge to their existing customers" [15].

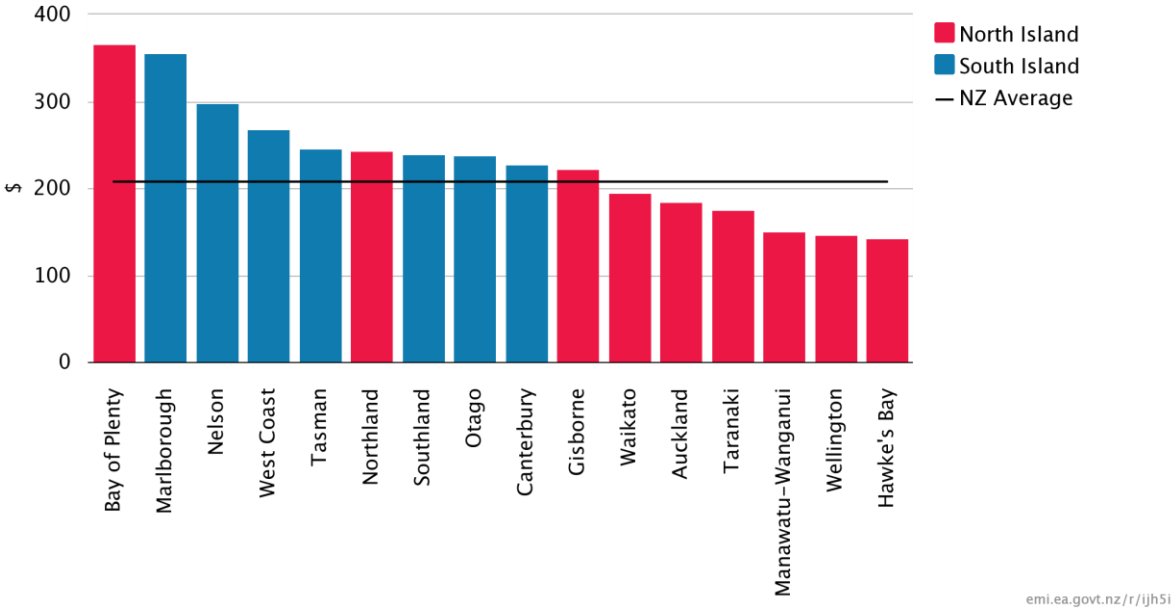
In other words, at any point there is an equilibrium where less sticky customers get highly competitive prices (noting that this also maintains pressure on retailers to cut costs at any part of the supply chain

that they can) and stickier customers pay more, but the amount is constrained by the fact that there is some price differential at which they will be motivated to move.

4.3.1 New Zealand

The Electricity Authority estimates that, based on 2017 EMI data, average savings of $207 could be made by switching to the lowest priced generally available plan each month[10]. This varies by region as shown below:

Figure 13: Average savings by region if all consumers switched to cheapest available plan



Source: EMI

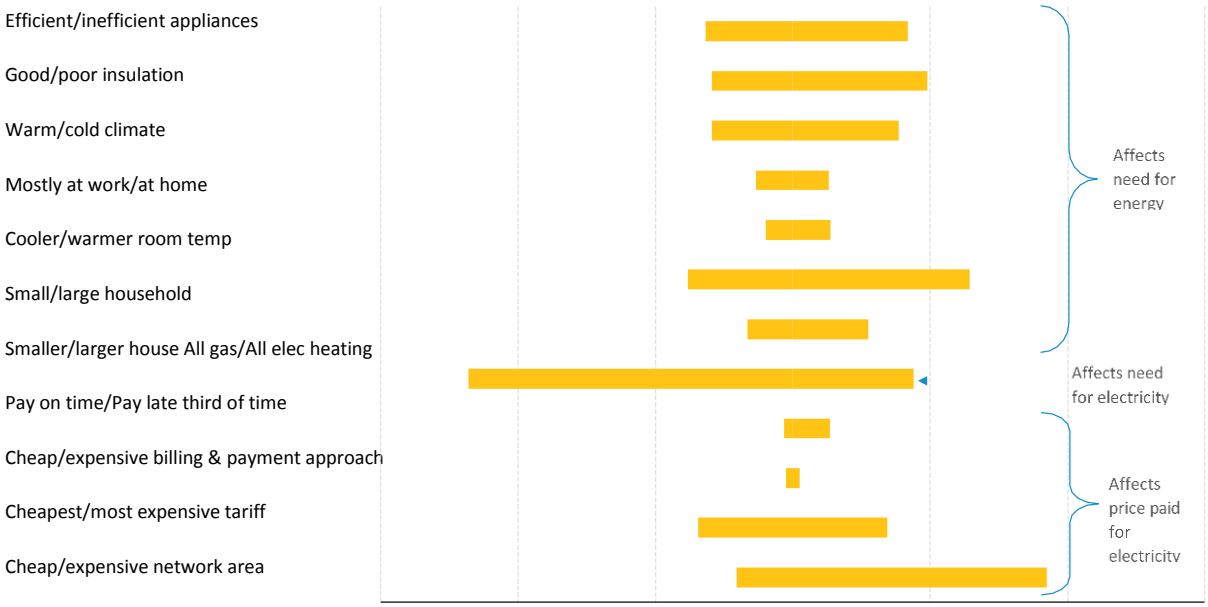
Such "savings" data, in New Zealand and elsewhere, has been misinterpreted as representing excess profits earned by suppliers. The sum of all the savings shown above is $372m, which is close to the total margin (retail segment EBITDAF) earned by the five largest retailers of around $400m [16]. This includes margins on business customers and does not account for a share of corporate overheads. The implication is that the cheapest offer is set at around the marginal cost to supply of the lowest marginal cost supplier. Accordingly, while these savings may be available for individual customers, they would not be available in aggregate as if all customers actively sought the cheapest offer, price dispersion would erode as retailers would have to increase their cheapest offer to remain viable.

[10] Electricity Authority, EMI, Residential savings

Customer research indicates that many customers require a significant saving to switch. Just 8 per cent of respondents said the minimum amount they would need to save annually on their bill in order to seriously consider changing their company or plan was $100 or less [17]. Some 51 per cent said they would consider switching only if the savings were $250 or less, and a further 30 per cent would change if savings were $250 or more.

An interesting analysis of the different drivers that can cause differences in household electricity bills is shown in Figure 1 below.

Figure 14: Impact of factors affecting consumption and price [12]



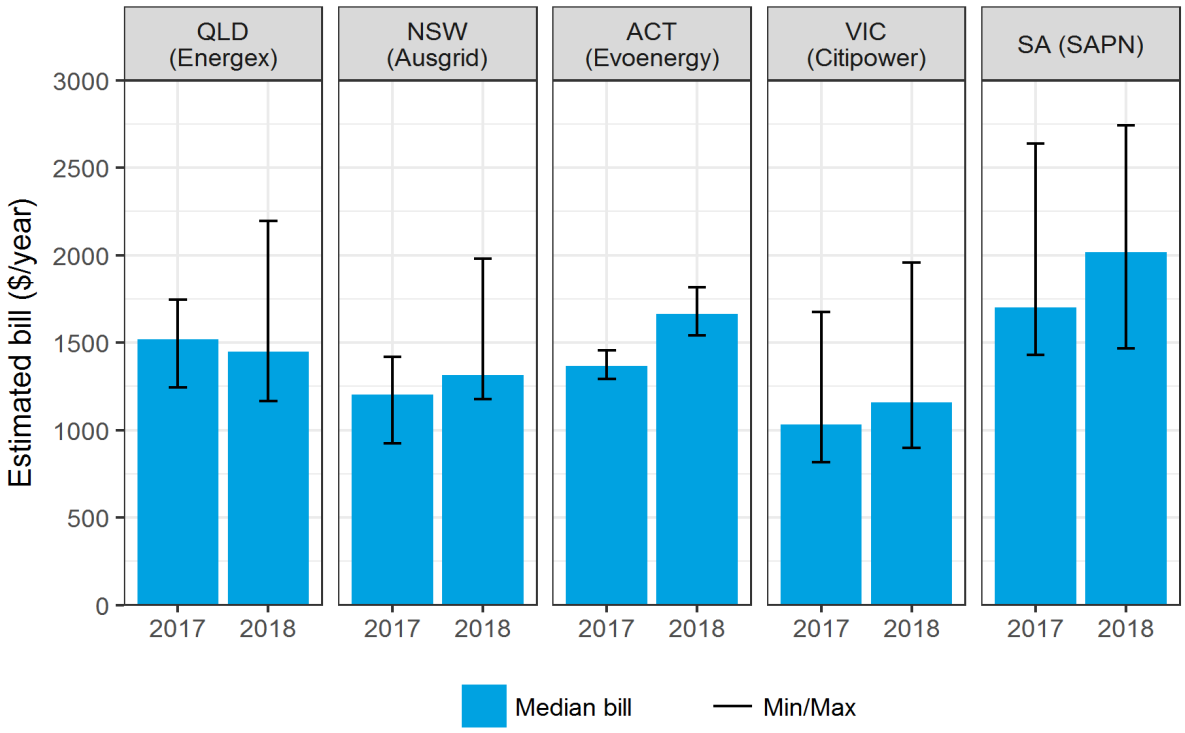
Source: First Report

It illustrates that country-wide, price/cost differentials exist for many reasons, most of which have nothing to do with retailers' pricing and marketing. The retail price differential (i.e. price spread for retail in a given distribution zone) is not even the largest differential. If equivalent charts were drawn up for Australia and Great Britain, a very similar set of dimensions would be present.

