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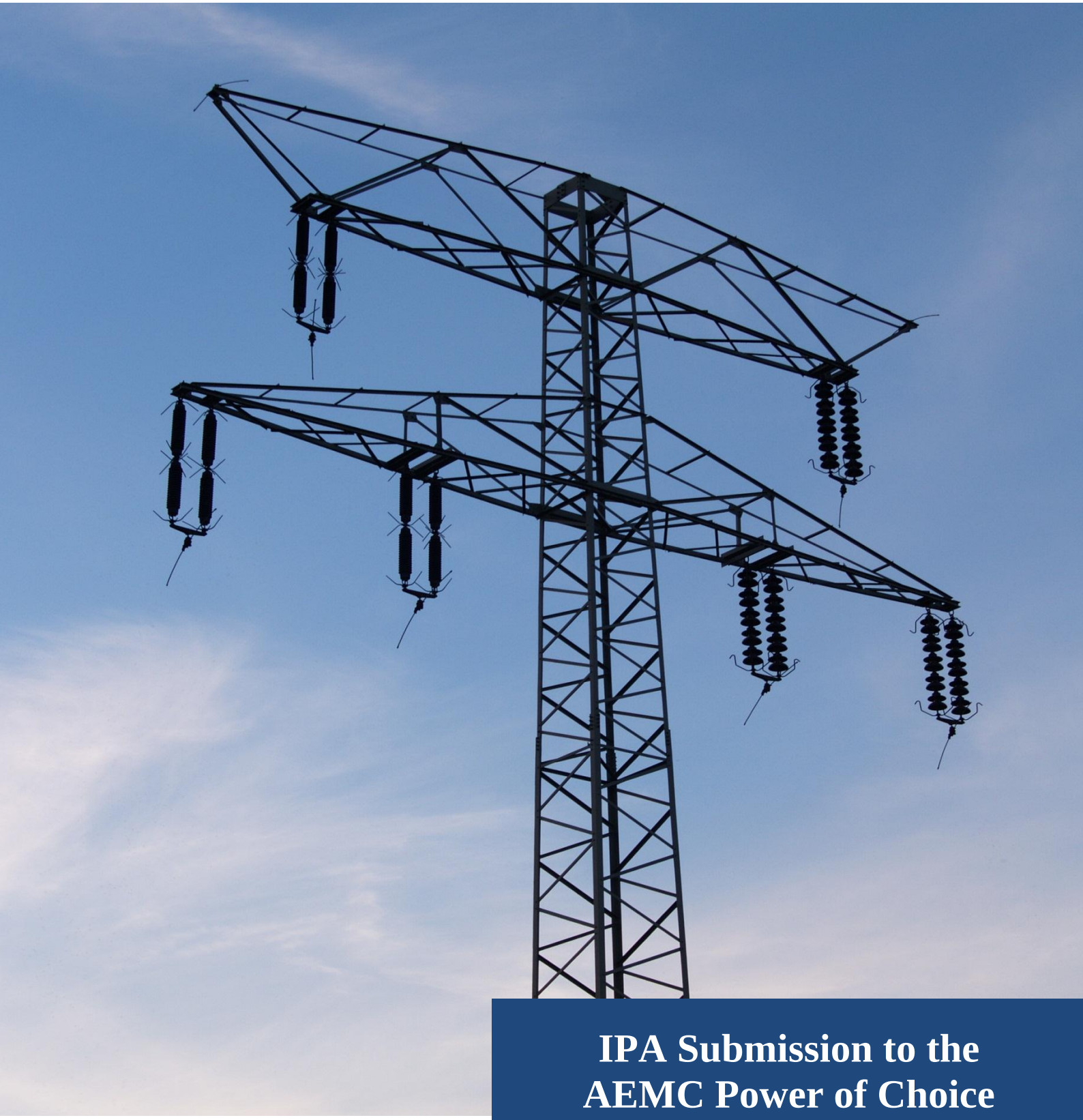

IPA Submission to the AEMC Power of Choice Directions Paper

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About Infrastructure Partnerships Australia

Infrastructure Partnerships Australia is the nation's peak infrastructure body. Our mission is to advocate the best solutions to Australia's infrastructure challenges, equipping the nation with the infrastructure assets and services needed to secure enduring economic growth and key social objectives.

