Network tariffs applicable to households in Australia: empirical evidence

Prepared for UnitingCare Australia

Enhancing consumer engagement in network tariffs project

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Preface

This paper is the first of four on electricity network tariffs for household consumers.

The three papers that follow this paper will encompass:

- Tariffs theory: what tariff theory says about the design of network tariffs applicable to residential electricity users in Australia.
- Rooftop Photovoltaics (PV): focussing on the network tariff issues associated with the rise in rooftop PV for households.
- Tariff reform road map: this draws together the evidence and suggests a roadmap for network tariff reform in Australia.

The main purpose of this project is to provide a comprehensive base of evidence on household network tariffs and to outline a path for consumer-focused network tariff reform.

This project was funded by the Consumer Advocacy Panel (www.advocacypanel.com.au) as part of its grants process for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas.

The views expressed in this document do not necessarily reflect the views of the Consumer Advocacy Panel or the Australian Energy Market Commission.

EXECUTIVE SUMMARY

This report presents information and analysis of the network tariffs applicable to household electricity consumers in the southern and eastern states of Australia covered by the National Energy Market (NEM). The paper is the first of four papers focused on network tariffs from the perspective of households.

Key findings include:

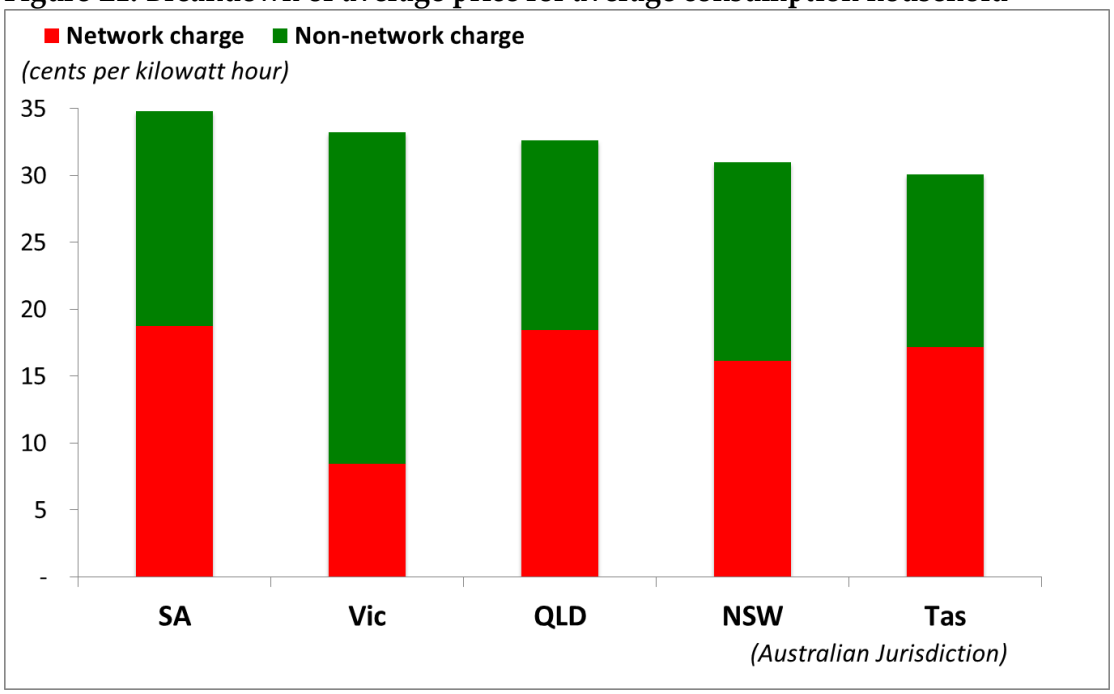
- A range of network tariff structures are used throughout the NEM. Inclining block rate tariffs (with small price increments) and two-part tariffs are common.
- The most expensive network tariff in Australia is almost four times higher than the least expensive.
- The average network charge to households in Victoria is about a third of that elsewhere in the NEM
- The gap between least expensive and most expensive network tariff has doubled over the last seven years.
- Network service providers in Queensland have the highest charges and also the greater proportion of their charge is fixed. The Queensland distributors and Ausnet Services in Victoria have increased their fixed charges significantly recently. In the 2015/16 year (not covered in this report Citipower and Powercor have both increased their fixed charges significantly).
- Network service providers are typically increasing fixed charges more quickly than variable charges.
- The international comparison shows that network tariffs in Britain are generally much lower than anywhere in Australia. The average network charge in Denmark and New Zealand is roughly comparable to those in Victoria, the lowest network cost jurisdiction in the NEM.
- The proportion of revenue recovered from fixed charges charged to most consumers in the NEM is higher than that in Britain, Denmark and New Zealand. Some distributors in Victoria have relatively smaller fixed charges, while those in Queensland and Essential Energy in New South Wales have fixed charges that are much higher than those found elsewhere. In NZ,

network tariffs with higher fixed charges apply to households with high levels of consumption (> 9 MWh per year).

Following are three key charts from the report that focus on the network contribution to the total bill paid by end customers.

Figure E1 shows the break-down of the average household electricity bill between network and non-network charges.

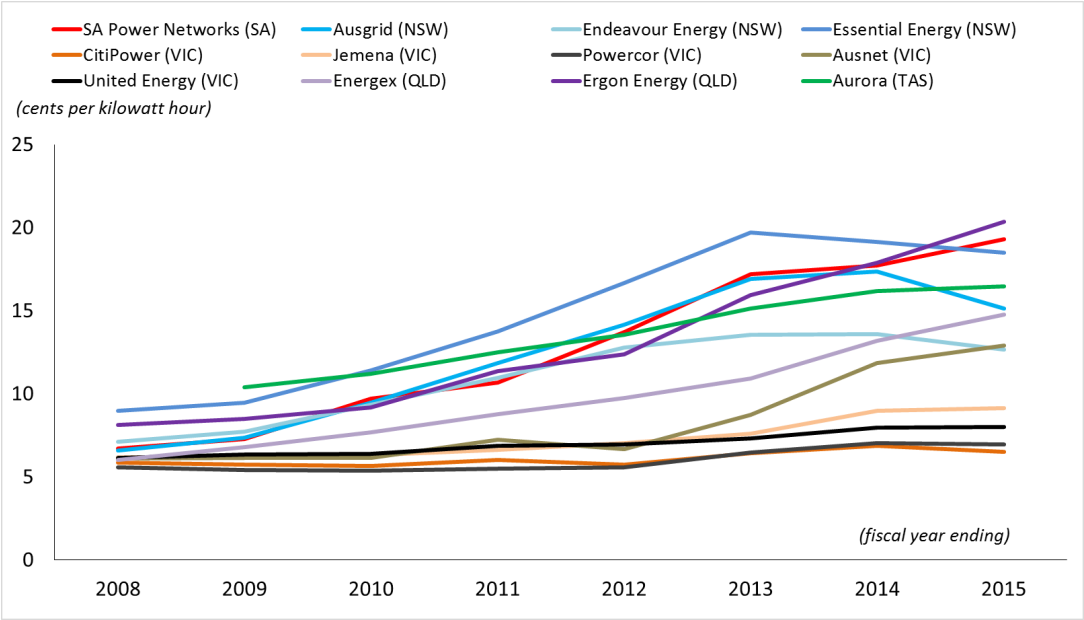
Figure E1. Breakdown of average price for average consumption household



This figure shows that network costs for consumers make up about half, or more of the average household bill in all states except for Victoria.

Figure E2 shows the network charge for the average consumption household between 2007/8 and 2014.

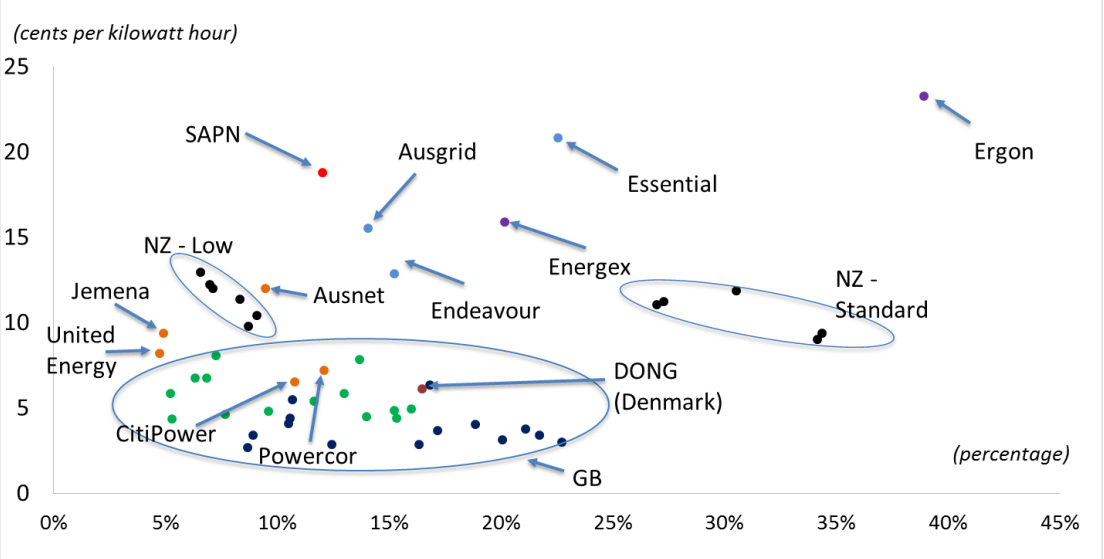
Figure E2. Network charge for average consumption household



This figure shows that the network element of electricity bills has been rising since 2007/8 in all states, but in Victoria the rises have been at a lower rate.

Figure E3 compares Australian distribution network businesses with network businesses from overseas that have electricity markets that are of similar structure to Australia's energy market. This provides a useful check of costs charged to Australian consumers by our network businesses.

Figure E3. International comparison



This figure provides two main pieces of information. The vertical axis (y-axis) shows the price, in cents per kilowatt hour (kWh) of network services for a consumer using the average annual volume. The Australian businesses are typically collecting much more revenue per kWh than in New Zealand, Great Britain or for Dong energy in Demark, its largest distributor.