4.3.2 Australia's National Electricity Market

As discussed above, price dispersion has been increasing as some retailers structure their offers to maximise the headline discount. Figure 15 below illustrates the change year on year. In some jurisdictions the maximum is double the minimum. Even moving from the median market offer to the minimum can save up to $832 per year in South Australia and over $500 in Victoria and SEQ [11].

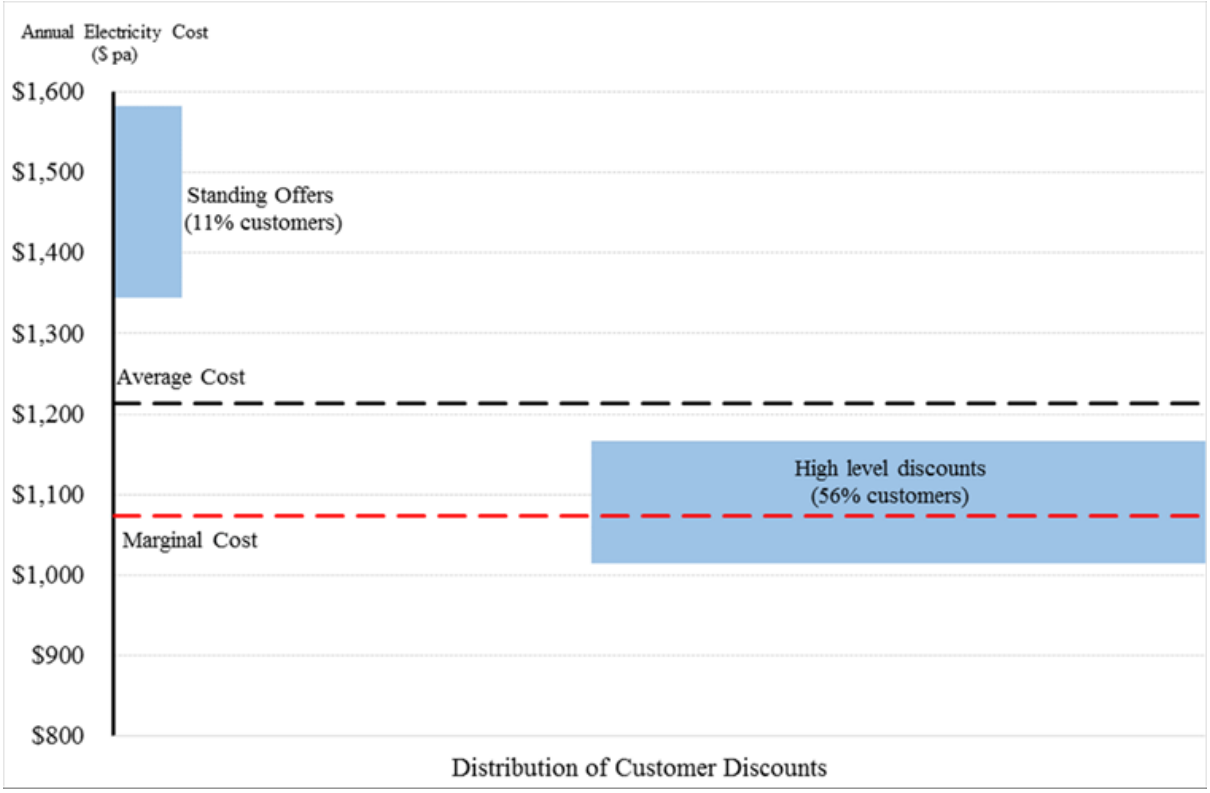
Figure 15 Price dispersion in the NEM by jurisdiction (market offers only) [11]



Source: AEMC, 2018 Retail energy competition review

Crucially, this does not tell us how many customers are on the maximum offer (or close to it) or the minimum offer. A paper by staff from one of Australia's big 3 retailers indicates that the spread is weighted towards the lower end of the price range for their customers at least [18].

Figure 16: Customer dispersion



Source AGL

4.3.3 Great Britain

Most data on price dispersion in the Great Britain market is between the average bill and the cheapest offer on the market, based on dual fuel (gas and electricity). Maximum-minimum differentials are not directly disclosed. Given that the standard variable tariff is considered the default tariff, this is likely to be one of the more expensive tariffs each supplier offers and may be a reasonable proxy. Table 2 below illustrates the differences between the standard variable tariff of ten suppliers (the Big 6 and 4 of the next largest) and the cheapest offers both of that supplier and of the market[11].

[11] Ofgem, Retail Market Indicators, https://www.ofgem.gov.uk/data-portal/retail-market-indicators accessed 7/10/18

Table 2: Difference between standard variable tariff and cheapest offers (£)

Supplier	Supplier's average annual standard variable tariff	Supplier's cheapest annual average tariff	Market cheapest annual average tariff	Price dispersion – supplier	price dispersion - market
British Gas	1120	1054	788	66	332
SSE	1121	1094	788	27	333
E. ON	1149	1004	788	145	361
EDF	1145	1023	788	122	357
Scottish Power	1162	1060	788	102	374
npower	1176	1059	788	117	388
First Utility	1132	958	788	174	344
OVO Energy	1049	1034	788	15	261
Utility Warehouse	1125	999	788	126	337
Co-operative Energy	1158	960	788	198	370

Source: Ofgem, Newgrange analysis

Price dispersion ranges up to £198 for an individual supplier and £388 to the market leader. Some of the largest gaps are for medium-sized suppliers. Note that these price gaps persist despite several years of regulatory intervention to attempt to reduce them. Also, around £75-80 of the gap represents

the dual fuel direct debit discount, which is required to be only what is cost-reflective for the savings suppliers make from this payment type (e.g. lower working capital, lower bad debt costs).

4.3.4 Comparison and key themes

Price dispersion appears to be a standard phenomenon of a competitive retail electricity market, given it can be observed in all three markets. The range of prices does not appear to be as high in New Zealand as in the other two markets, meaning that the so-called "penalty" for not actively engaging in the market is not as high. Attempts to reduce price dispersion by regulatory intervention in Great Britain have not been especially successful (see section 5.1.3 below) and Australia's recent moves in this direction are unlikely to work any better.

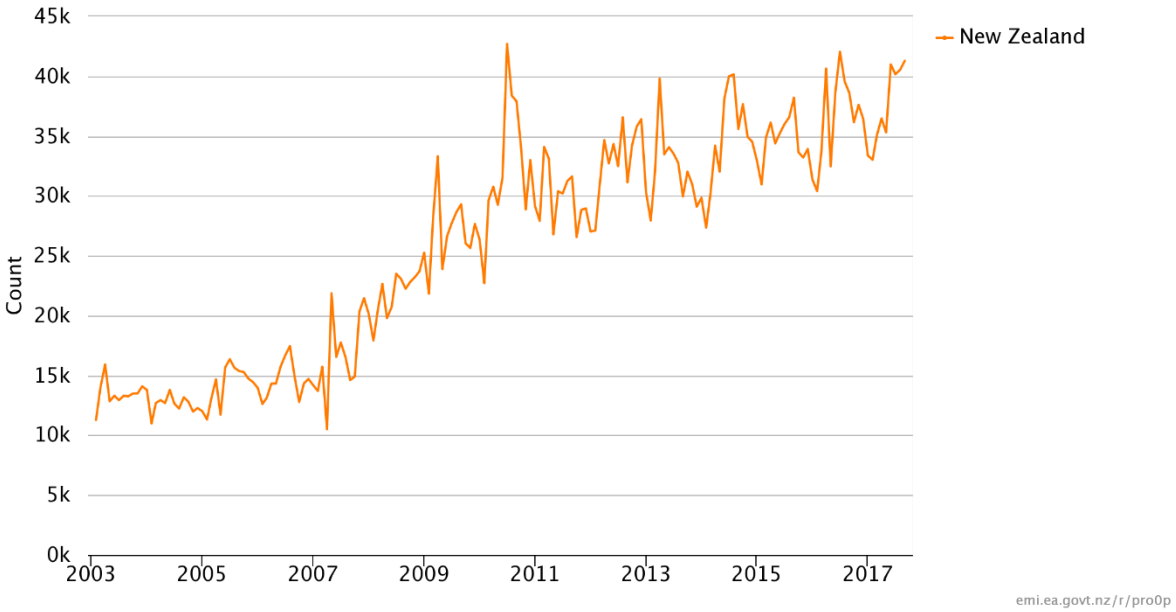
4.4 Ease of switching

This section covers time to switch in each market and any barriers to switching; opportunity for "saves" and "win-back" activity by incumbent retailer; switching levels; switching tools including commercial brokers and publicly owned comparison sites.

