

Answers to Questions on Notice

During the Roundtable Hearing for the above inquiry, I undertook to answer the question:

What is the value of the entire electricity market, what is the average cost of a retail electricity bill in each state and territory, and what are the components of an average retail bill?

Value of the entire electricity market

The Australian Bureau of Statistics publishes a National Energy Account.¹ The most recent account covers 2014-15. The series contains data on the total expenditure of various industries and households on coal, gas, oil, petroleum products and 'electricity generation'.² According to this data, the total domestic use of electricity in 2014-15 was \$39.024 billion.³ Commercial and industrial expenditure (labelled as 'total intermediate use') was \$23.415 billion, with households spending \$15.609 billion.

Components of an average bill

A final retail electricity bill has four broad components. These are:

- **Generation or wholesale costs:** While the Australian Energy Market Operator publishes spot market prices and average spot market prices, it states where retail prices are not regulated, it is not possible to determine the exact wholesale component of a particular retail offer or bill.
- **Network costs:** Network costs can be further broken down into transmission and distribution costs, each of which is provided by a separate business. Because the revenue collected by these monopolies is determined by the Australian Energy regulator (AER) it is possible to calculate the network cost component of a final electricity price. Because NSW, Victoria and Queensland have multiple distribution networks, the prices for which are determined separately, it can be more useful to think of the average cost in each network areas, rather than in each state.
- **Retail costs:** As with wholesale costs, in the absence of retail price retail costs, it is not possible to isolate the retail costs.
- **Government policy costs:** At different times, the cost of subsidies to, for example, the NSW Solar Bonus Scheme, has been collected through electricity bills. The Carbon Tax that was

¹ ABS, *4604.0 – Energy Account, Australia, 2014-15*, available at: www.abs.gov.au/ausstats/abs@.nsf/mf/4604.0.

² ECA understands that while the term 'electricity generation' is used, all spending on electricity is included in this amount (i.e. network and retail costs, as well as generation).

³ See ABS, as above, *Data Cube: Australian Monetary Use of Energy – 2008-09 to 2014-15*, Table 6.1.

previously in place in Australia was levied on electricity generators, but was sometimes represented as a distinct cost, rather than as part of the wholesale component.

Average cost in each network area

As noted above, because the AER determines a different revenue cost for each distribution network, analysis of final electricity bills are often done by network area, rather than by state and territory.

The AER's annual *State of the Energy Market Report*⁴ provides an analysis of the average retail standing offer and average retail market offer for each electricity network at Table 5.3⁵, which is provided in Appendix 1 to this response. The AER also provides an indicative breakdown of the final cost stack by state, with wholesale and retail costs aggregated.

The most comprehensive analysis of household retail tariffs in the National Electricity Market is provided by the *St Vincent de Paul Tariff Tracking Project*.⁶ The project is undertaken in conjunction with Alviss Consulting and receives funding from the ECA Grants Program.

In December 2016, the project published a summary report of findings across the NEM. The authors calculate an estimate for wholesale costs and are, therefore, able to estimate the retail component of average bills in each distribution network area. This analysis is presented in Section Two of the Report, *The National Electricity Market – A hazy retail maze*⁷, especially Table 2, which is also provided in Appendix 2. ECA commends this analysis to the Committee.

The consulting firm Oakley Greenwood has also recently published a report, *Causes of residential electricity bill changes in Victoria, 1995-2017*, that analyses the relative contributions network, policy, wholesale and retail costs have made to bill increases over the past 22 years.

⁴ The 2016 report will be published in May 2017. See <https://www.aer.gov.au/publications/state-of-the-energy-market-reports>.

⁵ AER, *State of the Energy Market 2015*, 237. Available at: <https://www.aer.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-2015>.

⁶ See https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/

⁷ St Vincent de Paul and Alviss Consulting, *The NEM – A hazy retail maze: Observations from the Vinnies' Tariff-tracking Project* Available at: https://www.vinnies.org.au/icms_docs/256854_National_Energy_Market_-_A_hazy_retail_maze.pdf