The horizontal axis (x–axis) shows the proportion of network tariffs that are charged as a fixed charge, as a percentage of the bill paid by a residential customer with 'average' demand. The chart shows that two Victorian distributors – United Energy and Jemena – had amongst the lowest proportion of their network charges fixed. By contract Essential, Energex and Ergon have fixed charges that are much higher than others. NZ's Standard tariffs only apply to consumers who use more than 9MWh annual – this is about twice as high as the Australian average.

1 Introduction

The purpose of this paper is to provide information about how much Australian households are being charged for electricity network services. This covers how their tariffs are structured; how have they changed over time; how they compare to non-network charges; and how do compare to network tariffs in other countries.

This paper presents 21 charts on various aspects of retail[1] and network tariffs paid by household electricity users in south and eastern Australia.

The report is structured as follows.

Section 2 outlines the methodology used in this report
Section 3 describes existing network tariff structures
Section 4 compares the average retail and network tariffs
Section 5 examines retail fixed and variable charges
Section 6 examines network fixed and variable charges
Section 7 compares network tariffs in Australia with international network tariffs.

By way of context, we have used the following definitions in this paper:

- "Tariff" means "a method of charging, or pricing for the supply of services," in this instance electricity.[2]
- "Charge" means a component of a tariff, e.g. a fixed charge as part of a tariff.
- "Bill" is used to mean the document sent to a customer seeking payment and so specifying the amount to be paid by a customer.
- "Fixed Charge" is used to mean the component of the bill that is fixed, irrespective of the amount of electricity used. The term "Supply charge" means the same thing.
- "Variable Charge" is the charge that varies with the actual amount of electricity used.

[1] The examination of retail tariffs is limited to regulated reference tariffs. While many consumers purchase on contestable retail tariffs, regulated reference tariffs still retain a significant minority of customers, and these tariffs are significant anyway in setting the structure of tariffs, against which retailers offer various discounts in the contestable market.

[2] http://www.thefreedictionary.com/tariff

For those reading this report that are not familiar with the electricity industry in Australia, the industry can be described as having four somewhat separate components:

1. Generation - which may be through generators that are centrally dispatched or distributed (i.e. at or close to the point of use);
2. Transmission - which the movement of large amounts of centrally dispatched generation to connection with distribution systems and to few very large customer;
3. Distribution - which is the movement of electricity from transmission connections (and increasingly also though distributed generation sources) to the vast major of electricity consumers; and
4. Retail - which is the activity of procuring electricity in wholesale markets (or from distributed sources) and then selling it to retail electricity consumers.

Production and retailing is contestable while the network components - transmission and distribution - are regulated monopolies. Most retailers are also producers of most or a large part of the electricity they sell.

This paper focuses on the tariffs for the use of the network. These tariffs are charged by the distribution network service providers to retailers.

2 Methodology

The analysis in this paper is based on publicly available data. The main data are the tariff schedules published in government gazettes and on regulator and market participant websites. The only additional data needed to undertake all the calculations reported on in this document are:

- Electricity price index data published by the Australian Bureau of Statistics;
- Average household energy consumption;
- Exchange rates between Australian dollars, British Pounds, New Zealand Dollars and Danish Krone, for which we used the market rates of exchange at June 2014;
- Network tariffs in Great Britain, New Zealand and Denmark which we obtained from the utilities' various websites.

New Zealand, Britain and Denmark were chosen for the international comparison because they have disaggregated their network service providers from the rest of the electricity value chain, as in Australia, and so with similar electricity market structures provide useful comparisons

It is important to note that the tariff comparisons in this document are of household tariffs. In some cases these are similar to tariffs that apply to other small, non-residential electricity users.

All prices reported in this document are exclusive of GST in Australia and its equivalents in other countries. In many cases, more than one tariff structure may apply to households. In these cases, unless separately disclosed, we have applied the tariff that is most commonly in use.

In Victoria, the regulated reference and network tariffs are reset on a calendar year cycle and the rest on a tax year cycle. So the prices for 2014/15 for example, are for the year ending 31 December 2014 in Victoria and 30 June 2015 elsewhere.

3 Network tariff structures

Table 1 below describes the structure of tariffs used twelve distribution network service providers (DNSPs) that operate in the NEM. The blocks marked yellow are the tariff structures that most often apply to households.

Table 1. Tariff structures by DNSP

	Two Part	Inclining Block Tariffs	Time of use
SA Power Networks (SA)		X	
Ausgrid (NSW)	X	X	X
Endeavour Energy (NSW)		X	X
Essential Energy (NSW)	X		X
CitiPower (Vic)		X	X
Jemena (Vic)	X		X
Powercor (Vic)		X	X
Ausnet (Vic)	X	X	X
United Energy (Vic)	X		X
Energex (Qld)	X		X
Ergon Energy (Qld)	X		X
Aurora (Tas)	X		X

The two part tariffs have monthly or quarterly fixed charges and then a single variable (cents/ kWh) charge. The inclining block rate tariffs have between one and four blocks (varying amongst the distributors that use these tariffs). Inclining block tariffs refer to pricing structures that have progressively increasing charges per kWh.

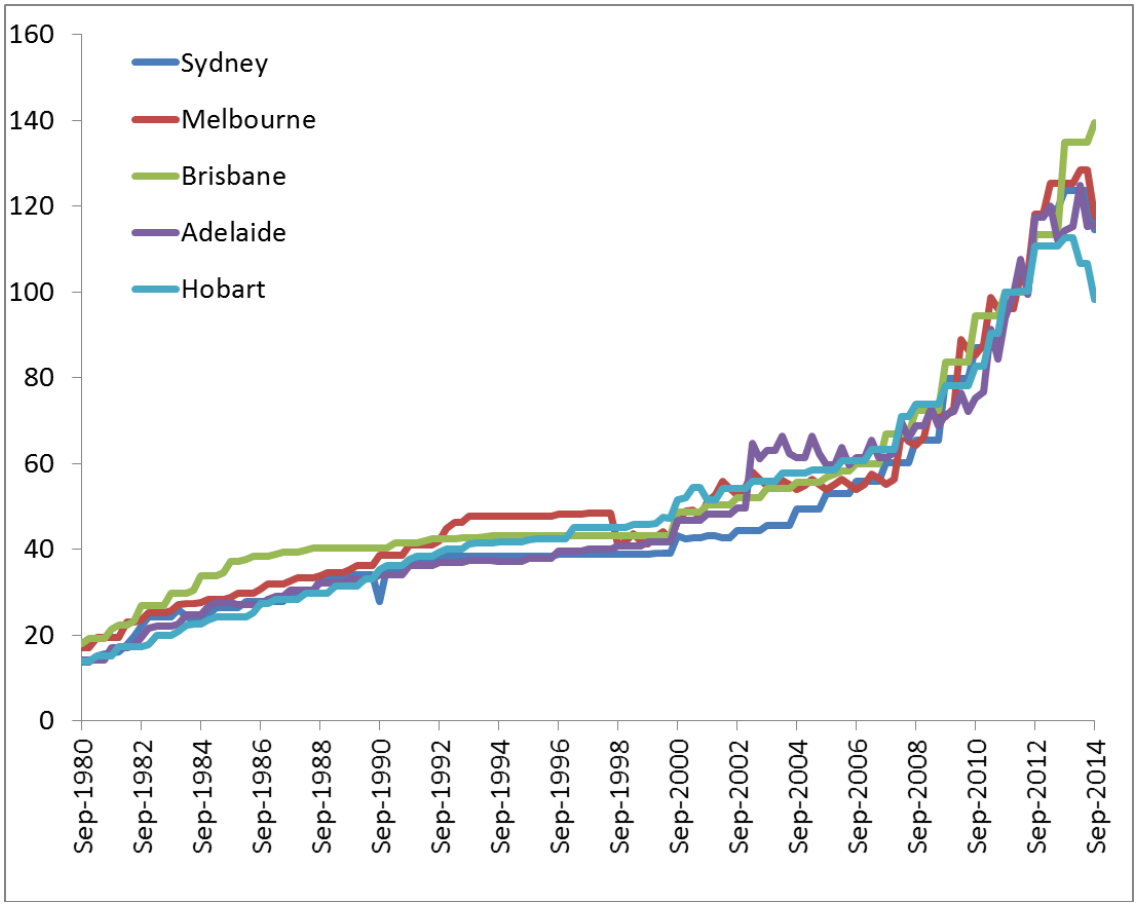
All DNSPs, except SA Power Networks (SAPN) offer time of use tariffs (which may be just day/night tariffs or in some cases have four time periods and seasonal differentiation), but these time of use tariffs only apply to a small proportion of their connections. SAPN does however offer lower rates to residential users with controlled loads (typically water heaters).

4 Retail versus network tariffs

4.1 ABS capital cities household electricity price index

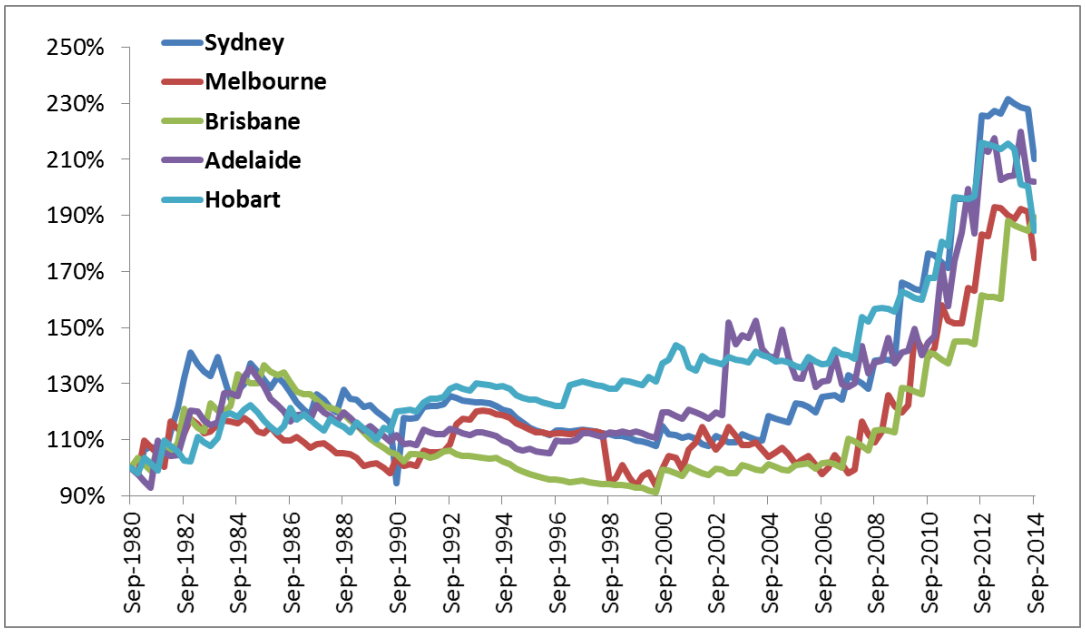
The Australian Bureau of Statistics (ABS) has been collecting electricity price data as part of its Consumer Price Index (CPI), since 1980. The electricity price index is shown in Figure 1, and the index adjusted for CPI (all groups) is shown in Figure 2. That figure shows that electricity prices have generally tracked CPI until 2008 since when they have increased by about 80% in constant currency in most capital cities.

