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Briefing Note

International Electricity Price Comparison

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Introduction

Electricity has become a major input into irrigated agriculture and the cost associated with using electricity has significantly increased since 2008. Preliminary data results from an electricity trial conducted with Cotton Australia indicated that electricity costs have increased by up to 115%. Demand charges remain the main driver of electricity costs and constitute over 60% of overall cost increases in the same time period.

To put the recent electricity price increase in Australia into perspective, NSWIC has analysed the conducted an international electricity cost comparison. Whilst irrigation specific data is scarce in other countries, an assessment of retail electricity prices give a first indication of price differentials between countries.

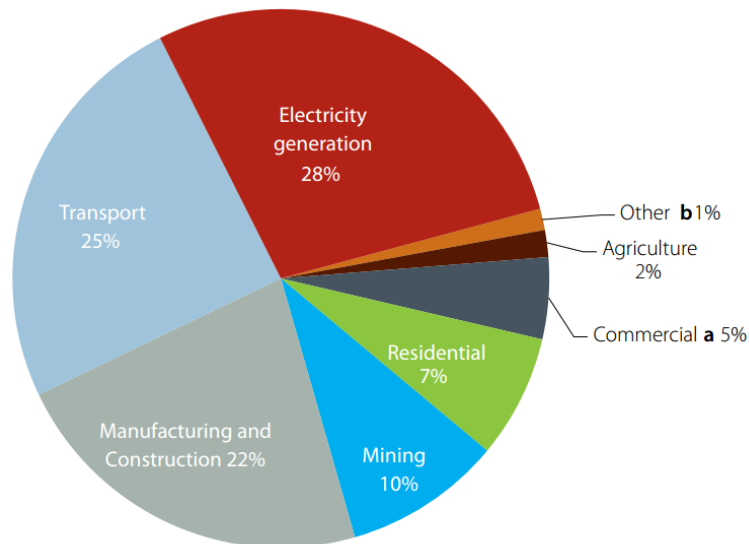
Australian Regulatory Framework

The current structure of Australia's eastern and southern electricity market was shaped by industry reforms in the early 1990s. A key element of these reforms was the establishment of the National Electricity Market (NEM) which began its operation in 1998. The NEM facilitates market determined power flows across the ACT, NSW, QLD and SA, VIC. The NEM operates as a wholesale spot market in which generators and retailers trade electricity through a gross pool managed by the Australian Energy Market Operator (AEMO). AEMO is responsible for aggregating and dispatching supply to meet demand in the lowest cost manner available. In addition to the physical wholesale market, retailers may also contract with generators through financial markets to better manage any price risk associated with trade on the spot market.

The Australian Energy Market Commission (AEMC) is responsible for reviewing, amending and expanding the National Electricity Rules (NER) which govern the operations of the NEM. The enforcement of these rules is the responsibility of the Australian Energy Regulator (AER). The AER is also responsible for reporting on generator bidding behaviour in the NEM.

Sector Usage

Electricity Generation, Transport, Manufacturing and Construction are the largest user of electricity in Australia. Agriculture's usage of electricity constitute 2% of overall usage (2011) however its share is increasing as more energy intensive equipment is used on-farm.

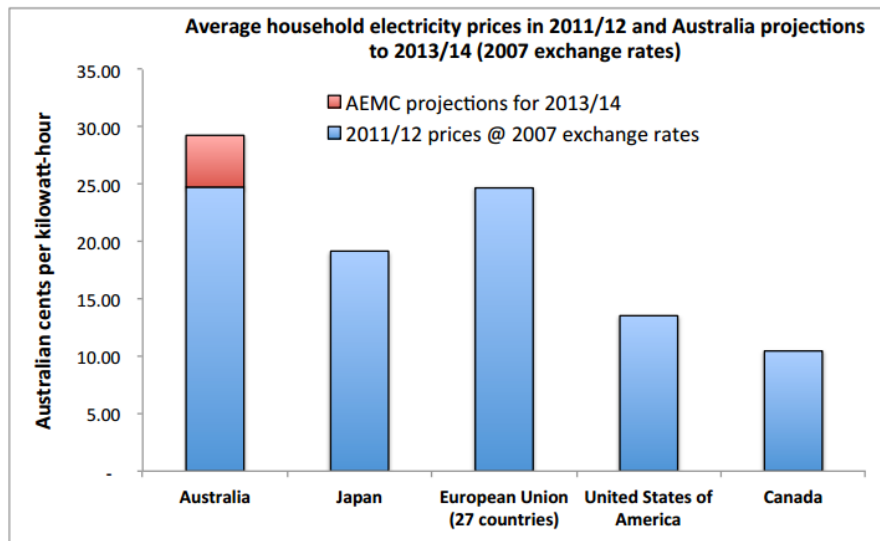


International Comparison:

There is a range of factors that affect electricity prices in different countries such as the size of electricity network, the geographical spread of the population and the availability of sources of fuel to population. In Australia, the recent electricity price increases are largely driven by rising network charge and 'green scheme' costs.

In comparison to Australia, the cost of electricity in other developed economies has increased more gradually over the last decade. The rise in Australia's electricity prices together with the appreciation of the Australian Dollar has meant that average electricity prices in Australia are 10% higher than those in Japan, 20% higher than the EU, 70% higher than US and 130% higher than Canada.