Infrastructure is about more than balance sheets and building sites. Infrastructure is the key to how Australia does business, how we meet the needs of a prosperous economy and growing population and how we sustain a cohesive and inclusive society.

Infrastructure Partnerships Australia seeks to ensure governments have the maximum choice of options to procure key infrastructure. We believe that the use of public or private finance should be assessed on a case-by-case basis. IPA also recognises the enhanced innovation and cost discipline that private sector project management and finance can deliver, especially with large and complex projects.

Our membership comprises the most senior industry leaders across the spectrum of the infrastructure sector, including financiers, constructors, operators and advisors. Importantly, a significant portion of our membership is comprised of government agencies.

Infrastructure Partnerships Australia draws together the public and private sectors in a genuine partnership to debate the policies and priority projects that will build Australia for the challenges ahead.

Executive Summary

Australia's electricity sector is currently grappling with the twin challenges posed by sharply increasing retail prices and a substantial investment task, particularly in networks. Tasking the AEMC with the assessment of demand-side reform options represents a positive commitment by Australia's governments to addressing these challenges and more broadly, to putting Australia's electricity sector on a more sustainable longer term footing.

Demand Side Participation (DSP) has the potential to revolutionise the electricity sector by extending, for the first time, a cost-reflective price signal all the way to through to the consumer. In particular, effective demand management can enable the efficient utilisation of available network and generation capacity which, in turn, will assist to contain the price impacts of high levels of capital expenditure. The Institute of Sustainable Futures estimates that up to one-third of planned capital expenditure on networks between 2010 and 2015 is attributable to growth in peak demand (UTS, 2011). Under current policy settings this trend is set to continue, with peak demand forecast to increase by 31 per cent over the next ten years compared with a 20 per cent increase in overall consumption (AEMO, 2010).

Experience in Australia and overseas has clearly demonstrated the success of cost-reflective pricing in adjusting demand. But equally it has shown that the effectiveness of different pricing approaches varies, suggesting that no single solution is likely to suit all circumstances within the National Electricity Market (NEM). As such, the AEMC must avoid picking winners and should instead promote a market-based approach to demand management tailored to consumers' needs. This recognises that consumers are best placed to determine the form of demand management that is of most value to them, whether it is through their retailer with Time of Use (TOU) or Critical/Dynamic Peak Pricing (DPP), or through their distribution network with measures such as Direct Load Control (DLC).

Of course, the introduction of flexible pricing for small customers should be accompanied by appropriate safeguards for those unable to adequately adjust their behaviour. Crucially however, such safeguards must be kept external rather than internalised within the market.

But while the AEMC should strongly advocate a market-led approach to demand management it must also recognise the critical role played by regulatory approaches. Current regulatory settings, such as the regulation of retail prices, are serving to undermine the goal of more effective demand management by heavily distorting efficient market signals. The removal of retail price regulation in all NEM jurisdictions is therefore a critical first step to achieving cost reflective pricing and to ensuring that regulatory settings act as an enabler, rather than a barrier, to effective demand management.

Due to current regulated retail tariff structures the prices that most residential consumers pay for electricity generally do not reflect changes in the spot price or the true cost of supply and delivery (AEMC, 2012). The removal of retail price regulation would therefore also create a stronger business case for the wide scale rollout of smart meters by retailers, Energy Service Companies (ESCO) or network businesses.

Key Recommendations

- **The AEMC should continue to advance the case for full retail price de-regulation in all NEM jurisdictions where it remains in place; and should work with respective governments to enact a clear legislative timeframe for achieving this. This is critical to the business case for an organic – rather than mandated – rollout of smart-meters.**

- **The AEMC should embrace a market-based approach to Demand Side Participation (DSP); this would recognise that no one solution suits all circumstances within the NEM and that consumers are ultimately best placed to determine the form of demand management that is of most value to them, whether it is through their retailer with Time of Use (TOU) or Critical/Dynamic Peak Pricing (DPP), or through their distribution network with measures such as Direct Load Control (DLC).**

- **The AEMC must target demand management initiatives to the point in the supply chain where they are of most value; at the same time care must be taken to avoid overlapping incentives.**