Figure 1. ABS capital cities electricity price indices



Source: ABS data, CME analysis

Figure 2. ABS capital cities electricity price indices adjusted for CPI



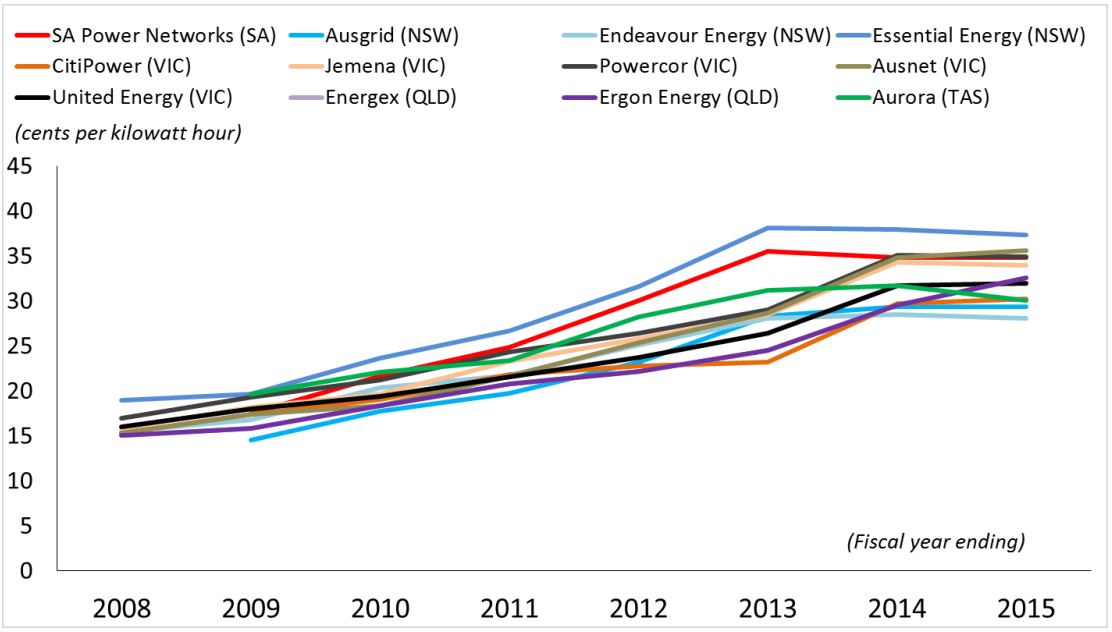
Source: ABS data, CME analysis

While the above graphs show that total electricity costs have risen sharply in recent years, the following sections demonstrate that the pattern differs between retail charges and network charges during those years.

Figure 3 shows the average retail charge (cents per kWh) based on the regulated reference (sometimes also known as "standing" tariffs for customers served within the area of supply of the twelve DNSPs. It shows trends that are consistent with the ABS data, i.e. approximate doubling of retail electricity prices over the six years from 2007/8 to 2013/14.

In Queensland, households served by Ergon's network typically pay the same prices as households served by Energex, pursuant to Queensland Government regulation. For this reason, the Energex and Ergon lines coincide in Figure 3.

Figure 3. Average retail charge (reference / standing tariffs) 2008 to 2015



Source: Reference/standing tariffs, CME Analysis[3]*;*

As noted earlier, electricity retailing to households in the NEM is contestable. Competing retailers offer a variety of tariffs to households. Some offer significant discounts if their customers pay on time or buy other products or services that they retail. These tariffs often change and figures on the number of customers on the different tariffs – and indeed the frequent changes in these tariffs is not publicly available and so can not be know with certainty. In this context we used the regulated reference / standing tariffs (see also footnotes 3 and 5 for additional specific details). We did however check the accuracy of using these tariffs to understand the retail picture. We did this by comparing the prices shown in Figure 3 for 2014/15 (before the withdrawal of the carbon price) with the average prices based on the ABS's comprehensive analysis of household spending on electricity in 2012 (Australian Bureau of Statistics, 2012) and then updated for changes in the ABS's reported electricity price indices since 2012. From this comparison we found close correspondence with our calculations, other than in Queensland and Tasmania (where our 2014 estimate was 14% and 21% higher respectively). We attribute this difference to the effect of off-peak water heater tariffs in Queensland and Tasmania which we have not used. Our retail prices in Queensland and Tasmania can

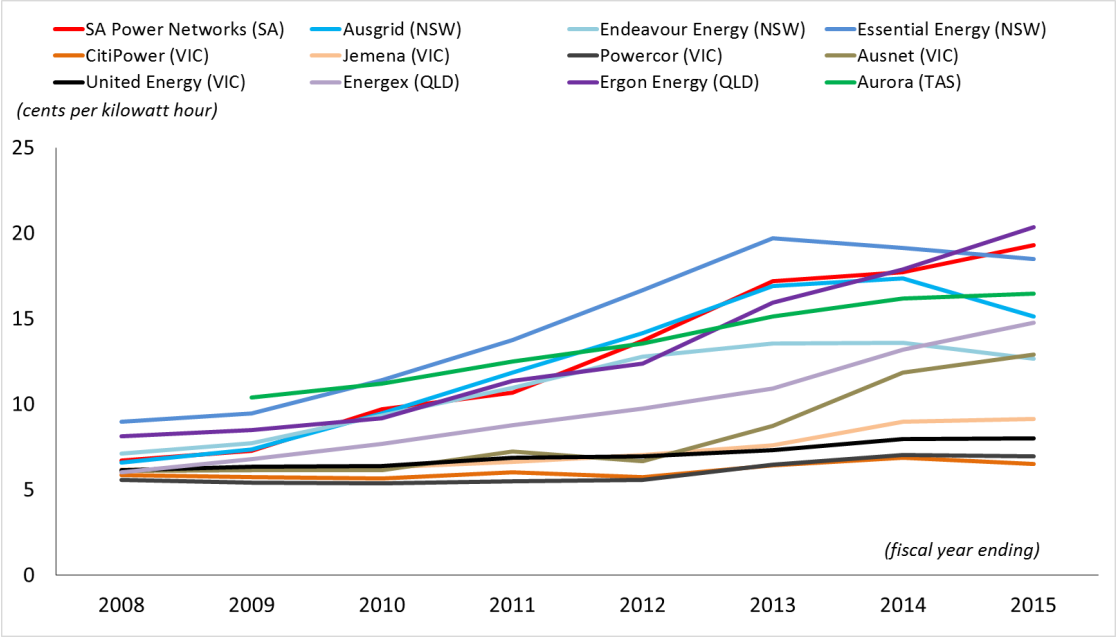
[3] 2014-15 SA uses "AGL South Australia residential electricity standing offer – AGL9324SR" covers 1 Feb 2014 to 31 Jul 2014; 2014-15 Ausgrid uses "Energyday Saver" – which after apply 3% discount – equates to 2013/14 price; 2014-15 Essential and Endeavour cites Media Release 07 April 2014 – Origin will reduce variable and fixed charge by 1.5% effective 1st July 2014 – http://www.originenergy.com.au/news/article/asxmedia-releases/1568

therefore be considered appropriate for those households that do not have off-peak water heater tariffs).

4.2 Average network charge

Figure 4 shows the networks charge for households that consume an average amount of electricity. Here we see a far greater increase in charges for average use compared with Victoria. For consumers in SA, QLD and NSW, network charges more than doubled between 2008/09 and 2014/15.

Figure 4. Average network charge (c/kWh) 2007/08 to 2014/15



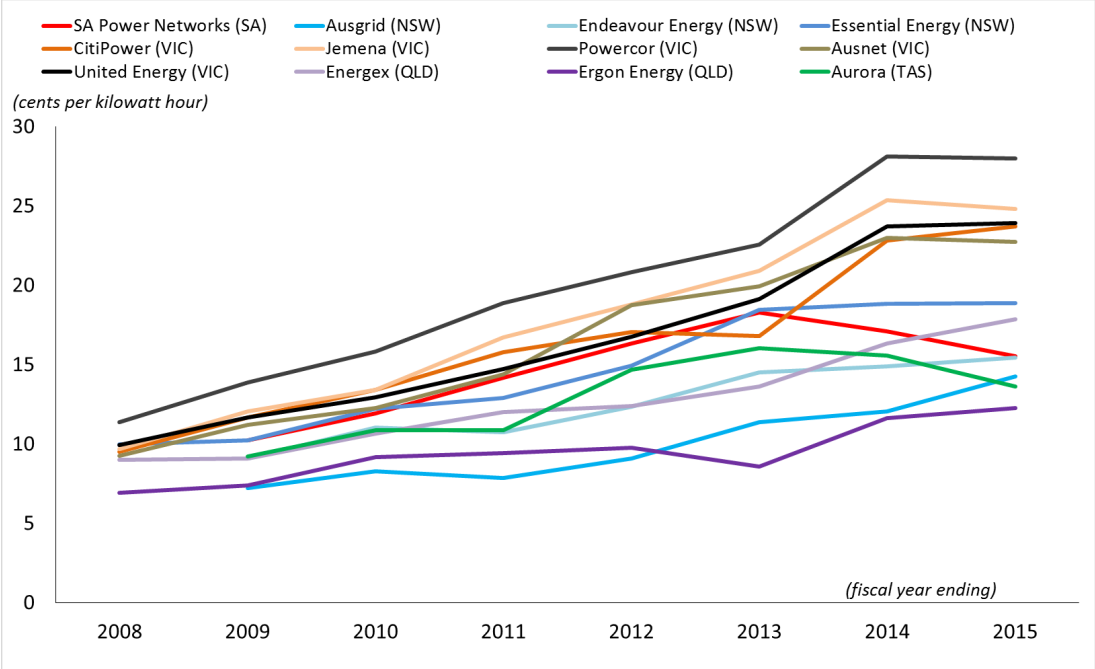
Source: Published residential network tariffs, CME Analysis

4.3 Average non-network charge

Non-network charges cover all charges (excluding taxes) other than network charges. The main costs that underlie non-network charges are the costs of producing and retailing electricity.