4.4.1 New Zealand

New Zealand has a high level of switching. This reflects a number of factors, including the ease of switching (only 3-4 days) and a well-publicised information campaign promoting customers' rights to switch (*What's my Number?)*.

Figure 17: Monthly switching rates[12]



Source: Electricity Authority

The recent annualised rates of over 400,000 switches per year translates to over 20 per cent. Survey data from the Electricity Authority suggests up to 30 per cent of customer consider switching each year and then decide to stay with their existing retailer [17]. Awareness of the ability to switch is high, thanks in part to What's My Number, with over 2/3 of customers surveyed aware of the potential value of switching [19]. Notably, this campaign not only raises awareness of switching and drives customers to the website where they can compare offers, but the success of the campaign is also monitored annually to ensure it is effective advertising. Latest data indicates the campaign may be responsible from around a quarter of all switches [19]. Consumer New Zealand also promotes switching through their website and a commercial broker, SwitchMe, is also available.

One concern that regulators have sought to address is save and win-back activity Saving is where a retailer uses a competitor's offer to retain the household by offering them a lower offer during the switching period. Win-back is where the switch is withdrawn after it has been completed. In 2015 the Electricity Authority implemented a save protection scheme. Retailers can opt into the scheme. For those who participate it means that they are able to win a customer and complete the switching process before the customer's previous retailer can attempt to win them back. Similarly, if a

[12] Electricity Authority EMI, Switching trends

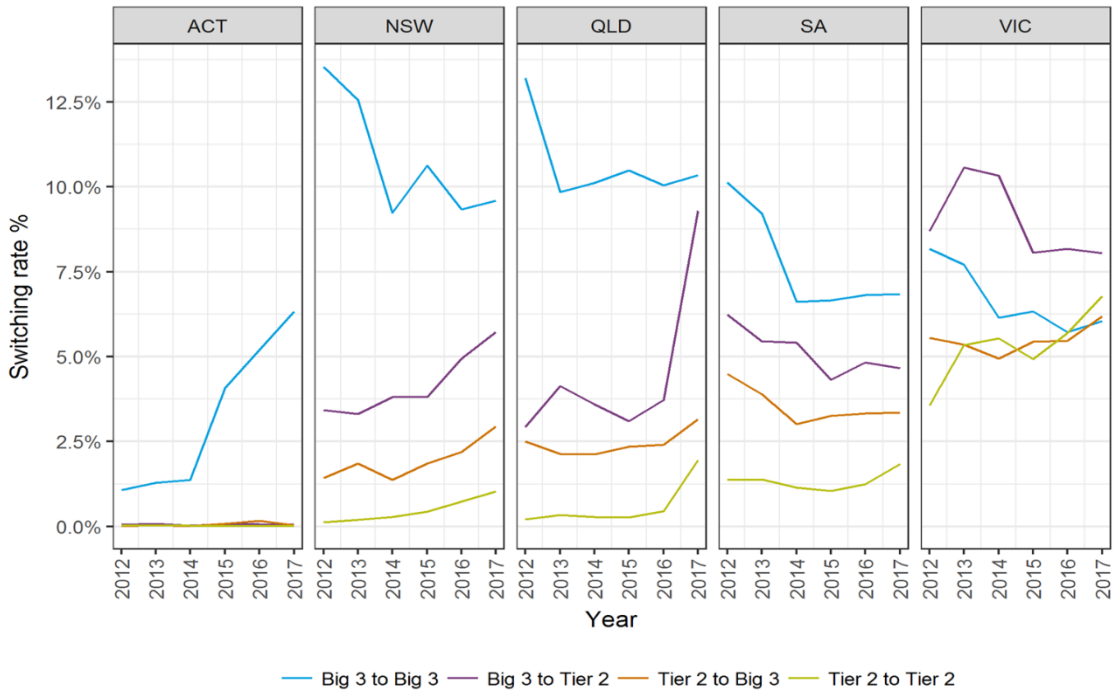
participating retailer loses a customer, it cannot attempt to win that customer back until the switch is completed.

A post-implementation review found that there was no evidence that the save protection scheme had either enhanced or harmed competition [20]. It had however resulted in shorter switching times so that the previous retailer could quickly get an opportunity to win-back, and that win-backs had increased.

4.4.2 Australia's National Electricity Market

The AEMC monitors retail competition for both gas and electricity annually. The 2018 report indicates that switching rates vary by jurisdiction but are in the order of 17-25 per cent for deregulated jurisdictions [11].

Figure 18: Switches within and between retailer tiers, 2012 to 2017 (electricity, by jurisdiction)



Household consumers have numerous comparison sites to assist them, including two government websites that list all offers in the relevant jurisdiction and 19 commercial sites, which advertise widely and will actively assist with switching. One of these, One Big Switch, runs a group discount programme. While the government sites are the most comprehensive, they have not been widely promoted and

so there has historically been low awareness of their existence. Recently, the Victorian government announced it would give $50 per household just for visiting the site.

Despite their greater effectiveness, concerns have been raised about the commercial websites, including that they do not cover enough of the market and so do not give customers visibility of a wide enough range of offers (nor explain this limitation well enough) and that their commissions are higher than those in Great Britain, for example, leading to their contributing to high retail customer acquisition and retention costs [7].

Concerns have also been raised about win-back strategies, although no regulatory action has been taken to date to address this [7]. On the contrary the ACCC review found:

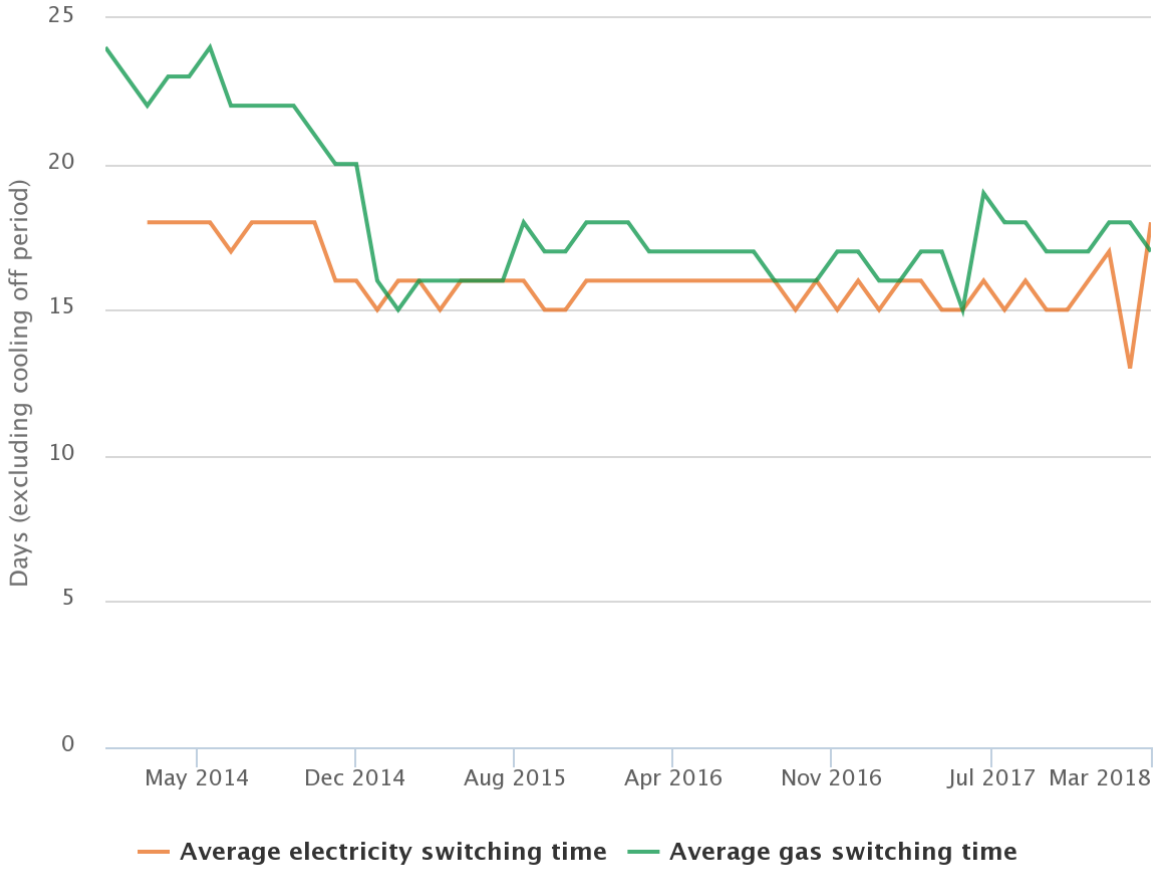
“Any action to prohibit save or win-back activity would be a significant regulatory intervention and one that may have unexpected and unintended consequences. As noted in our Preliminary Report, the New Zealand Electricity Authority in January 2015 introduced a scheme which bans retailers who opted in to the scheme from engaging in save activity. The scheme led to an increase in win-back activity (in place of saves) and no overall improvement in competition in the market. On the basis of these results, together with concerns about making such significant intervention on a competitive dynamic to the market, the ACCC does not recommend that retailers be banned from engaging in save or win-back activity.” [7]

Switching times can vary – outside of Victoria, a switch only takes place at the date of the next meter read after the switch request has been processed – i.e. up to three months. It is not clear whether this potential delay has inhibited customer switching.