The Case for Reform

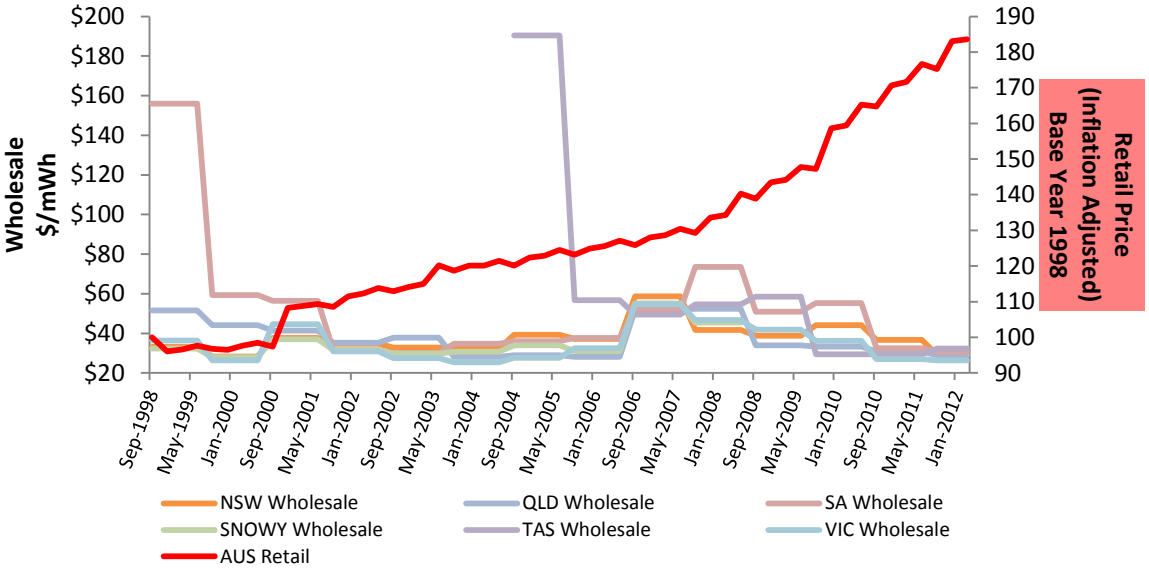
The decade from the early 1990s to the early 2000s saw a strong period of energy market reform in the context of the National Competition Policy.

These reforms ultimately paved the way for the creation of the NEM with associated national institutions to oversee its operation. The NEM, one of the longest end-to-end interconnected power systems in the world, has since evolved into a highly liquid wholesale electricity market with an accurate price discovery mechanism.

But while Australia has come a long way since the days of single, vertically integrated utilities under full government ownership, two very important realities remain. Firstly, reform momentum has stalled. This has meant the progression towards a fully functioning NEM has yet to reach its logical conclusion. Secondly, significant differences remain between the states in respect of the ownership, efficiency and overall performance.

This submission is principally concerned with the first of these realities – that is the failure to achieve a fully-functioning NEM – and specifically with the failure to establish efficient market price signals at all stages of the supply chain. The inelasticity of demand and a lack of price transparency have served to severely limit the achievement of efficient market price signals in the NEM to-date. As shown in Figure 1 below, this failure to establish efficient price signals is reflected in the marked divergence between retail prices and wholesale costs.

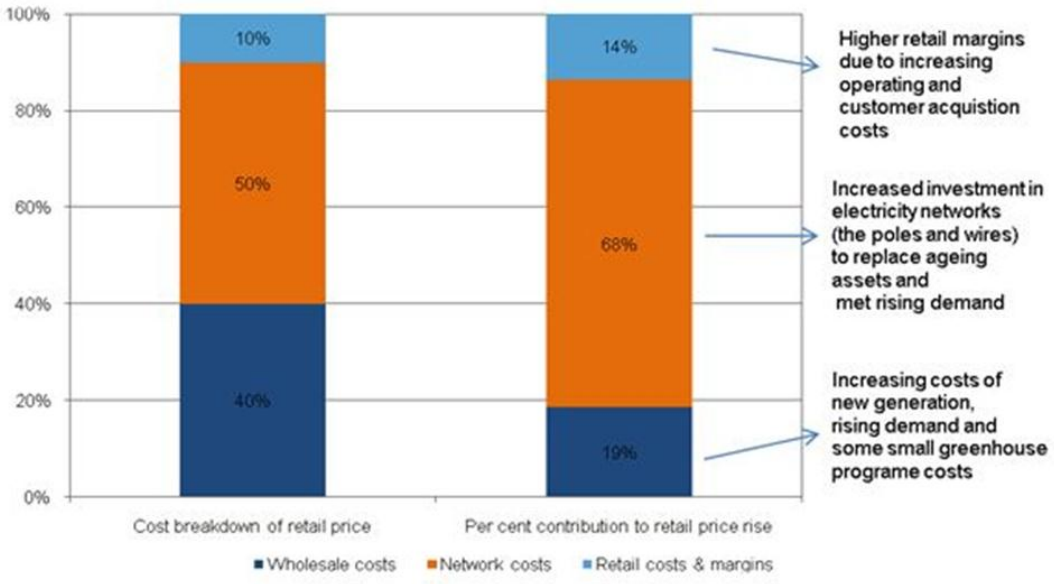
Figure 1: Wholesale Cost vs Retail Price