Subtracting the average network charge from the average retail charge we can see how average non-network charges have changed. Figure 4 showed that retail prices rose significantly everywhere, whereas Figure 5 showed that network charges did not rise significantly in Victoria (with the exception of Ausnet Services). This must mean that non-network charges rose very much more significantly in Victoria than elsewhere. Indeed this is what Figure 5 shows.

Figure 5. Average non-network charge (c/kWh) 2007/08 to 2014/15



Source: Retail standing/reference tariff. Network, Published residential network tariffs, CME Analysis

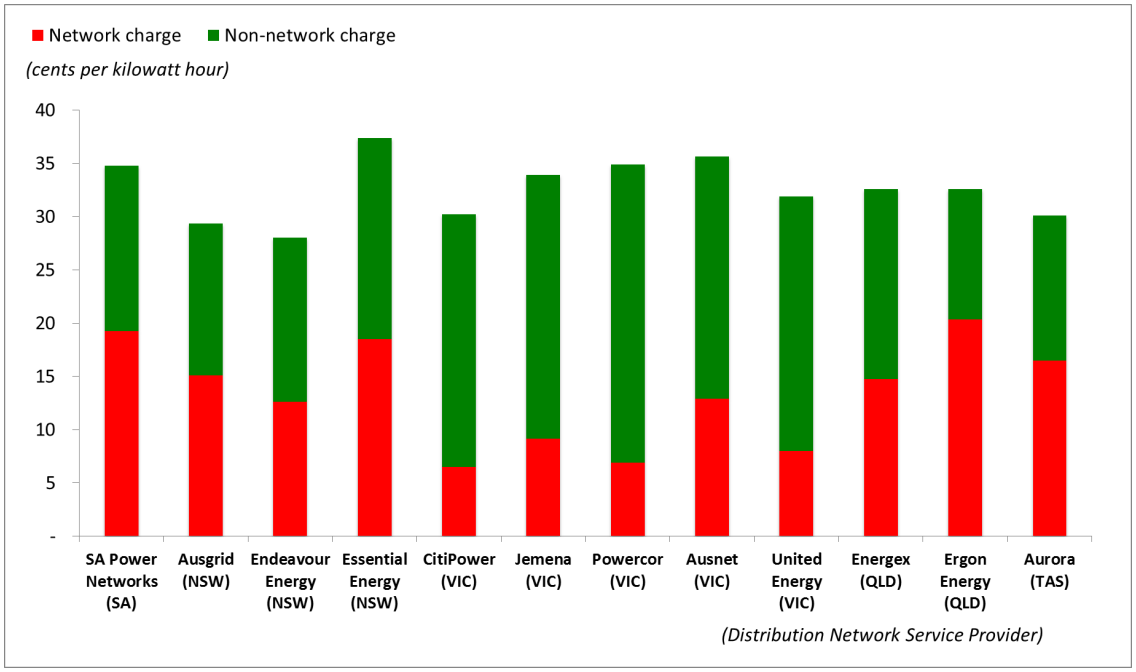
4.4 Network versus non-network charges

Figure 6 shows the relative size of network versus non-network charges for households in each of the twelve DNSPs' areas in 2014/15. Victoria's network charges are typically around 25% of the total, whereas elsewhere network charges are typically 50-60% of the total. Many households in the southern and eastern states (except those served in Ergon's area of distribution) purchase electricity on tariffs offered in contestable markets. These can offer discounts relative to the regulated reference tariffs. In this case, the proportion of the total bill accounted for by network charges will be higher than shown in the figures in this sub-section.

Figure 7 shows state-wide averages, weighted by number of customers in each DNSP's area. Finally in this section, Figure 8 shows how the proportion of the average bill accounted for by network charges has increased between 2008/9 and 2014/15 except in Victoria[4]. This is consistent with the previous charts that showed network charges increasing much more rapidly than non-network charges except in Victoria.

[4] Except Ausnet Services where it has stayed about the same.

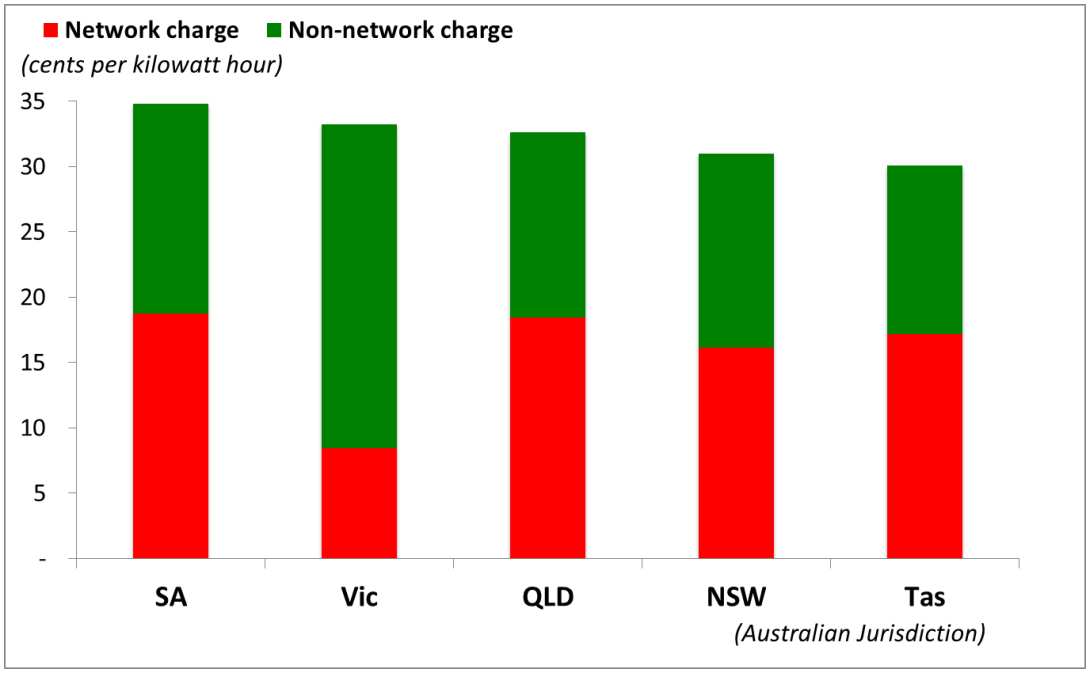
Figure 6. Network and non-network charges (c/kWh) by DNSP in 2014/15



Source: *Retail standing/reference tariffs. Network, Published residential network tariffs, CME Analysis;* CME Analysis[5].

[5] Date Sources: Regulated retail prices and government gazettes VICTORIA GOVERNMENT 2013. Victoria Government Gazette - No. S 425 Friday 29 November 2013, QUEENSLAND COMPETITION AUTHORITY (QCA) 2013. Queensland Government Gazette No. 23, GOVERNMENT OF SOUTH AUSTRALIA 2013. The South Australian Government Gazette - AGL South Australia Pty Ltd - Standing and Default Contract Prices for Small Customers, ORIGIN ENERGY 2013b. Origin Regulated Retail Price List (Endeavour) Effective 1 July 2013, ibid., ORIGIN ENERGY 2013a. Country Energy Regulated Retail Price List Effective 1 July 2013, ENERGYAUSTRALIA 2013. Residential Customer Price List - Regulated Retail Tariffs Effective from 1 July 2013, AURORA 2013. Aurora's approved electricity tariffs from 1 July 2013.

Figure 7. Average prices for average residential customers by jurisdiction, 2014/15

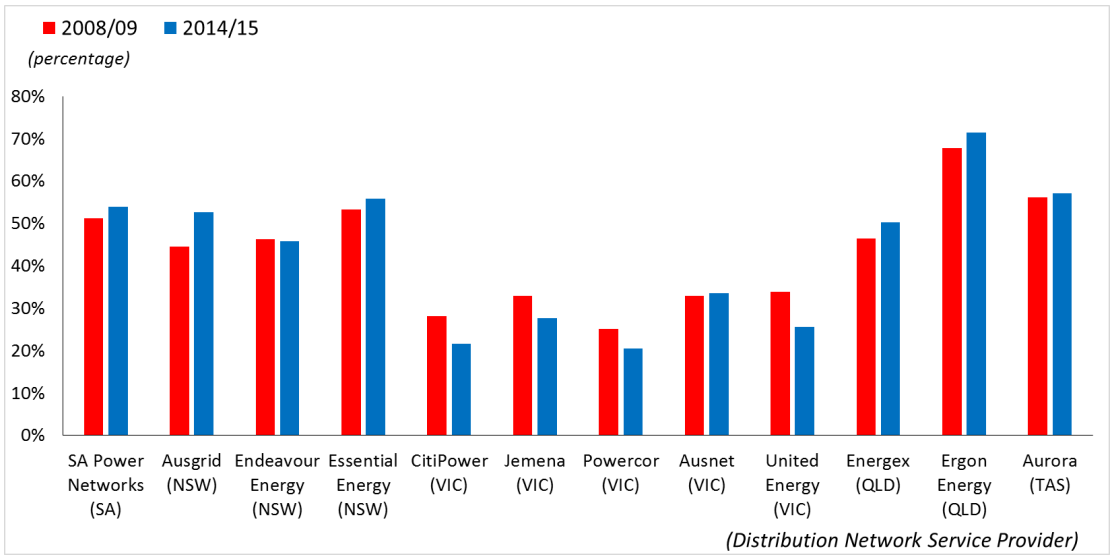


Source: CME Analysis (see footnote 5)

4.5 Network charge as % of total charge

The network charge as a proportion of the total retail reference tariff is shown in Figure 8.