4.4.3 Great Britain

As one of the first competitive retail markets, Great Britain has had relatively high levels of switching by international standards for many years. Switching takes around 15 days and there is also a 14-day cooling off period.

Figure 19: Average switching time for household customers



Source: Ofgem

As with other electricity markets, policy concern is focussed on those who never switch, for whatever reason. The CMA commissioned a survey of households during its retail market investigation, from which it observed:

- 36 per cent of respondents either did not think it was possible or did not know if it was possible to change one or more of the following: tariff; payment method; and supplier;
- 34 per cent of respondents said they had never considered switching supplier;
- 56 per cent of respondents said they had never switched supplier, did not know it was possible or did not know if they had done so; and
- 72 per cent said they had never switched tariff with an existing supplier, did not know it was possible, or did not know if they had done so [10].

Ofgem is attempting to address this issue through its disengaged customer database, a policy recommendation from the CMA's Energy Market Investigation (discussed further in 5.1.3). The database contains all customers who have been on the same suppliers' Standard Variable Tariff for more than three years. Ofgem has been trialling ways to target this group of customers with personalised information on the savings they could make by switching, including a mailout, an online marketing campaign and a collective switch. The latter of these was the most successful trial to date [21]. More than one in five disengaged customers who took part changed their energy deal.

4.4.4 Comparison and key themes

All three markets covered in the report have high levels of switching when comparing internationally. Switching is not the only indicator of effective competition, but it illustrates that there is genuine competitive tension and that retailers have to actively attract and retain customers to be successful. New Zealand's What's My Number campaign has assisted in delivering very high levels of awareness of the ability to switch and the value of doing so. New Zealand has the lowest time to switch of the three countries.

A number of regulatory interventions have been made in the three countries to further enhance the switching process. These include New Zealand's save protection scheme and Great Britain's disengaged customer database trials. While such interventions are relatively light touch and aim to support effective competition, there is always a risk of unintended consequences, Accordingly, care should be taken in implementing such schemes, and they should only be undertaken where a market failure has been identified and the benefits of the intervention clearly outweigh the costs.

4.5 Metering, meter reading and billing

This section covers who is responsible for metering, what the stock of meters is like, how frequently are readings taken and bills issued.

4.5.1 New Zealand

Responsibility for metering was transferred to retailers early in the deregulation process and made contestable, though many distribution businesses set up affiliates to compete in this market and one, Vector remains the market leader. In the early days, there was a certain amount of asset stranding as retailers installed new meters on acquisition of new customers. There is still a complex range of

ownership of meters, with networks, retailers and independent metering providers all owning meters, though there is no evidence that this is inherently a problem for consumers.

Metering standards have been upgraded over time, but there has been no mandatory rollout of smart meters. Regardless, New Zealand has a high penetration of smart meters despite having limited regulatory drivers to meet a particular timetable. Most retailers have between 80-100 per cent of their customers on smart meters[13]. Moreover, this has been achieved without an obvious step up in incremental costs to consumers.

As a result, monthly billing with actual consumption data is the norm, which assists to minimise the chance of bill shock.

Aside from the customer benefits of smart meters, New Zealand is also developing a market in data services for distributors, including outage and voltage data [22]. This demonstrates the ability for market participants to find commercial solutions to such matters.

4.5.2 Australia's National Electricity Market

The Council of Australian Governments (COAG) identified the benefits of smarter meters and more cost-reflective tariffs over a decade ago [23]. Only Victoria actually followed through on this, with a mandatory roll-out over the period 2011-2015. At this time, metering was a regulated monopoly service provided by the distribution networks. The Victorian smart meter program was scoped to deliver a high specification of metering and communications. Accordingly, it was very expensive, and because the rollout was over a compressed time frame, the costs were evident to consumers, with bills rising by around $200/year to cover the smart meter rollout [24]. The public backlash inhibited the government from following through to at least ensure the benefits of the meters were realised.

Unsurprisingly, other jurisdictions declined to follow the Victorian lead. The national rules were amended to transfer responsibility for metering to the retailer and also to upgrade metering standards so new and replacement meters would be smart. These new rules only came into force in late 2017, so the implications have yet to be fully assessed.

In Victoria at least, monthly billing with actual consumption data has become the norm. In other jurisdictions, billing may still be only quarterly with actual meter reads 1-2 times a year. Australia has

[13] Electricity Authority, EMI, Metering snapshot

been slow to mitigate this by allowing self reads, with the rule to enable this currently in draft form so unlikely to be in force before 2019.

4.5.3 Great Britain

Meter provision and meter reading was designated a competitive service by Ofgem in 1996. At this time responsibility to procure metering services transferred from the distribution networks to the retailers (given the extensive cross-ownership at the time, this was not necessarily a major upheaval). A programme to implement smart meters for all customers in both gas and electricity was initiated in 2011. The programme has been plagued with delays and issues and at the end of June 2018, there were just over 6 million electricity smart meters installed in households, a 24 per cent penetration rate.

With the continuing prevalence of analogue meters requiring manual metering, retailers may only carry out meter reads twice a year. As bills are typically quarterly, this means about half the bills issues will be based on estimated reads. However, self-reading is acceptable, and monthly direct debit is the most common way to pay bills, so in practice this low frequency of bills and meter reads need not have much impact. Of course, customers who pay by standard credit and how may be unaware of how to read their own meter may still be subject to bill shock.

4.5.4 Comparison and key themes

New Zealand is ahead of both Australia and Great Britain in its smart meter rollout, positioning it well for further innovation in retail services and the capacity to offer more cost-reflective tariff types, such as demand tariffs or time of use. The retailer-led rollout has been achieved without the sort of cost shock experienced in Victoria.

4.6 Service levels and customer satisfaction

This section covers data on complaints and customer satisfaction.

4.6.1 New Zealand

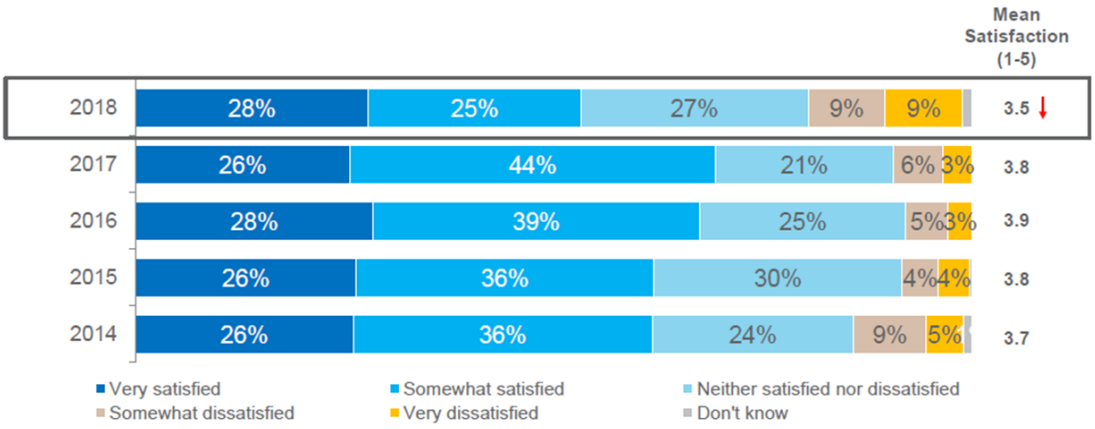
Consumer NZ surveys show households in New Zealand have a relatively high level of satisfaction with their retailer. Their 2018 survey found that 83 per cent of respondents were either somewhat or very satisfied with their retailer's service, while only 8 per cent were dissatisfied [25].

Utilities Dispute is the body responsible for managing complaints about electricity companies. Their latest 6 monthly statistics showed they had received 1,071 complaints decreasing by 7.8 per cent on the prior period. This is an annualized rate of less than 1 in 1,000 customers and the figures cover both distributors and retailers. Even fewer cases go to deadlock – 74 in the period [26]. The vast majority of complaints are referred back to retailers and quickly resolved.

4.6.2 Australia's National Electricity Market

Figure 20 below shows the changing levels of customer satisfaction in Australia. The latest figures show that only 53 per cent of customers are very or somewhat satisfied with their current electricity retailer [11].