Source: IPA Analysis 2012 based on ABS and AEMO data

While there is considerable variance across states in terms of network efficiency, rising network investment is a key factor underpinning the decoupling of retail and wholesale prices (as shown in Figure 2 below).

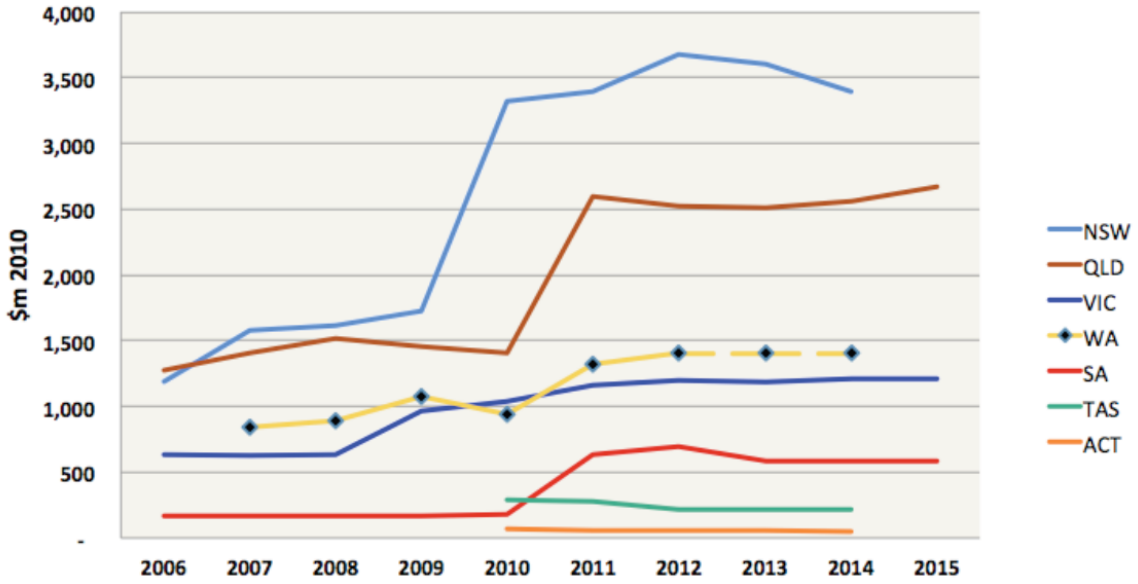
Figure 2 - Electricity costs and their contribution to current price rises in 2010



Source: Garnaut Review Final Report, 2011

For the most part this investment has been entirely necessary; owing to the need to replace ageing assets, manage electricity load growth and meet changed reliability standards and service requirements. However, a significant proportion of this capital investment is directly attributable to rising peak demand. According to one estimate, up to one-third of the $45 billion in planned capital expenditure on networks between 2010 and 2015 is attributable to peak demand growth (UTS, 2011). As shown in Figure 3 below, this trend is set to continue under current settings with peak demand driving high levels of investment.

Figure 3: Electricity Network Capital Expenditure by Jurisdiction, 2006---2015



Source: (iGrid, 2011)

Accordingly, even a small reduction in peak energy demand can yield substantial savings in associated generation and network costs. Ensuring an efficient price signal at each stage of the supply chain represents the most effective and enduring means of reducing peak demand growth, and in-turn reducing the impact of network investment on retail prices.