Figure 8. Network charge as percentage of retail tariffs for households, 2008/09 vs 2014/15



Source: CME Analysis (see footnote 5)

This chart shows that network prices as a proportion of the total bill are about 50% or more of the bill for all states except Victoria. The chart also shows that the proportion of network charges in total bills has decreased for Victorian households between 2008/9 and 2014/15, but risen a little for most networks in other states.

5 Fixed versus variable charges in retail tariffs

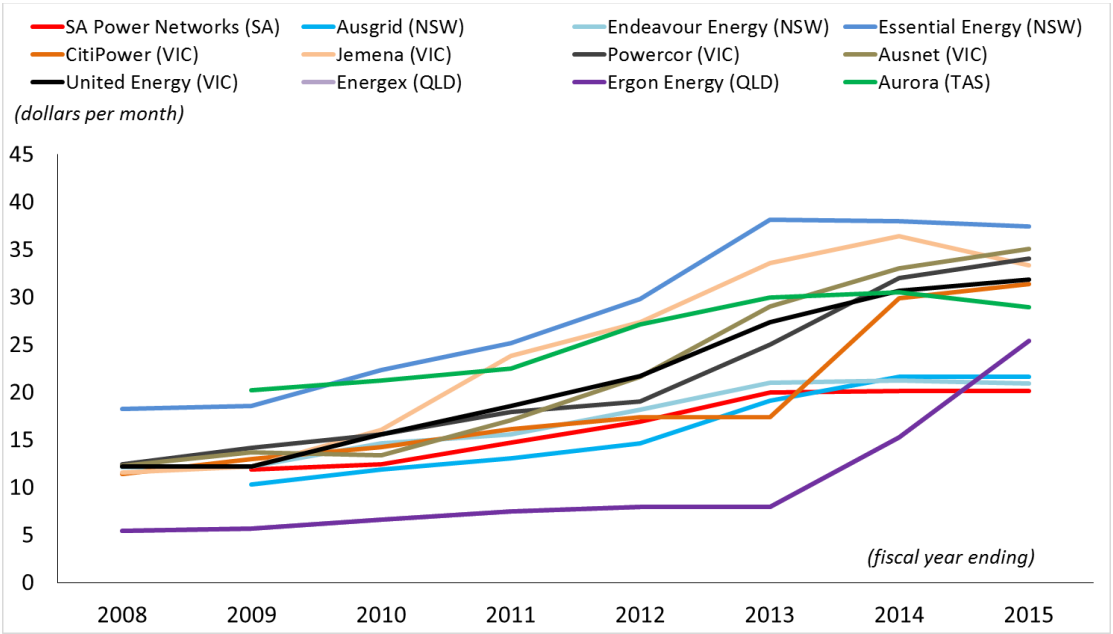
This section, and the next, examine how much of the household electricity bill comprises fixed charges and how much is variable. This section focusses on the retail tariff component, while the next looks at network tariffs.

The ratio of fixed charges to variable charges is a significant aspect of electricity prices. High fixed charges reduce the incentives for households to reduce consumption or consider their own production (for example rooftop PV). The impact of high fixed charges is larger for households that consume less electricity. Since there is a correlation between household income and electricity consumption, high fixed charges are regressive.

5.1 Trend of fixed charges

Figure 9 shows that there has generally been a significant increase in the revenue recovered from fixed charges, particularly for households in Victoria and for those served by Essential Energy's networks in New South Wales. There have also been significant recent increases in fixed charges as a percentage of the total in regional Queensland.

Figure 9. Monthly fixed charges in retail reference / standing tariff

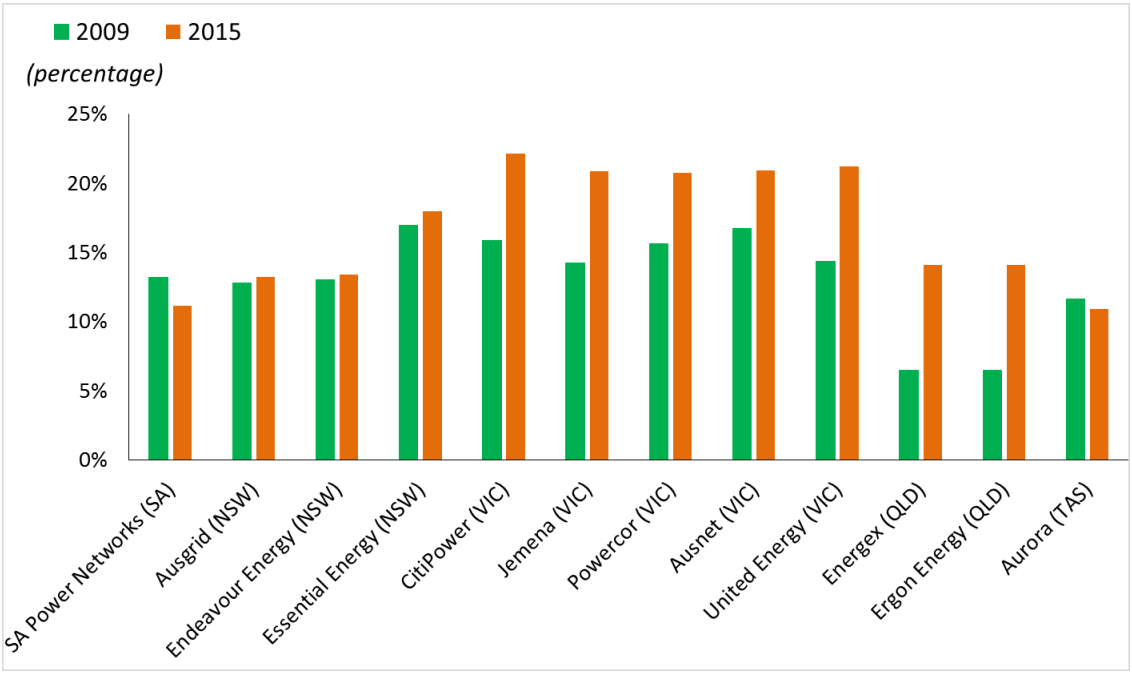


Source: Retail standing/reference tariffs – see footnote 5. CME analysis.

5.2 Fixed as proportion of total retail tariff

Figure 10 shows that in Victoria there has been a significant increase in fixed charges as a percentage of the total retail bill between 2008/9 and 2014/15, so that Victoria's fixed retail charges as a percentage of the bill are now significantly higher than elsewhere. There have been significant increases in the proportion in Queensland so that the level of fixed charges in retail tariffs in Queensland and New South Wales are now approximately comparable.

Figure 10. Retail fixed charge as a percentage of average retail reference price 2008/09 vs 2014/15

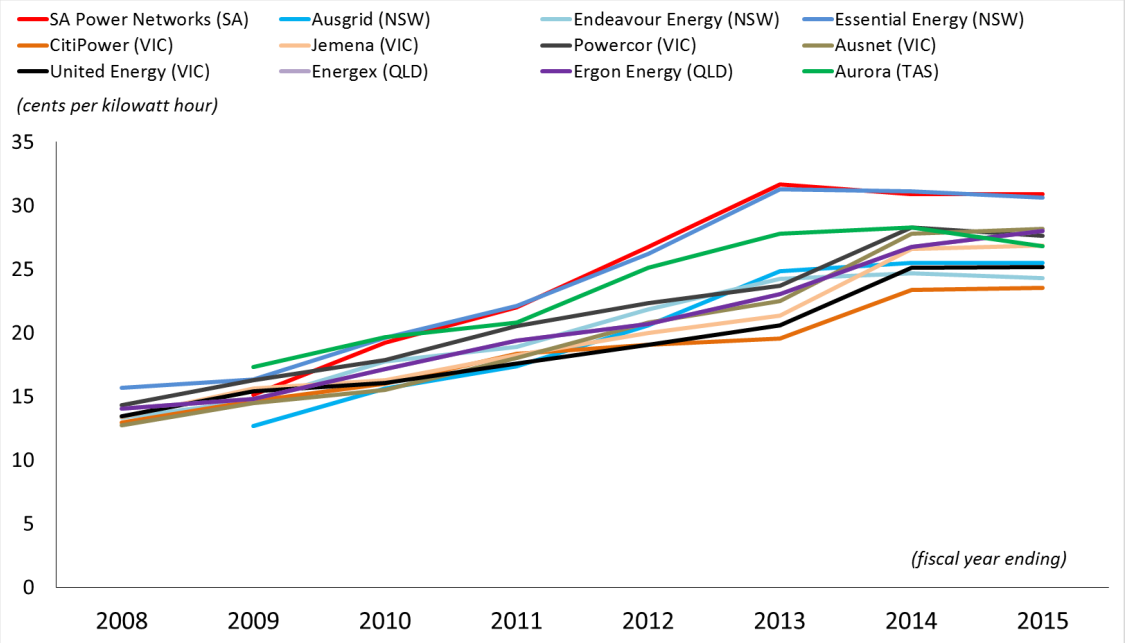


Source: Retail standing/reference tariffs – see footnote 5. CME Analysis

5.3 Trend of variable charges in retail tariffs

Figure 11 shows the trend of variable charges in retail tariffs. It shows a similar increase in all states, except in South Australia and Essential Energy's area in New South Wales where retail variable charges increased significantly more than elsewhere.