Figure 20: Overall satisfaction with current electricity retailer

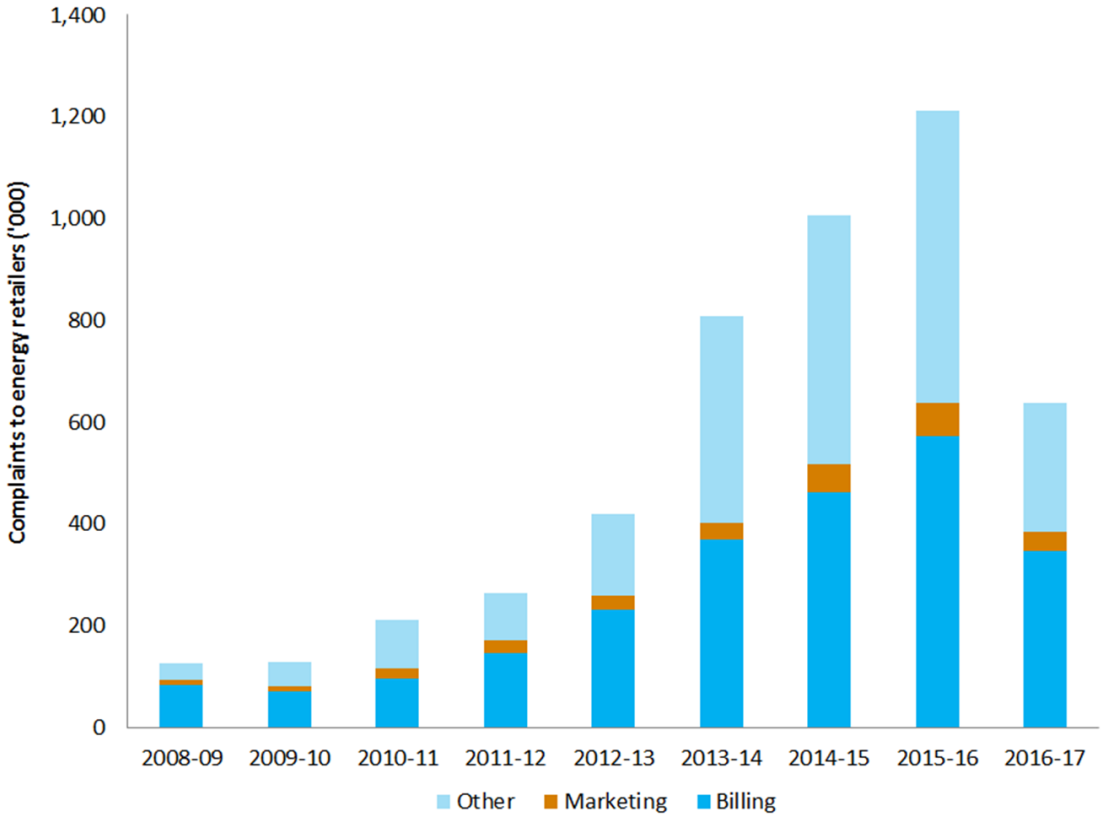


Source: AEMC

Ratings of the value for money of electricity have decreased in most states, unsurprisingly given the high level of media attention on rising electricity prices. The lowest level of satisfaction is Tasmania (35 per cent), followed by the ACT (37 per cent) [27]. Both of these jurisdictions have regulated prices. They were also the two lowest jurisdictions in terms of satisfaction with the level of competition.

Customer complaints are of a different order of magnitude to New Zealand, with totals reaching around 1.2m in 2015-16, albeit with a sharp drop-off in the following year [11].

Figure 21: Complaints to retailers (electricity, by complaint type)



Source: AEMC

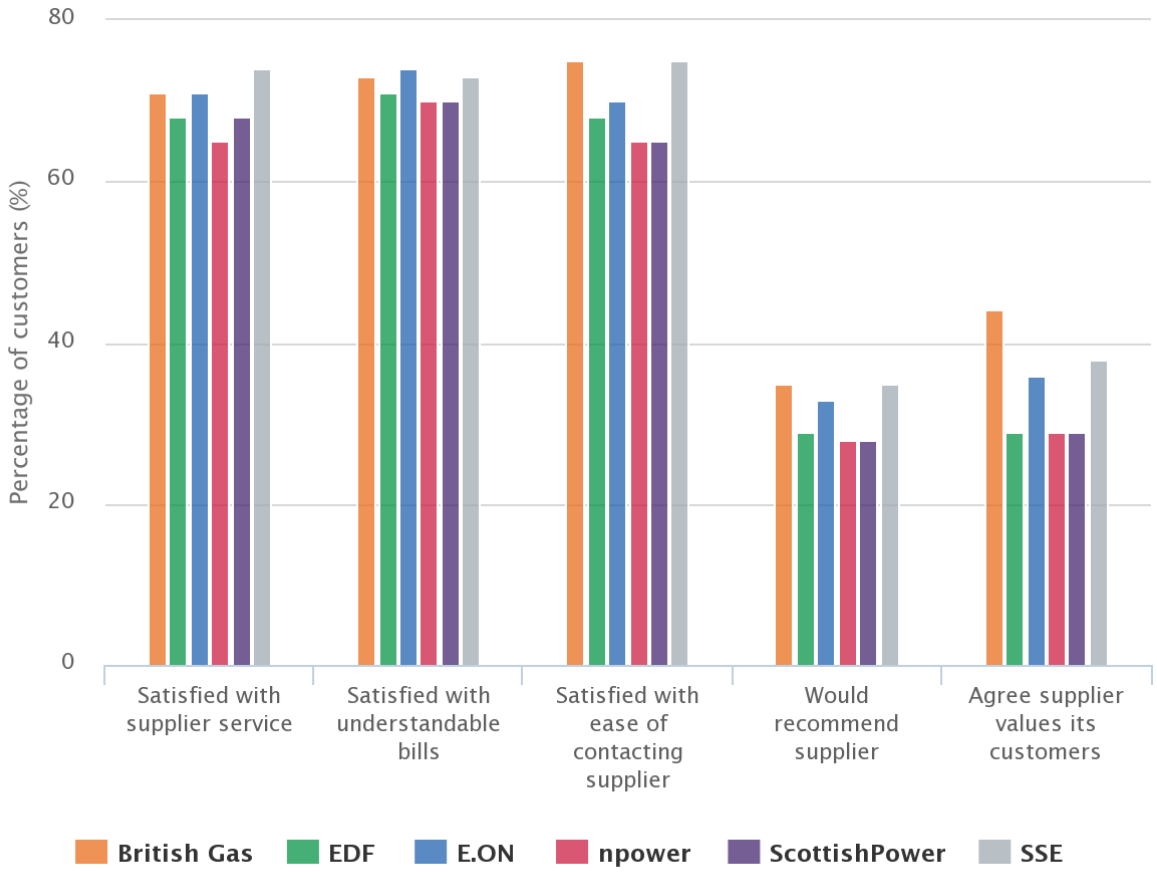
These figures are not directly comparable to the Utilities Dispute results as not all complaints to retailers are then escalated to an ombudsman. Each jurisdiction has its own ombudsman, and collectively they had almost 54,000 complaints in 2016/17 – again this is a decreasing trend, but as the AEMC notes: "the 2016/17 data does not capture the impact of the large price increases in the electricity sector" [11].

4.6.3 Great Britain

Ofgem's customer surveys measure satisfaction levels across different dimensions of the customer experience. On measures such as service, ability to contact retailer and understandable bills, the big six retailers have an average satisfaction level of around 65-70 per cent[14].