Proposed Reform Pathway

Retail Price De-Regulation

Due to current regulated retail tariff structures the prices that most residential consumers pay for electricity generally do not reflect changes in the spot price or the true cost of supply and delivery (AEMC, 2012).

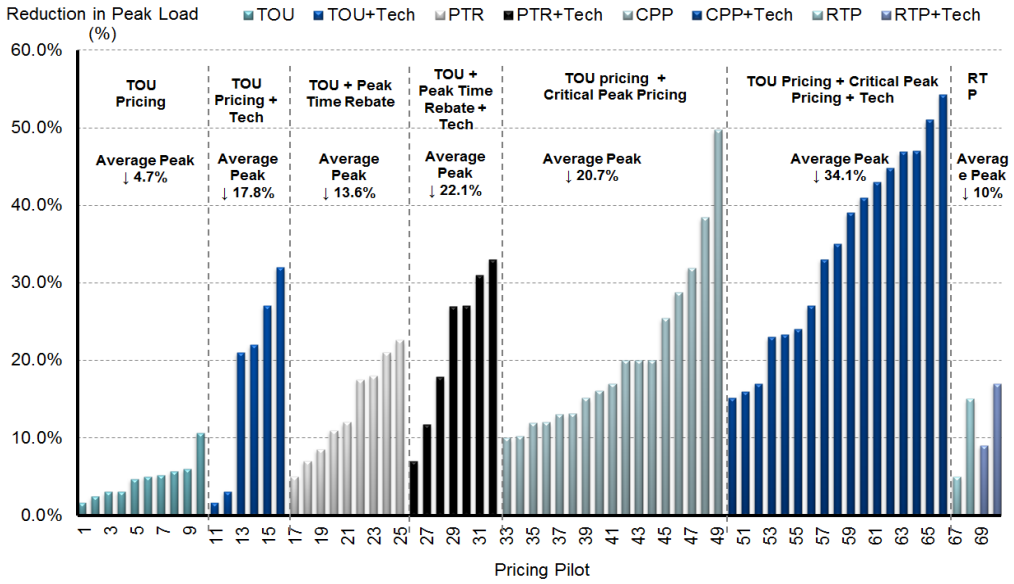
The removal of retail price regulation in all NEM jurisdictions is a critical first step to achieving more efficient price signals and to ensuring regulatory settings act as an enabler, rather than a barrier, to effective demand management. The removal of retail price regulation would also serve to create a stronger business case for the wide scale rollout of smart meters by retailers, Energy Service Companies (ESCO) and network businesses.

In the context of the NEM's incredibly broad service area it is also crucial for government to recognise that a one size fits all strategy of DSP is unlikely to be optimally effective. Rather, the AEMC should focus on achieving an efficient price signal between retailers and consumers that in turn will enable the market to tailor demand management approaches.

Energy companies in Australia and overseas have undertaken countless pilot trials of more cost-reflective pricing methods to identify which is most effective at managing demand. Within Australia alone, estimates suggest upwards of 60 demand management trials have been conducted; including Direct Load Control (DLC), Time of Use (TOU), Critical/Dynamic Peak Pricing (DPP), Real Time Pricing (RTP) as well as various combinations of these.

Aside from endorsing demand management as an effective means of reducing peak demand, trials have shown a high variability in the effectiveness of different demand management approaches (see Figure 4 below).