Figure 11. Retail variable charges from 2008/09 to 2013/14



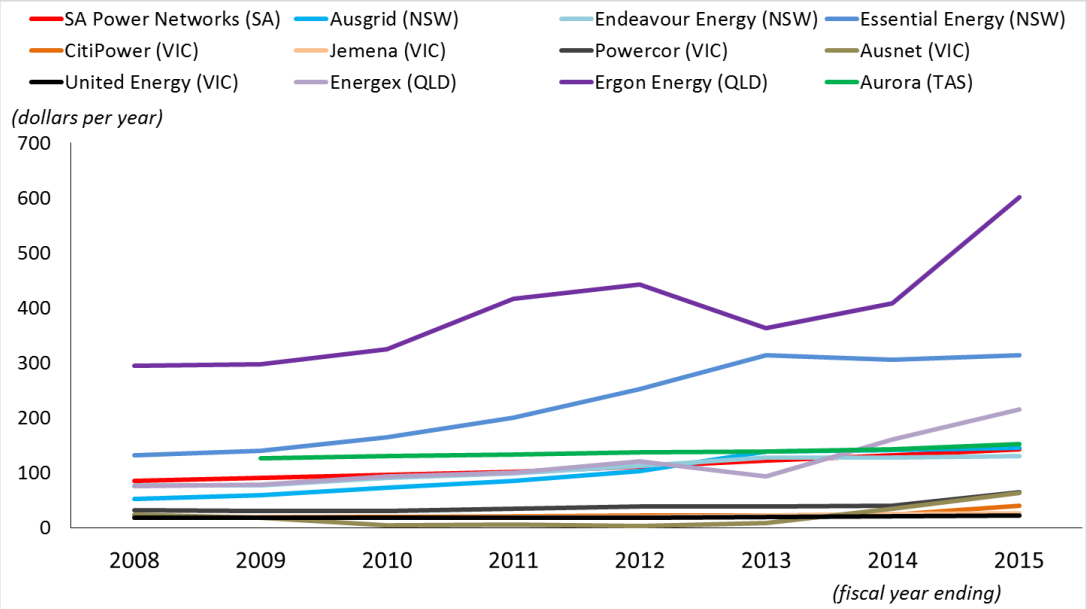
Source: Retail standing/reference tariffs – see footnote 5. CME Analysis.

6 Fixed versus variable charges in network tariffs

6.1 Trend of fixed charges

Figure 12 shows that the level of fixed charges in network tariffs varies significantly, from close to zero to over $500 per annum for an average household. In Victoria it is typically lower than elsewhere although for three of the Victorian DNSPs (Citipower, Powercor and Ausnet Services) there have been significant increases since 2008/9. Ergon Energy's fixed charges have been in a league of their own and, following recent increases, the gap has grown even wider. Only in Tasmania have fixed charges as a proportion of the bill decreased.

Figure 12. Network fixed charge ($/yr) 2007/08 to 2014/15

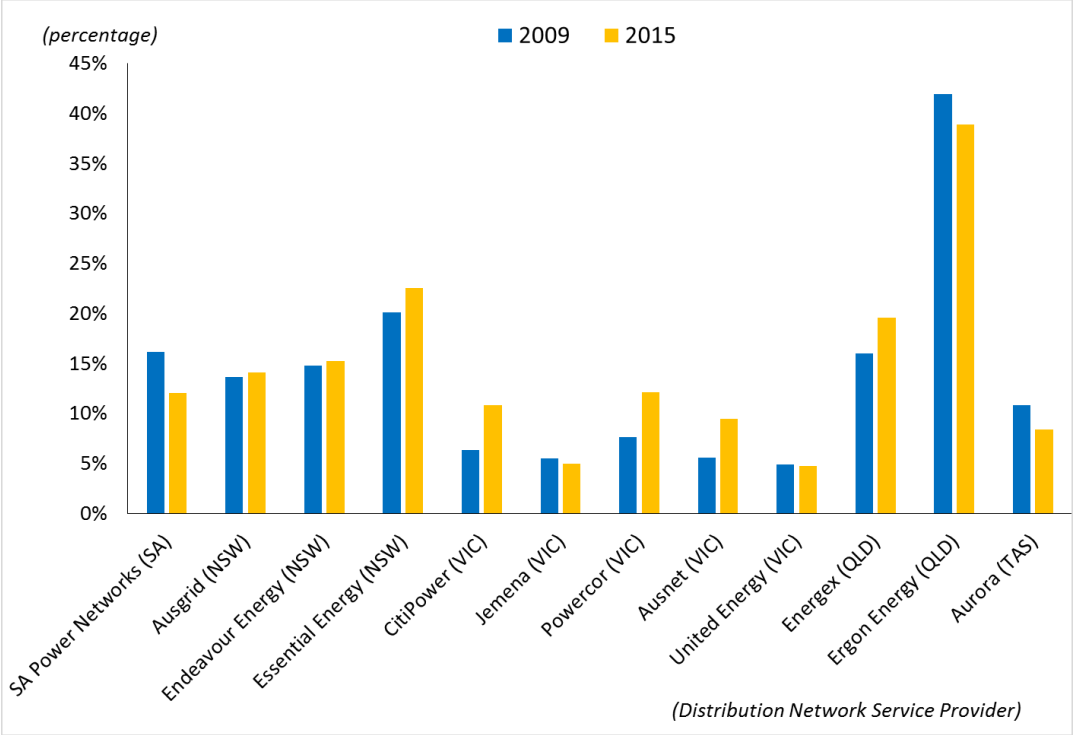


Source: Published network tariffs. CME Analysis

6.2 Fixed as proportion of total network charge

Figure 13 compares the charges between 2008/9 and 2014/15. It shows that Citipower, Powercor and Ausnet Services have all significantly increased the fixed elements of their network tariffs, whereas Jemena and United Energy have not. Victoria in general still has significantly lower fixed charges as a proportion of the total, though the proportion of network tariffs recouped through fixed costs has increased for 3 of the 5 Victorian networks over the 6 years to 2014/15. Ergon, serving rural Queensland, has the highest proportion of fixed charges in network tariffs. There have been small increases in the fixed component of network tariffs for NSW and small declines in South Australia and Tasmania.

Figure 13. Network fixed charge as percentage of total network tariff (2008/09 vs 2013/14)

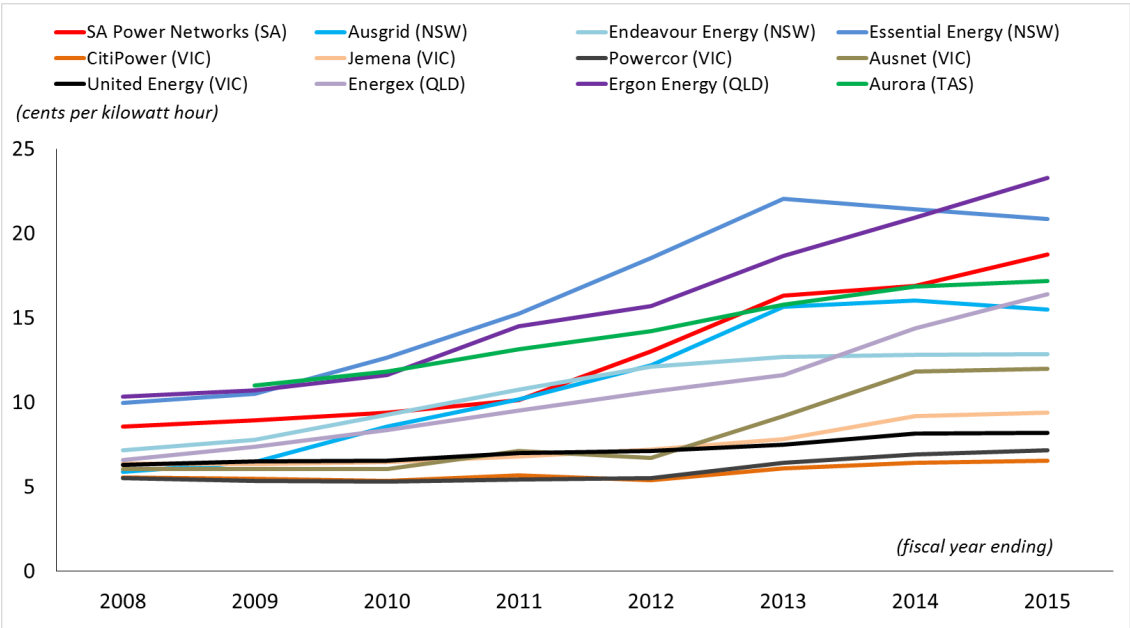


Source: Published network tariffs. CME Analysis

6.3 Trend of variable charges

Figure 14 shows that there has been a widening spread in variable charges between 2007/8 and 2014/15. In Victoria prices have drifted up gradually, while elsewhere there have been moderate to significant increases.

Figure 14. Network variable charge (c/kWh) by DNSP, period 2007/08 to 2014/15



Source: Published network tariffs. CME Analysis

7 National and international network tariff comparisons

This final section presents seven charts, including four X-Y charts that show average network prices on the vertical, Y axis and the proportion of the bill that is accounted for through fixed charges as a percentage of the total network tariff, on the X axis. The first sub-section compares Australian DNSPs amongst themselves, and the second sub-section extends the Australian comparison to include distributors in New Zealand, Britain and Denmark. (Appendix 1 provides more information about X-Y charts)

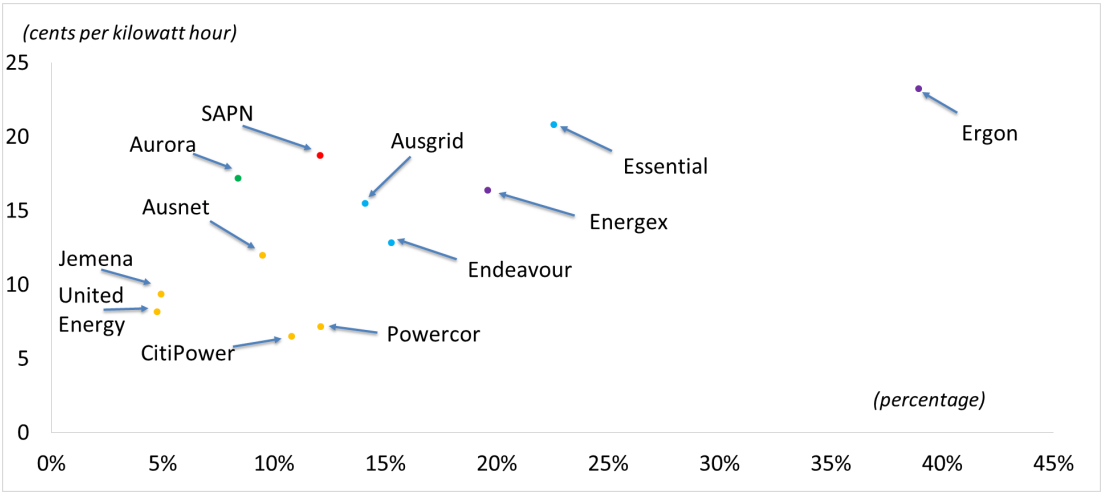
7.1 National comparison: Average price versus fixed charge

This section describes how the structure of network tariffs varies according to the price they pay as a whole, and the fixed charge component of that price. This varies depending on how much energy they consume, so this paper presents the data for three scenarios. The first describes average consumption, then the following two sections look at the price structure for consumers who use half the average, and twice the average, respectively.