[14] Ofgem, Retail Market indicators – service quality

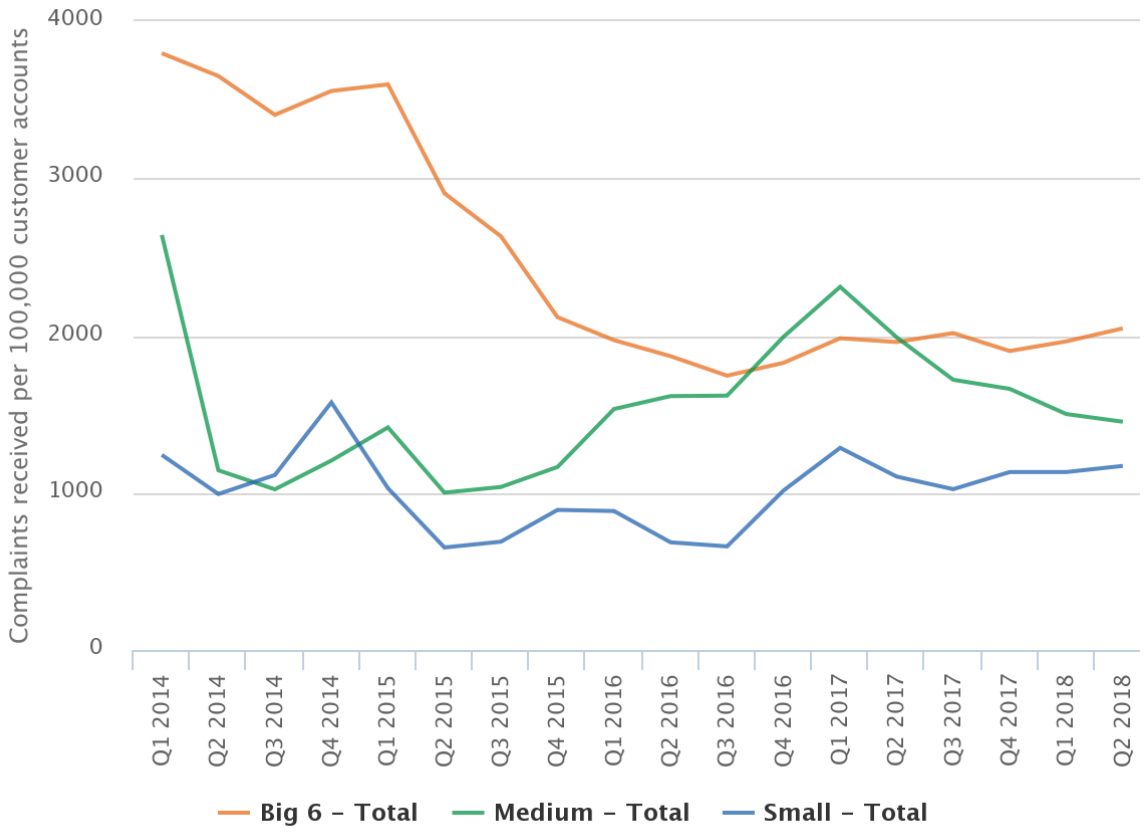
Figure 22: customer satisfaction with Big 6 electricity suppliers



Source: Ofgem

Compared to Australia and New Zealand, the British regime has high penalties for failure to deliver against service levels. Initially through fines and latterly through redress payments, suppliers have paid out over 10m each year [5]. Complaints have fallen to around 1-2 per cent, as the larger retailers' complaint level converge towards those of smaller retailers, and the ombudsman processed 88,423 complaints (about 1 in every 250 customers) across both gas and electricity [28].

Figure 23: customer complaints per 100,000 customers



Source: Ofgem

4.6.4 Comparison and key themes

On balance it appears that New Zealand has higher customer satisfaction and lower levels of complaints than either Australia or Great Britain.

4.7 Vulnerable and hardship customers

This section covers vulnerable and hardship customers, the support open to them, and the issues they face, including access to the competitive market, prepayment meters, concessions and energy efficiency.

4.7.1 New Zealand

Rule to assist vulnerable customers are defined by the Electricity Authority through voluntary guidelines and encompass alternative payment options, credit control, bonds and standards for disconnections following non-payment. Vulnerable customers are consumers for whom, for reasons of age health or disability, disconnection of electricity presents a clear threat to their or a member of their household's health or well-being". There is no universal supply obligation in place. Retailers have voluntarily jointly agreed protocols for managing credit issues, especially for vulnerable customers [29].

Alternative payment options can include prepayment meters. As in the other countries covered in this report, there are perennially concerns raised as to whether prepayment customers may more than other customers, given the additional costs associated with setting up a prepayment meter and obtaining credits. The largest prepayment provider, Globug, has tariffs equivalent to the post-pay tariffs of a large retailer such as Mercury, after adjusting for the prompt payment discount.

Households' ability to pay their electricity bills is a function of many factors, including retail tariffs, government support and usage, which can be highly dependent on the standard of housing and major appliances. The BRANZ survey of housing found that 53 per cent of NZ houses have no or suboptimal insulation in the roof space and/or subfloor.

The New Zealand Government has recently introduced a Winter Energy Payment. As the name suggests, this payment is intended to assist with the cost of heating homes over winter. Payment is made automatically to eligible recipients, essentially those already in receipt of other forms of government welfare such as pensioners and the unemployed. There is no further means-testing. Over 1 million New Zealanders will receive the payment.

4.7.2 Australia's National Electricity Market

The concessions framework in the NEM is operated on a jurisdictional basis and varies from state to state, creating additional process and implementation costs for retailers. Victoria's is considered to be best practice, as it is means-tested and contributes a percentage of the bill (currently 17.5 per cent).

Additionally, there are also hardship policies that govern how retailers deal with customers who run up bill arrears or ask for assistance in paying their bills. These have been in place in Victoria since 2006 and their application has been contentious ever since, resulting in periodic overhaul. A recent process

to review hardship policies took over two years to conclude. Given that its implicit goal was to address issues of poverty through a single tool – that of governing how energy retailers recover debt from consumers, it was always going to be hard to meet stakeholder expectations. Simultaneously, the AER has developed a scheme - initially voluntary, but now mandatory – for retailer hardship policies in the rest of the NEM. So, retailers who operate nationally need to set up their systems and processes to comply with two different polices. The latest figures show over 100,000 customers on payment schemes (across gas and electricity).

Despite the extensive policy framework to support customers in hardship, around 1 per cent of electricity customers are disconnected each year for non-payment. Outside of Tasmania, prepayment meters are not in use, so this option which has become the safety-net option for customers with poor credit history in Great Britain (see below) is not open to either customers or retailers in much of Australia. This is due in part to the restrictive and regulated approach to hardship issues that has reduced retailer flexibility and innovation in addressing hardship, including in the prepay market.

Hardship has been exacerbated by the reluctance in the past of social welfare organisations to recommend cheaper market contracts to their client base [30]. The slow pace of network tariff reform has also on average been detrimental to this group [31], although caution should be taken in assuming there is a read-across of this result to hardship customers in other countries.

Energy efficiency is also a concern in Australia although in most of the country the winter climate is mild, so heating is not a key driver of electricity use. Some jurisdictions run mandatory retailer energy efficiency schemes, although these mostly drive low-cost actions that energy efficiency providers can offer at no direct cost to households such as LED light bulbs and standby power controllers. They do not support significant uptake of major insulation improvement, for example. They also add modestly to customer bills.

The ACCC report (see 5.1.2 below) made a number of recommendations intended to assist vulnerable consumers and address the high costs to serve associated with bad debt collection by retailers. It recommended that:

"…state and territory governments restructure concession schemes to ensure that they offset both supply charges and usage charges, and are targeted at those most in need. This will place downward pressure on concession customers' bills and should flow through to reduce the cost of bad debt.

The ACCC also recommends government funding of a grant scheme for consumer and community organisations to provide targeted support to vulnerable consumers to improve energy literacy. Improved energy literacy will enable vulnerable consumers to choose competitive offers that suit their circumstances, and identify any relevant financial assistance schemes, such as concessions and medical rebates. Enabling consumers to identify and switch to better offers, as well as accessing the financial support that is available to them, will further assist in reducing the bad debt costs of retailers." [7]

4.7.3 Great Britain

Ofgem's duties include consideration of the needs of old age pensioners, rural customers, low income and the sick or disabled. Accordingly, a regulatory framework has emerged that seeks to address the specific concerns of such groups. These include a Priority Services Register that provides a range of free services, including advance notice of power cuts, alternative heating/cooking facilities during a power cut, free appliance checks and so on. Almost 6 million customers are on the register – over a quarter of all households.

Older customers are entitled to up to £300 annually as a Winter Fuel Payment (not means-tested) and in some cases a further £140 warm payment discount (only available to lower-income customers). . These are both government-funded.

Around 600,000 customers are in arrears with their bill. Most of these manage their debt through an agreed payment plan with their supplier. Some transfer to a prepayment meter to be able to manage their electricity expenditure – if a customer has repeatedly failed to engage with their retailer a prepayment meter can be installed under warranty. Additionally, there are some grant schemes available to customers under certain circumstances to help pay off debt, some of which are retailer-funded. The combination of all these measures has made disconnection extremely rare, with only 17 customers disconnected in 2017 [32].

On the energy efficiency front there are multiple policies, including an energy company obligation on large retailers to install energy-saving measures in domestic properties.

4.7.4 Comparison and key themes

Policies for hardship and vulnerable customers are a particularly complex area. Most of the challenges faced by such customers are due to factor beyond their electricity retailer's control or influence.

Accordingly, an undue focus on retailer behaviour as a way of addressing issues of general poverty is doomed to failure. The political intractability of such policy processes has been addressed from a sociological standpoint in a book by a veteran of the Victorian energy policy development process [33]. The book documents the hardship policy development process in Victoria and highlights the basic incompatibility of different stakeholders' goals and understanding of the problem. It notes that comparable processes in New Zealand have been more constructive, citing the Electricity Authority's use of advisory groups constituted from representatives of consumer groups, the industry and other stakeholders, operating on the basis that the groups "were expected to work towards the greater good for the consumers of New Zealand rather than represent their organisation's views" [33] . This approach appears to have proven successful and been supported by the regulator and stakeholders.