Appendix 1 – AER State of the Energy Market

Table 5.3 Comparison of standing and market offers—September 2015

JURISDICTION (DISTRIBUTION NETWORK)	NUMBER OF OFFERS	LOWEST OFFER (\$)	HIGHEST OFFER (\$)	PRICE SPREAD (\$)	% RANGE HIGHEST TO LOWEST OFFER	AVERAGE STANDING OFFER (\$)	AVERAGE MARKET OFFER (\$)	% DISCOUNT STANDING TO MARKET OFFER	DISCOUNT STANDING OFFER TO LOWEST MARKET OFFER (\$)
ELECTRICITY									
Queensland									
Energex	30	1866	2212	346	15.6	2041	2002	1.9	153
NSW									
Ausgrid	51	1427	2106	679	32.2	1867	1670	10.6	253
Endeavour Energy	58	1434	2044	610	29.8	1870	1643	12.1	276
Essential Energy	52	1746	2725	979	35.9	2206	1974	10.5	278
Victoria									
Citipower	52	1320	2160	840	38.9	1946	1597	17.9	462
Powercor	55	1630	2550	920	36.1	2301	1901	17.4	544
United Energy	55	1470	2310	840	36.4	2109	1728	18.1	493
AusNet Services	53	1740	2850	1110	38.9	2505	2073	17.2	574
Jemena	56	1560	2440	880	36.1	2222	1838	17.3	517
South Australia									
SA Power Networks	42	1831	2788	957	34.3	2477	2205	11.0	395
ACT									
ActewAGL	17	1251	1523	272	17.9	1417	1327	6.4	116
GAS									
Queensland									
AGN (north Brisbane)	8	1096	1292	196	15.2	1217	1175	3.5	76
APT Allgas (south Brisbane)	8	1097	1237	140	11.3	1170	1142	2.4	61
NSW									
Jemena	25	803	1046	243	23.2	978	887	9.3	148
Victoria									
AusNet Services (central 2)	22	586	790	204	25.8	715	641	10.3	87
Multinet (main 1)	21	585	780	195	25.0	733	656	10.5	89
AGN (central 2)	22	568	738	170	23.0	710	645	9.2	83
South Australia									
AGN (metropolitan)	13	1062	1341	279	20.8	1232	1162	5.7	159
ACT									
ActewAGL	8	909	1011	102	10.1	1004	951	5.3	95

Notes:

Estimated annual cost is based on a customer using 6500 kilowatt hours of electricity per year and 24 gigajoules of gas per year on a single rate tariff at August 2015.

Prices are based on regulated or standing offer prices of the local area retailer for each distribution network.

Sources: energymadeeasy.gov.au; switchon.vic.gov.au; yourchoice.vic.gov.au; comparator.qca.org.au; determinations, factsheets and media releases by IPART (NSW), the QCA (Queensland), ESCOSA (South Australia), OTTER (Tasmania) and the ICRC (ACT); Victorian Government gazette.

Source: AER, *State of the Energy Market 2015*, 137.

Appendix 2: The National Electricity Market – A hazy retail maze

Table 2 Deduction of bill components for regulated/standing offers, average annual bill based on offers taking effect post July 2016 (6,000kWh per annum, single rate)¹²

	Retail bill incl. GST [^]	Retail bill excl. GST	Retail bill excl. GST and NUOS [*]	Retail bill excl. GST, NUOS and whole- sale ^{^^}	Retail bill excl. GST, NUOS, wholesale and “green scheme” costs ^{**}	Retail bill excl. GST, NUOS, wholesale, “green scheme” costs and smart meter costs ^{***}
Citipower	1,838	1,671	1,187	923	796	695
Powercor	2,067	1,879	1,287	1,023	896	795
Ausnet	2,222	2,020	1,269	1,005	878	748
Jemena	2,069	1,881	1,297	1,033	906	772
UE	1,946	1,769	1,258	994	867	774
ActewAGL	1,390	1,264	715	451	300	
Aurora	1,901	1,728	704	356	299	
Energex	2,010	1,827	947	563	339	
Ausgrid	1,897	1,725	951	681	582	
Endeavour	1,847	1,679	978	708	609	
Essential	2,133	1,939	1,041	771	671	
SAPN	2,442	2,220	1,346	986	810	

[^] As per chart 1 above

^{*} As per chart 3 above

^{^^}As per table 1 above

^{**} 3.73 c/kWh in Qld, 2.51 c/kWh in ACT, 2.95 c/kWh in SA, 1.66 c/kWh in NSW, 2.12 c/kWh in Vic, and 0.96 c/kWh in Tasmania¹³

^{***}Based on AER estimated AMI charges for 2016¹⁴

Source: St Vincent de Paul and Alviss Consulting, *The NEM – A hazy retail maze: Observations from the Vinnies*, 16.