7.1.1 Assuming average consumption

Figure 15 shows that consumers who use average amounts of energy pay from about 7c / kWh in parts of Victoria up to 23 cents/ kWh in Queensland. The distributors with the lowest average prices also typically collect the lowest proportion of their revenues from households through fixed charges. The proportion of the tariff that is fixed ranges between 5% in Victoria and 42% in Queensland.

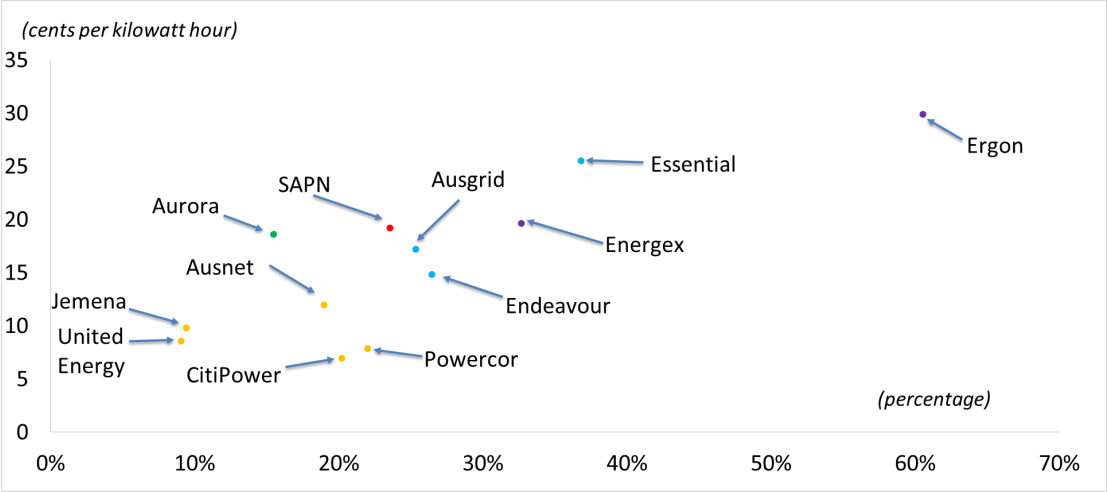
Figure 15: Average price (c/kWh) vs fixed percentage (%) for average demand for 2014/15



7.1.2 Assuming half average consumption

Figure 16 performs the same comparison as Figure 15, but assumes consumption levels at only half the average. The lowest prices in Victoria remain similar, but the highest prices increase significantly. This occurs in Queensland and parts of New South Wales, where fixed charges are a large proportion of the bill. The proportion of the tariff that is fixed rises to more than 60% for Ergon.

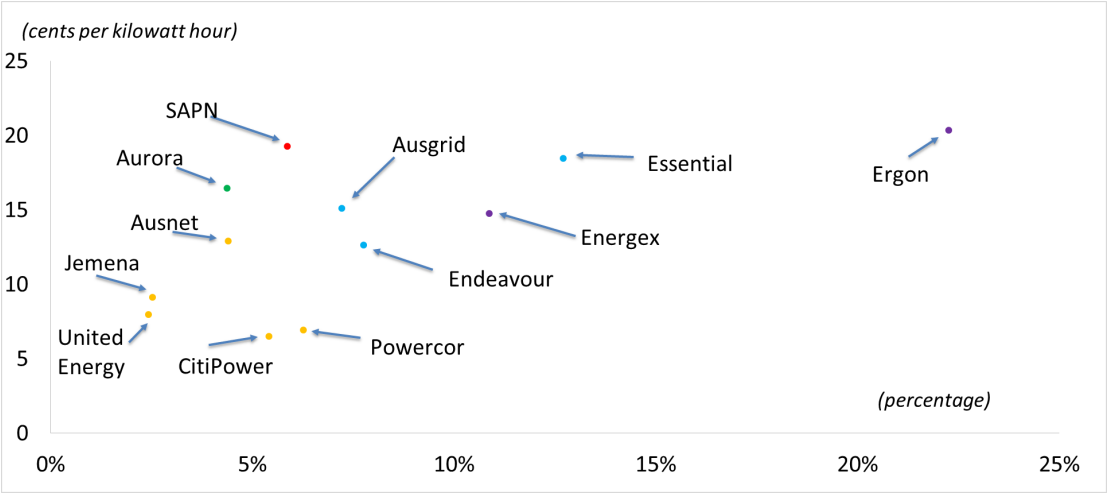
Figure 16: Average price (c/kWh) vs fixed percentage (%) - 50% less than average demand for 2014/15



7.1.3 Assuming twice average consumption

Figure 17 performs the same comparison as in Figure 15, but assumes consumption levels at twice the average. Again, prices in Victoria are relatively unaffected, while prices in Queensland reduce significantly, and the proportion of the tariff that is fixed drops to around a third of the bill compared to households that consume half the average.

Figure 17: Average price (c/kWh) vs proportion fixed (% Twice Average Consumption. demand

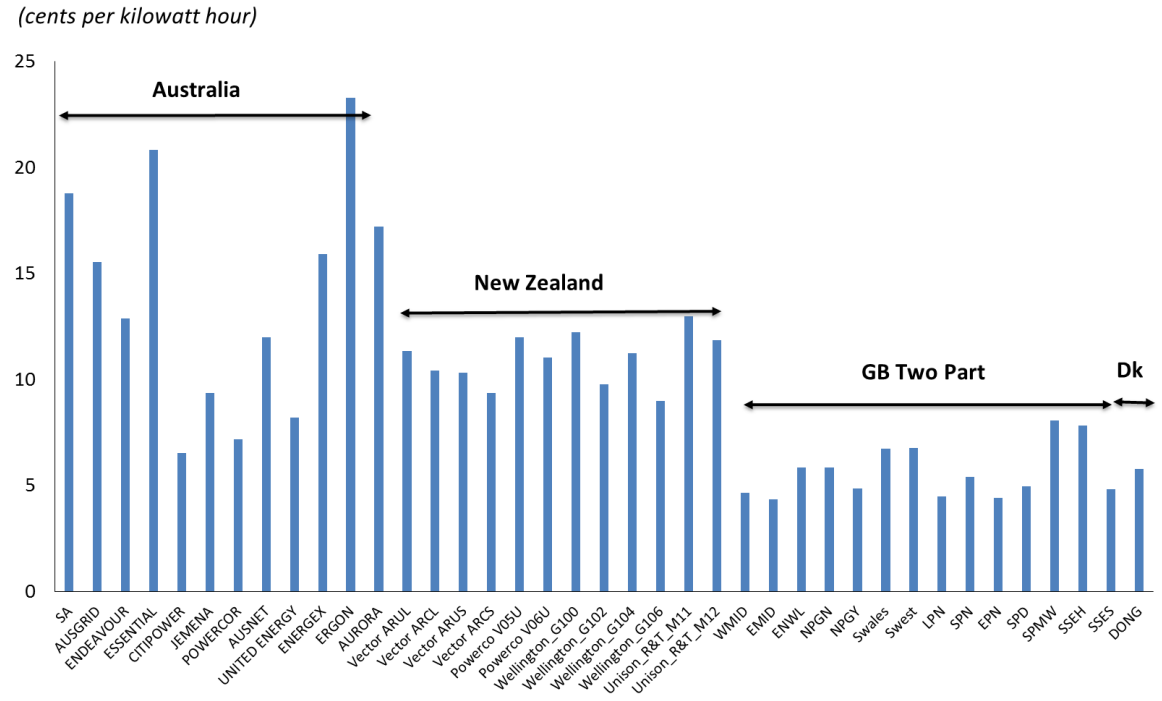


7.2 International comparison of network tariffs

7.2.1 Overall average prices (c/kWh)

Figure 18 compares the overall average price of electricity in Australia, New Zealand, Britain and Denmark. Seven of the twelve Australian distributors have higher prices than in any of the other countries. New Zealand's distributors charge more than those in Victoria but less than those in Queensland, New South Wales, South Australia or Tasmania. The least expensive distributors in Victoria charge about the same as the most expensive distributors in Britain, and the least expensive distributors in Britain charge about a quarter as much as the most expensive in Australia. Denmark which has, globally, the highest household electricity prices in fact has lower network tariffs than the least expensive Victorian distributors.