A key theme that has emerged from the recent ACCC review is that the costs of bad debt are a significant cost for retailers but the solutions lie outside of the electricity market through better targeting of concessions to those most in need and greater support for energy literacy programmes so vulnerable consumers can get the full benefits of competition [7].

4.8 Emerging technologies

This section covers the rise of emerging technologies such as rooftop solar PV, batteries and electric vehicles and the implications for household electricity supply.

4.8.1 New Zealand

Take-up of emerging technologies has been fairly modest to date in New Zealand. Unlike any other countries, generous subsidies have not been offered for rooftop solar PV or electric vehicles. Peak demand is in winter evenings, so rooftop PV is unlikely to contribute materially to managing network peak demand or reducing wholesale prices. This gives New Zealand more time to consider the issues such technologies may raise and allow market innovation to provide the initial response. As the First Report notes, a key question is about the fairness of traditional pricing structures when applied to new technologies, as the amount that owners of these technologies pay may increasingly be misaligned with the impact they are having on the grid. Since it is likely to be better-off customers that are the first to acquire these technologies, it may be less well-off customers that bear additional costs.

4.8.2 Australia's National Electricity Market

Australia has world leading penetration of rooftop solar PV, particularly in South Australia and Queensland where almost half of households have them. Take-up of solar was stimulated by highly generous subsidies, both for the upfront capital cost and the premium feed-in tariffs paid for solar output, which were as high as 60c/kWh. These have largely been closed to new entrants, although there are legacy costs in all jurisdictions except New South Wales, which only paid the premium feed-in tariffs for 6 years. Take-up is still high, as a combination of good solar resources in most of the country and high retail prices mean that solar PV pays off for many households in between 3 to 7 years depending on location and size of system [34]. Energy Consumers Australia's survey of consumer sentiment found that at least 20 to 37 per cent (depending on jurisdiction) are considering getting solar panels in the near future while 22 to 40 per cent are considering a battery storage system for their homes. The battery figures are quite remarkable, given only 2-3 per cent have one installed. Solar hot water is also popular.

The political debate around solar has centred around whether solar subsidies are regressive or not, following the logic that since there is an up-front cost to installing solar, lower-income households are less likely to be able to access the benefits of the subsidies (although there are solar loan/PPA type deals now on the market). Additionally, as renters often do not have the opportunity to install solar and lower-income households are more likely to be renters, this may also be a factor. Flat network charges mean that solar households are likely to be paying less than their share of network costs, creating another cross-subsidy on top of the feed-in tariffs and the renewable energy credits.

4.8.3 Great Britain

Rooftop solar PV has been supported by generous feed-in tariffs, much like in Australia. There is also policy support for EVs. The UK has set a date of 2040 for ending new petrol/diesel car sales. National Grid has produced various scenarios for peak demand impact of electric vehicle charging, some of which result in significant increases in peak demand. Ofgem's targeted charging review seeks to address these issues, by considering options for allocating residual network charges (i.e. charges that an electricity network needs to make to recover its allowed revenue in excess of those collected by marginal cost-based charges). The review is in progress, so no final decision has been made.

4.8.4 Comparison and key themes

Most countries - not just the three covered in the report - are grappling with the challenges of responding to the impact of emerging technologies. By avoiding the pitfalls of offering generous subsidies for such technologies, New Zealand has more time to consider these challenges and respond appropriately, whereas Australia is already facing the impact of very high levels of rooftop solar PV on the system and on electricity bills. The way regulated network charges are allocated has emerged as one of the key issues to solve. Beyond this, New Zealand is better able than Australia in particular to observe how the market responds to these challenges before considering any interventions.

5 Current retail policy issues

This section examines policy issues that specifically relate to household electricity retail. It considers each country's recent reform program and the status of reform.

5.1.1 New Zealand

There have been no major reviews in New Zealand since the 2010 reforms. However the government has launched a retail price enquiry that will conclude in 2019. An expert advisory panel has been convened to carry out the review. The objective of the review is to "ensure that the New Zealand electricity market delivers efficient, fair and equitable prices as technology evolves and we transition to a lower emissions future, taking into consideration the requirements of environmental sustainability and the need to maintain security and reliability of supply"[15]. A First Report [12] was published in September 2018 and a final report will be delivered to the Minister in April 2019.

5.1.2 Australia's National Electricity Market

With concern about electricity prices reaching fever pitch, reviews and reforms have come thick and fast in recent years. Aside from the general reviews covered in 2.4.2 above, some of which contained retail recommendations, there have been major reviews focussed on retail.

In 2016, the Victorian government commissioned a review led by a former deputy premier John Thwaites into gas and electricity pricing. The report was released in August 2017. As John Thwaites had previously expressed the view that the market should be re-regulated, the review panel's

[15] Terms of reference for the electricity price review, 2018

conclusions were not surprising. Detailed cost and margin data were not available to the panel and they commissioned some analysis that made certain assumptions about average retail tariffs to conclude margins were extremely high. The subsequent ACCC reports indicates that this analysis likely overstated margins, but it clearly would have informed the panel's considerations. The report was highly critical of retailer behaviour, in particular the practice of discounting of an annually rising standing offer. Despite this the report acknowledged that retailers' discounting practices have been developed in response to their customers' preferences and that the practice of discounting "has been successful in promoting consumer engagement" [35].

Many of the recommendations were moderate and quickly endorsed in principle by the industry, keen to signal that they would work constructively with the Victorian government. They included:

- Marketing information on prices to be easily comparable
- Contract periods, practices and variations to be clear and fair
- Promoting access to smart meter data to assist customers to manage bills and increase energy efficiency
- Protecting low income and vulnerable customers with increased assistance and market awareness
- Brokerage and collective bargaining on behalf of low income and vulnerable customers
- Additional market monitoring and review of the retail code by the state regulator

The first two recommendations were more radical. They proposed abolishing the standing offer and replacing it with a Basic Service Offer, a regulated price cap in all but name. Unlike the price caps that were implemented in the early days of competition, it would not include an allowance for customer acquisition costs. It is not clear how retailers would be able to viably compete for new customers under such a cap. The Victorian government took seven months to formally respond. When it did it announced that these 2 key recommendations were still under review but that it supported the other nine recommendations. A final response confirming this and setting out a process from implementation is yet to be seen over a year after the final report was issued.

Meanwhile, the federal government decided it needed to show customers it was listening to their concerns. It commissioned a report from the ACCC on retail pricing, with terms of reference that gave the ACCC licence to review and comment on other aspects of the market and policy settings. The ACCC had powers to require information on costs prices and other factors from the retailers and so for the

first time in several years a clear picture of costs and margins could be established (wide price dispersion and no public data on how many customers were on which tariffs meant that margins analysis was highly speculative to that point). The results of the analysis are set out in 3.1.2, and illustrate that contrary to popular belief average margins were not especially high and at most were about 2 per cent higher than the benchmark margins used by regulators in setting price caps (although there is some variation between jurisdictions). Margins were not the sole focus of the review and the ACCC apportioned responsibility for rising prices right across the supply chain as well as to government policies. The final report contained no fewer than 56 recommendations across wholesale, network and retail as well as reform of climate policies.

As with the Victorian review, a key recommendation was the introduction of a new regulated default tariff to replace the standing offer. Unlike the Basic Service Offer, this tariff would allow for the inclusion of the cost of competing in the market. All retailers would have to offer the default tariff and use it as a reference point for advertising discounted tariffs. While higher tariffs would not be prohibited, it is considered to be an effective price cap mechanism. The federal government has signalled its intention to proceed with this recommendation. Other retail recommendations included:

- requiring any advertising of discounts by retailers to be unconditional and referenced to the default offer rate
- restricting conditional discounts to be no more than the reasonable savings to the retailer from the condition being met
- pursuing access to data for electricity users through the Consumer Data Right
- a prescribed mandatory code of conduct for third party intermediaries which includes an obligation that any recommended offer is in the best interests of the consumer (rather than on the basis of the intermediary's commercial relationships)
- clarifying explicit informed consent provisions to make clear that consumers can provide their consent to third party intermediaries to give explicit informed consent (EIC) on their behalf
- improving concession schemes including by applying a means test to ensure they are targeted at those most in need
- funding for targeted support to assist vulnerable consumers to improve energy market literacy [7]

The federal government did not wait for the ACCC to report before getting involved in the retail market. In August 2017, representatives of the seven largest retailers were summoned for a dressing down by the then Prime Minister Malcolm Turnbull and a range of demands put to them. Retailers committed to contact customers whose fixed term benefits have ended, to encourage them to engage with the retail market and to contact more than one million customers on default offers by Christmas to advise them they can get a better deal. A range of other measures were agreed, including development of a comparator tariff and greater engagement with customers coming off fixed term discounts.

