

Research Note: Household Energy Costs in Australia 2006 to 2016¹

Ben Phillips

ANU Centre for Social Research and Methods

February 2017



Australian
National
University

¹ This work was funded by News Corp Australia. The author would like to thank Professor Matthew Gray and Matthew Taylor for valuable comments. Any errors remain with the author.

Contents

Overview.....	3
Modelling Methodology	3
Modelling Results	4

Overview

This research note summarises the methods and results of an analysis of household energy costs for Australia. Energy costs have increased sharply in recent years placing an increasing burden on household living costs. This paper does not attempt to explain the industry drivers of cost increases.

Modelling Methodology

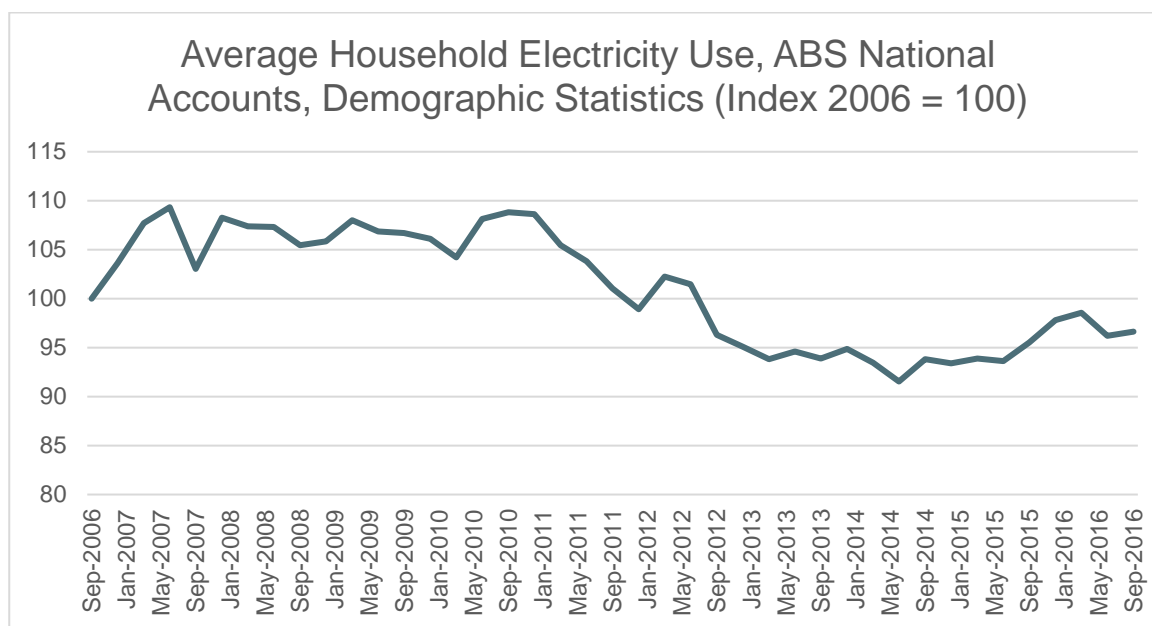
This modelling here is based on a relatively simple analysis of the Australian Bureau of Statistics (ABS) Household Expenditure Survey from 2009-10. This data is now quite out of date and the estimates have been updated to 2016 (December) levels. For comparison purposes we have also backcasted to 2006 using the same methodology.

The household expenditure survey provides weekly household expenditure amounts for electricity for each of the nearly 10,000 households. The survey provides a representative sample of households in each state of Australia.

For each capital city in Australia the ABS Consumer Price Index (CPI) provides inflation estimates for household electricity prices. These estimates confirm that electricity prices have increased by 114 per cent between 2006 and 2016. This is equivalent to nearly an 8 per cent annual price increase. Only tobacco products have increased more quickly over this period and the large increase here is due to significant increases in tobacco taxation. The overall rate of inflation through this period across all household items was just 26 percent or 2.3 per cent per year.

Potentially in response to the significant price increases over the last 10 years electricity consumption at the household level has declined, albeit modestly. The figure below shows that electricity consumption was relatively flat between 2006 and 2011 and then declined. There has been a modest rebound since 2015. Overall, we find that electricity demand at the household level (on a per capita basis) declined by around 3 per cent over the 10 year period.

Figure 1 Household Electricity Use 2006-2016, Australia



Our modelling of household bills incorporates both the CPI price changes and the volume of electricity changes implied by the ABS National Accounts household expenditure estimates which we converted to a per capita basis using population growth.

Our initial household expenditure survey estimates are at the state level. Expenditure was increased using capital city estimates of electricity price inflation. Expenditure was then modestly reduced by the national-based volume estimates from the National Accounts and Demographic statistics.

Modelling Results

Overall, we find that electricity bills increased by 108 per cent in nominal terms. There is some variation between the states with the greatest growth occurring in Queensland (136 per cent) and Victoria (119 per cent). The lowest growth was in Tasmania (66 per cent) and the combined territories (ACT/NT) (68 per cent).

In terms of overall electricity bills, the highest bills are, on average, in Queensland at \$2,102 and Tasmania \$2,181 per year. The average electricity bill for Australia as of December 2016 was \$1,902 up from \$916 in 2006. This represents an increase of 108 per cent. In real terms, the increase was 65 per cent.

As a share of total household expenditure we find that in 2006 the average expenditure share for electricity costs was 1.8 per cent. By 2016 this increased to 2.7 per cent, a 50 per

cent increase in share. The largest expenditure share is in Tasmania (3.5 per cent) and South Australia (3.4 per cent). The lowest shares in Western Australia and the combined Territories (2.1 per cent). These results are partly driven by relatively high electricity costs in South Australia and Tasmania but also relatively lower overall expenditure across all household expenditure – owing to lower household incomes for these states.

Table 2 Electricity Costs and Expenditure Shares 2006-2016

<i>State</i>	<i>Average Electricity Bill 2006 (pa)</i>	<i>Share of Expenditure 2006</i>	<i>Average Electricity Bill 2016 (pa)</i>	<i>Share of Expenditure 2016</i>	<i>Growth in Expenditure 2016</i>	<i>Real Growth in Expenditure 2016</i>
NSW	\$918	1.8%	\$1,922	2.6%	109%	66%
VIC	\$841	1.7%	\$1,837	2.6%	119%	73%
QLD	\$890	1.8%	\$2,102	2.9%	136%	87%
SA	\$1,110	2.6%	\$2,080	3.4%	87%	49%
WA	\$855	1.6%	\$1,582	2.1%	85%	47%
TAS	\$1,317	3.0%	\$2,181	3.5%	66%	31%
ACT/NT	\$1,061	1.7%	\$1,785	2.1%	68%	34%
Australia	\$916	1.8%	\$1,902	2.7%	108%	65%

Source: ANU Centre for Social Research and Methods, ABS CPI/National Accounts/Demographic Statistics

ANU Centre for Social Research and Methods

+61 2 6125 0904/ 0403 929 395

ben.phillips@anu.edu.au

The Australian National University

Canberra ACT 0200 Australia

www.anu.edu.au

CRICOS Provider No. 00120C