Figure 18. Average network charge (2014/15) (c/kWh)

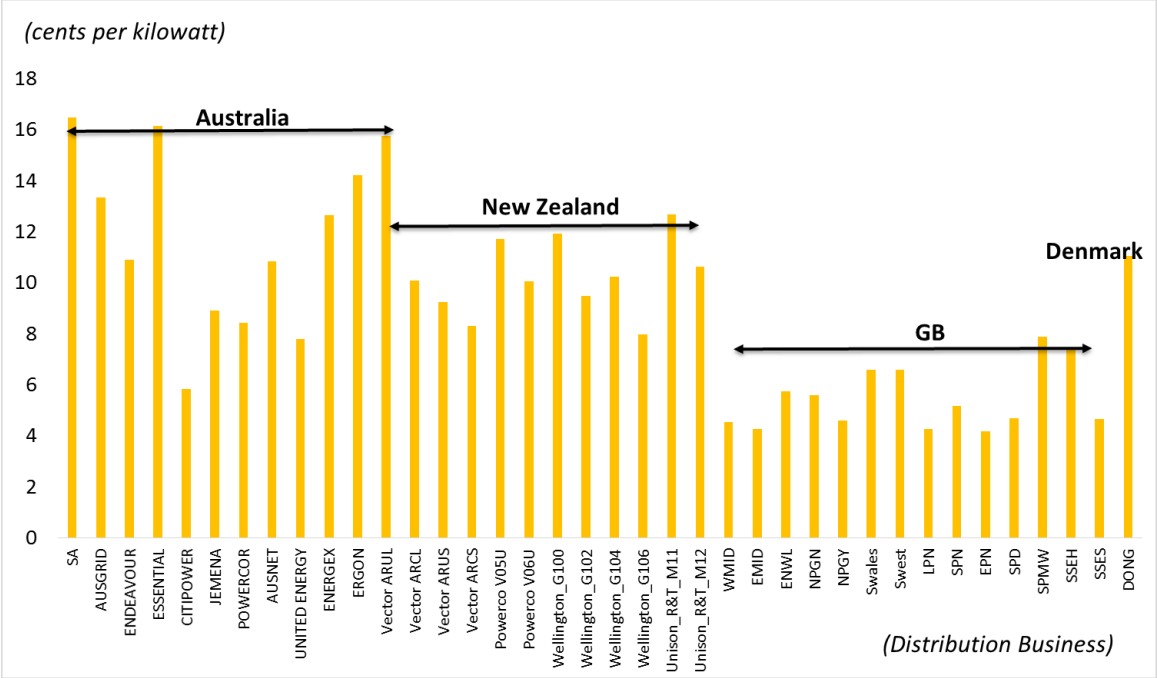


Source: CME Analysis; (Orion Energy, 2014, Powerco Limited, 2014, Unison Electricity Distribution 2014, Vector Lines, 2014, Wellington Electricity, 2014); UK Distribution Network Operator (DNO) Schedule of charges and other tables for 2014/15

7.2.2 Variable charges (c/kWh)

Figure 19 compares the variable charges. The most noticeable difference is that in Denmark and Britain, compared to Australia, the gap in variable charges is smaller than the gap in average prices. In Denmark in particular, despite having lower average network prices than Victoria, their variable charges are higher than anywhere in Victoria.

Figure 19. Average variable charge (c/kWh) for 2014/15



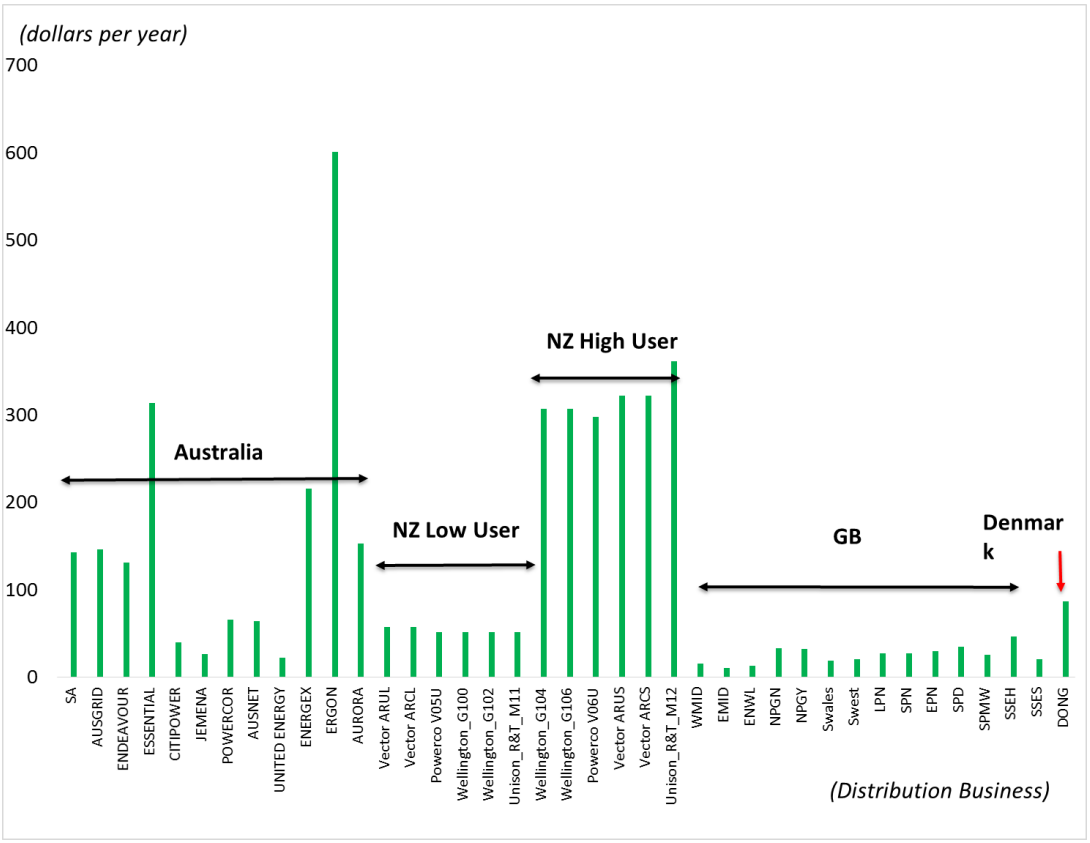
Source: CME Analysis; (Orion Energy, 2014, Powerco Limited, 2014, Unison Electricity Distribution 2014, Vector Lines, 2014, Wellington Electricity, 2014); UK Distribution Network Operator (DNO) Schedule of charges and other tables for 2014/15

7.2.3 Average fixed charge ($/year)

Figure 20 compares fixed charges. Britain generally has much lower fixed charges than elsewhere, comparable on average to those charged by Citipower, Powercor and Jemena in Victoria. Distributors in Australia, other than Victoria, have much higher fixed charges. In New Zealand, households that consume less than 8 GWh per year (9 GWh on the South Island) can choose tariffs with much lower fixed charges (but higher variable charges)[6].

[6] This is covered under the 'Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004', the home needs to be principal place of residence and usage needs to be less than 8 GWh per annum. Lower South Island users have a 9 GWh threshold - MERIDIAN ENERGY. 2014. *Frequently asked questions - What's a Low User plan, and am I eligible?* [Online]. Available: https://meridian.custhelp.com/app/answers/detail/a_id/1823 [Accessed 04 June 2014].

Figure 20. Network fixed charge (2014/15) ($/yr)



Source: CME Analysis; (Orion Energy, 2014, Powerco Limited, 2014, Unison Electricity Distribution 2014, Vector Lines, 2014, Wellington Electricity, 2014); UK Distribution Network Operator (DNO) Schedule of charges and other tables for 2014/15

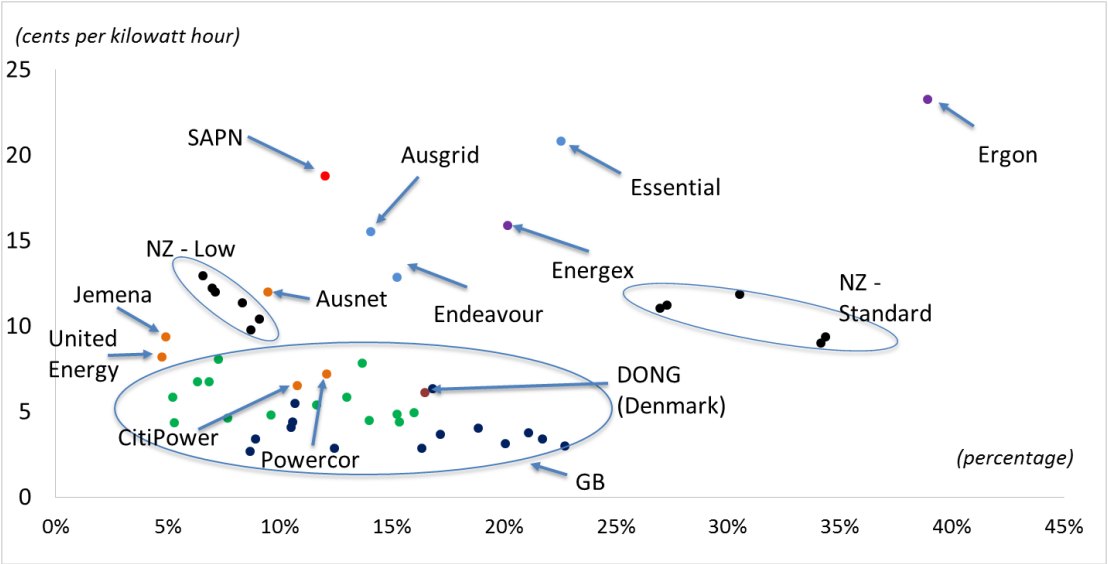
7.3 International comparison: Average price versus fixed charge

Figure 21 replicates figure 17 but includes international comparisons. The circle in the bottom left captures the distributors in Britain, Denmark and two of Victoria's five distributors. The blue and green dots in the Great Britain (GB) circle cover single-rate two part and two-rate two part tariffs, both are commonly used.

The New Zealand (NZ) low fixed charge tariffs, circled to the left, have comparable average prices as the NZ standard tariffs, circled to the right which have much higher fixed charges and lower variable charges. This is as might be expected – the fixed and variable charges will have been set that at the average consumption level, consumers are invariant between them.

The Australian distributors, other than in Victoria, are notable for having both much higher average prices, and in the case of Ergon, Essential and Energex, a higher proportion of fixed charges.

Figure 21. International comparison of average network price vs fixed % for average demand (2014/15)



Source: CME Analysis; (Orion Energy, 2014, Powerco Limited, 2014, Unison Electricity Distribution 2014, Vector Lines, 2014, Wellington Electricity, 2014); UK Distribution Network Operator (DNO) Schedule of charges and other tables for 2014/15

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Appendix 1

Figures 15, 16, 17 and 21 present data in X-Y charts which may not be familiar to some readers. X-Y charts plot two variables against each other for a number of cases – in this instance, electricity network businesses.

The charts in this paper show three significant pieces of information.

Firstly comparisons of average network prices, in this instance, are shown on the vertical, Y axis, in each graph. The unit of measurement for this data is cents per kilowatt hour of electricity.

Secondly, the proportion of the bill that is accounted for through fixed charges stated as a percentage of the total network tariff is shown on the horizontal, X axis. The first sub-section compares Australian network businesses and then chart 21 extends the Australian comparison to include distributors in New Zealand, Britain and Denmark.

The third piece of information provided by X-Y charts is the relationship between the two variables, in combination, by network company. What stands out with the charts in this report is the spread in observations on both X and Y axis for Australian network businesses.