Implementation of up to 56 recommendations would be plenty for most governments to consider. This is especially the case when there are multiple rule changes already in train to address perceived deficiencies in the retail market. However, Australia's political situation is volatile, and the latest development is calls for a Royal Commission into the electricity industry, which would open the industry still further to scrutiny and criticism.

Accordingly, the electricity retail industry in Australia is faced with the prospect of perpetual review and reform, with separate processes taking place in Victoria and the rest of the NEM. More regulation appears to be the inevitable outcome whether or not this results in a price cap. Essentially confidence has been lost in the operation of the market, so regulation has become the solution to any perceived problems in the retail market with no weighing up of whether the costs and barriers to entry regulation creates will outweigh the benefits it may bring. As can be seen from the experience of Great Britain below, more regulation is in no way a guarantee of better outcomes for customers.

5.1.3 Great Britain

For many years following privatisation and deregulation, retailing attracted little scrutiny. Prices were declining for all customer types, including households. As prices began to rise and politicians began to take an interest in the market again, Ofgem found itself under pressure to address concerns that the market was not working in the interest of small customers. The review and re-regulation process began with the Ofgem Supply Probe in 2008. This resulted in Ofgem being concerned that large retailers charged on average higher prices (10 per cent or so) to customers in their "home" area (i.e. the region in which they had started with the whole customer base before competition was instituted) than those in other retailers' home areas. Customers in all areas still had five large retailers and numerous small retailers that they could get deals from instead of their "home" retailer, but Ofgem considered that this price discrimination was borne more heavily by vulnerable customers on the basis

that they were the least likely to have switched away from their original home retailer. So Ofgem implemented a non-discrimination rule – at the time at acknowledged that it did not expect this to reduce overall margins/revenues but considered it worthwhile anyway. Several prominent British economists criticised the decision and predicted that it would reduce the competitive dynamic and so probably lead to increasing margins overall. This is what happened over the next few years – in fact margins increased 38 per cent (based on Ofgem's own regulatory accounts).

Ofgem responded by doubling down on regulation, reasoning that part of the problem was the proliferation of offers. They restricted each retailer to "a maximum of four tariffs per fuel natural gas and electric power) per payment method (direct debit, standard credit and prepayment). All tariffs were to have a simple two-part structure that is a standing charge and a single unit rate … Discounts were allowed only if expressed in pounds, not as percentages, and were later prohibited other than for dual fuel and online accounts"[16].

This resulted in retailers withdrawing a number of niche tariffs that particular groups benefitted from – most notably "a 'StayWarm' tariff that gave customers over 60 years of age a fixed monthly bill regardless of how much energy the customer used (though the bill could be adjusted on a forward-looking basis depending on actual usage)"[17]. Furthermore, it stifled tariff innovation and made it harder for retailers to use aggressively priced new offers to poach new customers from their rivals.

Far from solving the supposed problems in the retail market, Ofgem continued to investigate and in 2014 referred the sector for a market investigation by the newly formed CMA. The terms of reference focussed on household and micro-business customers, reflecting Ofgem's view that the market was working sufficiently well for larger business customers. The CMA concluded its investigation in 2016 and determined that there were ten market features that gave rise to an Adverse Effect on Competition. Three of these related to weak customer response, one of the five issues that had been identified as potential areas of concern by Ofgem. The other four: incumbency, tacit co-ordination, vertical integration and barriers to entry were found not to be a problem. What was a problem, however, was poor policy and governance frameworks, such as: lack of locational transmission pricing; non-competitive allocation of renewable CfDs; inefficient allocation of costs in gas settlement; lack of

[16] Competition and Price Controls in the UK Retail Energy Market, Professor Stephen Littlechild, June 2017, in Issue 63 of Network
[17] Ibid

half-hour settlement in the domestic electricity market (partly a consequence of the delayed smart meter rollout), industry code governance issues, and “an overarching feature of lack of robustness and transparency in regulatory decision-making”. This last point had several elements but included the potential conflict inherent in Ofgem’s proliferating duties (see 2.3.3 above).

The CMA found that competition and customer response had been adversely affected by Ofgem’s reforms. The simpler tariffs reforms did not appear to have improved engagement, while tariff innovation was constrained, leading to reduced competition as: suppliers were less able to target particular customer segments; attractive discounts such as introductory offers could not be used; the incentives on retailers to compete vigorously were muted by making it more costly for them to do so, and the role of price comparison websites and third party intermediaries in supporting competition and engagement was undermined [10].

A headline figure emerging from the report was the CMA’s finding that there was a customer detriment averaging £1.4bn per year over the period 2012-2015. However, this did not reflect excess profit as assumed in much of the debate around the industry. Rather, the CMA assumed that a purely hypothetical supplier operating at “an efficient scale” and “in a steady state” and earning a “normal return” would charge prices that in aggregate would lower customers’ bills by £1.4bn. But this figure was in excess of the actual profits being made by retailers, at least according to Ofgem’s own analysis. In other words, this hypothetical supplier had costs lower than the actual level some of the retailers (including at least two of the Big 6) were incurring.

Ofgem has begun implementation of several of the CMA’s recommendations, including the disengaged customer database. However, the government appears to have lost patience and announced the temporary introduction of a price cap on standard variable tariffs. The legislation to enact this - the Domestic Gas and Electricity (Tariff Cap) Act - became law on July 19 and gives Ofgem a duty and the powers to put the price cap in place. Ofgem is working to have the cap in place by the end of the year and has indicated the cap will be set at a level that will save the 11 million customers on the standard variable tariff around £75 per year.

6 Conclusion

A clear distinction can be drawn between the New Zealand market on the one hand and the Australian and Great Britain markets on the other. The latter two markets have been subject to repeated review

and reform by multiple agencies/governments. The driver for these is succinctly summed up by the CMA in its final report: "The rapid increase in domestic energy prices in recent years and **the perception that** profits and overall prices are too high have been a major source of public concern and were key drivers for the market investigation reference" (emphasis added).

Three potential sources of this perception can be identified.

Firstly, prices have risen due to underlying cost drivers. Some of these may be the unavoidable requirements of meeting ever greater demands on an electricity system such as growing peak demand (particularly in Australia as air conditioning load increased strongly through the 1980s and 90s); increasing reliability requirements; technological upgrades such as smart meters and decarbonisation. There is also a general economic hypothesis that the non-traded sectors of the economy, such as electricity supply will tend to experience stronger cost increases than the internationally traded sectors, where global competition is a powerful force for efficiency. Others are due to poorly designed government policy, often to address the same factors, and especially climate policy. These have been well documented in key reviews. New Zealand has avoided many of the pitfalls of poorly designed climate policy that Great Britain and Australia have experienced, helped both by its high proportion of renewable resources and its fairly consistent and economically rational approach of implementing an ETS to efficiently drive additional abatement. This has resulted in lower underlying cost pressures on electricity prices in New Zealand than the other two, noting that households have still experienced material price rises in recent years due to the reallocation of shared network costs.

Secondly, there is the fact that retail competition has resulted in price differentials emerging, so that while active consumers have been able to mitigate price rises by shopping around, inactive consumers have seen higher price rises as differentials grow. While price differentiation is a normal feature of competitive markets, it is more politically sensitive in electricity. This reflects electricity's role as an "essential service" and also perhaps its still-recent history as a government-supplied service. This is compounded by concerns (regardless of whether the evidence supports it) that the wrong customers are the ones paying the higher prices, i.e. vulnerable and low-income customers. Various means have been proposed, and in Great Britain implemented to stimulate greater engagement from such customers, but even more attention has been focussed on finding ways to constrain suppliers' behaviour in the market, despite a lack of evidence that this will improve customer engagement.

Indeed, the evidence from Great Britain is that Ofgem's retail market reforms diminished competition, resulting in higher retail margins.

Thirdly, the lack of transparent data on profitability of electricity retailers meant it was easy for the public to assume that price rises were simply due to price gouging by retailers. Even constructing a cost stack for the industry was challenging, but with wide price differentiation, it was not possible from the publicly available information to accurately estimate the average price level and thus the average profit margin. Misconceptions about the level of retail profits have been a clear driver of public disenchantment and political intervention, and in the context of the review, New Zealand retailers may wish to consider their approach to data provision.

Given the rarity of price controls across contemporary, open economies such as New Zealand, Australia and Great Britain, these should be seen as a last resort. Both Australia and Great Britain seem to have arrived at this last resort. With more moderate underlying cost drivers, less price dispersion and abundant evidence of a functioning competitive market, there seems little justification for New Zealand following them.

Many of the factors that contribute to high electricity bills and impacts for the most vulnerable, such as the household insulation standard and the relative income level or size of household, are out of control of the electricity industry. Policy responses to address such issues need careful consideration to avoid simply increasing costs to serve for retailers (which has the perverse effect of increasing electricity bills) rather than through the social welfare system. Measures such as those proposed by the ACCC to better target concessions and grants and improve electricity literacy are most likely to address the underlying issues more effectively than regulation.

The Author

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Kieran holds Masters degrees from the Universities of Oxford and London.

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