Figure 4: Demand Management Trial Results

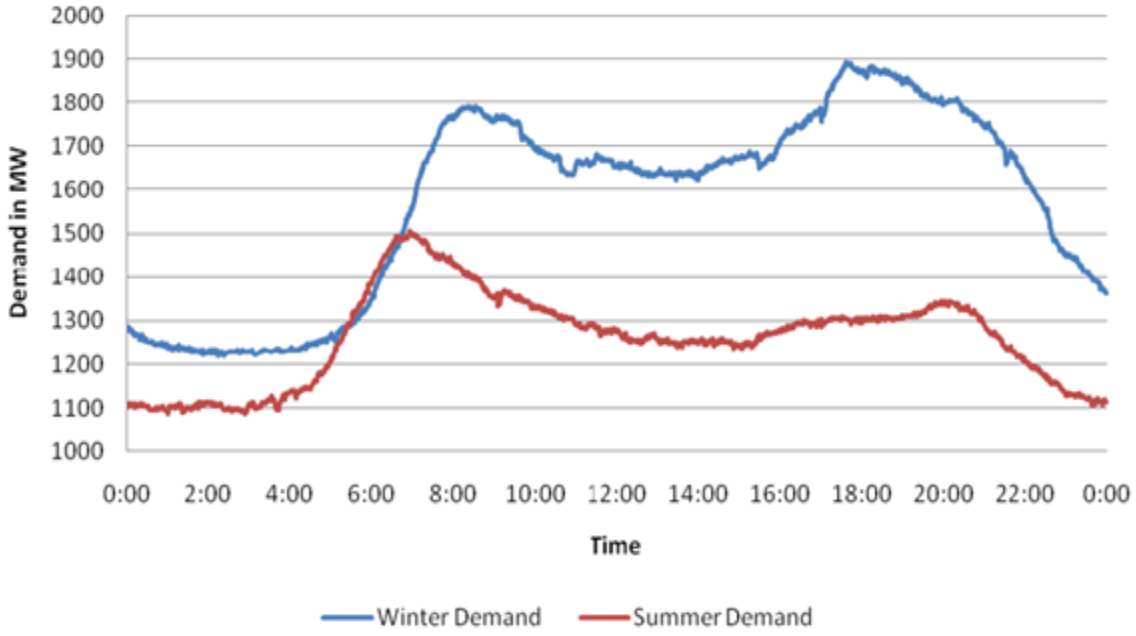


Source: AGL, 2012

Clearly, the effectiveness with which demand can be managed is dependent on a number of factors, including the specific load profile of a given area, the types of customers served,

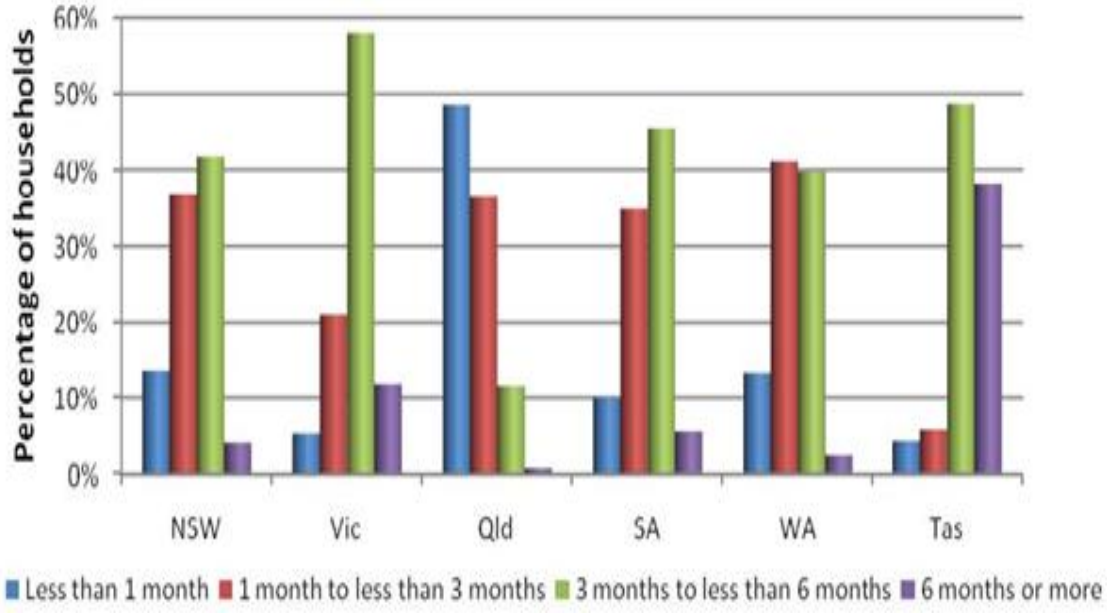
local climate conditions as well as the facilities available to electricity users. For example, some DLC schemes are designed to specifically target the increased use of air conditioners in Australia. However, approaches targeted at reducing peaks resulting from the use of cooling systems in summer months are unlikely to be effective in cooler climates such as Tasmania or the Southern Tablelands of NSW, which experience relatively higher winter peaks. Conversely, a scheme targeting residential space heating in winter would be of limited value in states such as Queensland (see Figures 5 & 6).