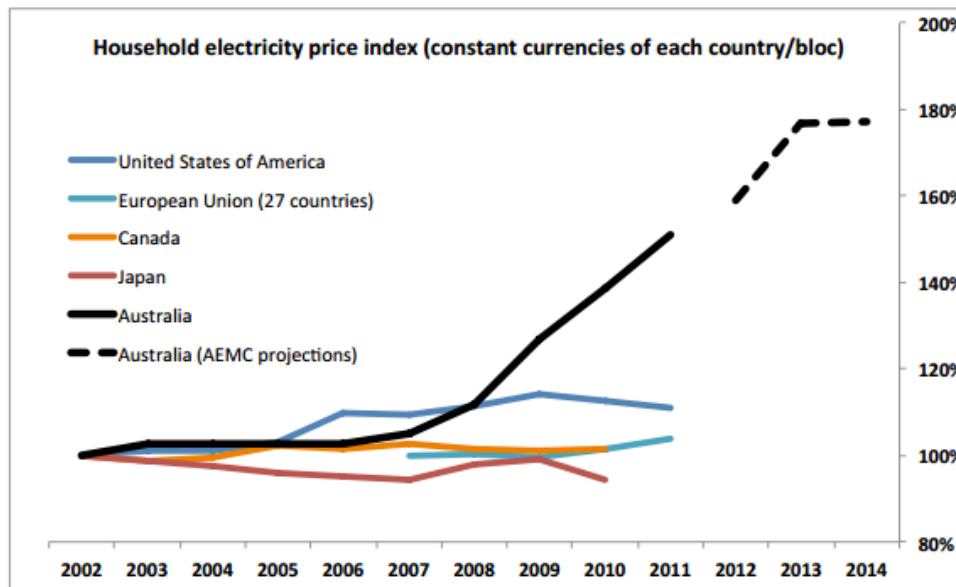
The appreciation of the Australian dollar has been less significant than the rise in demand and green scheme costs in Australia. Using 2007 exchange rates, electricity prices in Australia in 2011-12 remain still higher than those in Japan, EU, US and Canada.



Average Price Paid (Australian cents/kWh using 2007 exchange rates)

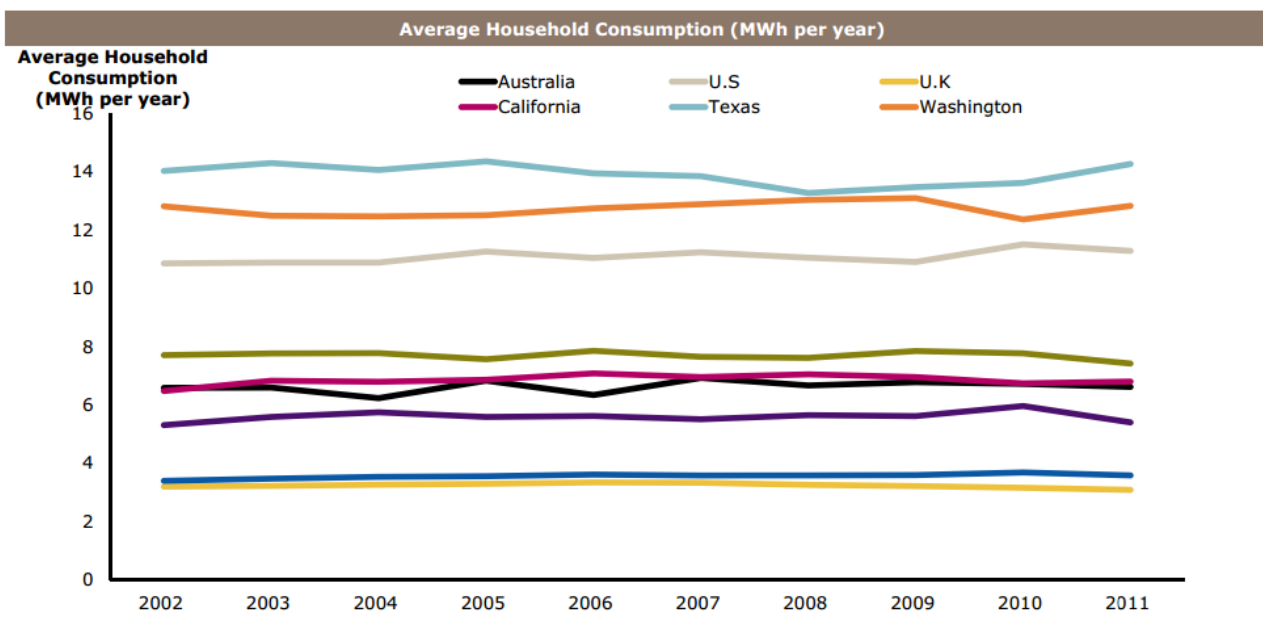
Between 2001/02 and 2010/11 electricity prices in the US, EU, Canada and Japan have been stable. By contrast Australia's electricity prices were stable from 2002 to 2007 but since then have risen significantly.

Figure 2. Household electricity price indexⁱⁱⁱ



Household electricity prices in constant currency starting from 2002 (constant currency observation)

Electricity Consumption



Household consumption of electricity has remained stable over the last decade, however the level of electricity consumption diverges between countries, with the US having a much higher electricity usage than Australia.

Exchange Rate impact

Caution must be taken when attributing too much weight to the impact of exchange rate fluctuations on global electricity price developments. A large proportion of expenditure incurred by Australia's electricity network service providers is capitalised and the bulk of this capitalised expenditure is for equipment imported from other countries, particular US, EU and Japan.

The appreciation of the Australian dollar relative to the Euro and US dollar, will affect the Australia Dollar costs of imports. In view of the general appreciation of the Australia Dollar and the significance of imported components, the expectation should be that this would be reflected in generally lower electricity prices in Australia. While price changes may lag cost changes to some extent, it is reasonable to expect that electricity price increases in Australia between 2007 and 2011 would be even higher than they have been, had the Australian dollar not appreciated relative to the US dollar and the Euro.

Conclusion

While comparable price data on electricity cost in irrigation is not available in different countries, the retail data suggests that there is a significant and growing gap between cost for electricity in Australia and other developed economies.