Figure 5 - Daily Load Curves for Winter and Summer Peak Tasmanian Demand



Source: (Electricity Supply Industry Expert Panel, 2012)

Figure 6 - Residential Space Heating – Months of Use (Per Annum)



Source: (Electricity Supply Industry Expert Panel, 2012)

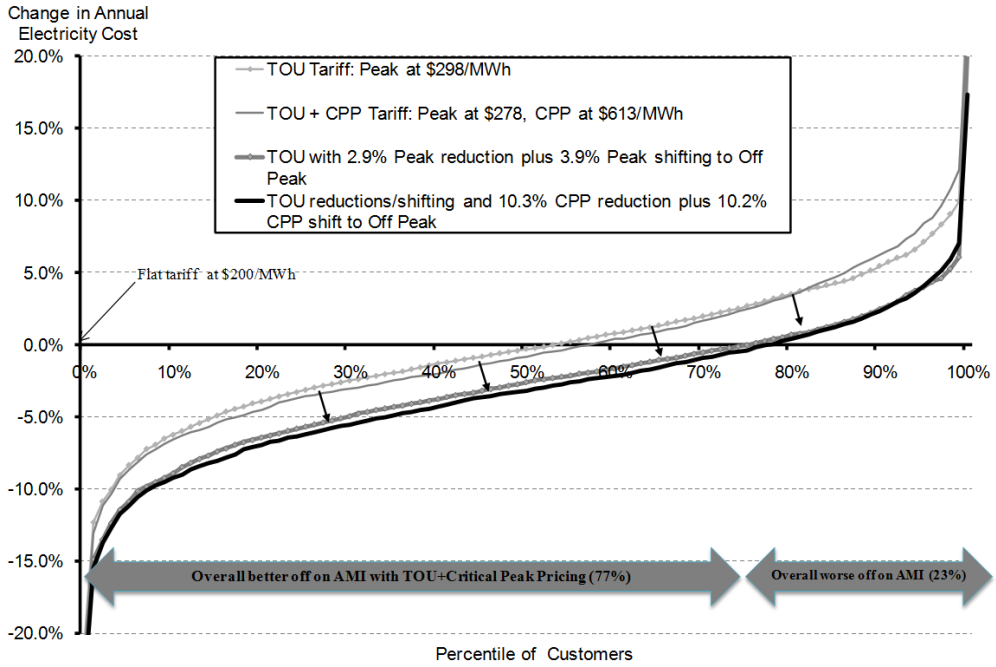
Smart-Meter Rollout

While the need to move away from flat tariffs towards more cost reflective and flexible pricing is widely accepted achieving this goal will not be possible without the widespread rollout of enabling technology, such as smart meters. With the exception of Victoria, smart meters have yet to be widely rolled-out in the NEM.

The slow rollout of smart meters can be at least partly attributed to the cost of installation and disagreement over who should fund the installation of smart meters, given the varying benefits that would be realised at multiple levels of the supply chain.

Establishing efficient price signals at every stage of the electricity supply chain would assist in overcoming this financial barrier, as it would enable end users to better respond to changes in price in order to reduce their electricity bill. It would also enable retailers and networks to reduce their exposure to risk by charging prices that better reflect the efficient cost of supply. Conservative estimates suggest that when taking into account the likely demand response, 77 per cent of electricity customers could be better off under flexible pricing arrangements (see Figure 7) (AGL, 2012).

Figure 7 - Percentage Change in Electricity Costs



Source: (AGL, 2012)

Of course, the fact that consumers would be better off does not necessarily ensure that consumers would take appropriate action. However, the incentive for behavioural change would be greatly enhanced through efficient price signals and a competitive market environment, where retailers and Energy Service Company (ESCO) have a strong financial incentive to pursue new customers.

The experience in the large industrial sector, which has highly flexible and cost reflective price structures, serves as a valuable guide in predicting likely market developments. SP Ausnet noted in their submission to the Power of Choice Issues Paper the existence of 17 third party customer consultants and agents or ESCOs offering value added services to large

customers in order to help minimise their costs. This was observed in the period following the introduction by SP Ausnet of Critical Peak Pricing for their large industrial customers.

The introduction of flexible pricing for small customers should however be accompanied by appropriate safeguards for those unable to adequately adjust their behaviour. Crucially however, such safeguards must be kept external rather than internalised within the market.

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