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Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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AEMC Power of Choice – Directions Paper

The Energy Supply Association of Australia (esaa) welcomes the opportunity to make a submission to the Australian Energy Market Commission's (AEMC) Power of Choice direction paper.

The esaa is the peak industry body for the stationary energy sector in Australia and represents the policy positions of the Chief Executives of 38 electricity and downstream natural gas businesses. These businesses own and operate some \$120 billion in assets, employ more than 51,000 people and contribute \$19.3 billion directly to the nation's Gross Domestic Product.

The esaa has been actively involved the AEMC's reviews into DSP in the National Electricity Market (NEM). Demand side participation (DSP) is crucial to containing retail price rises by empowering consumers to use energy in an efficient and cost-effective way.

Australia is at the beginning of a major change in energy supply. We have started investing in cleaner generation to reduce greenhouse emissions. We are also spending billions of dollars to ensure we have enough electricity for a few hours a day on a handful of hot and cold days each year when electricity demand peaks. Empowering consumers to take control of their electricity usage through DSP can help reduce these peaks.

The esaa commissioned Deloitte to investigate the benefits of reducing peak demand. Deloitte's report, *Analysis of initiatives to lower peak demand*, identifies dynamic pricing, and direct load control as effective solutions to control the upward pressure of rising peak demand on prices. Benefits of up to \$4.5 billion in the decade to 2022 have been identified through tackling peak demand (see Figure 1).

In our view, DSP tools including dynamic pricing and direct load control have demonstrable capacity to manage peak demand. However, changes to the energy policy and regulatory framework are required so the full benefits of DSP can be realised.

Figure 1 - Deloitte conclusion: Total estimated value of gross benefits 2012-13 to 2021-22 (NPV, \$m)

Initiative	Low case benefits (\$m)	High case benefits (\$m)
Time of use pricing	58	193
Critical peak pricing and incentives	385	1,272
Direct load control of air conditioners	200	1,338
Direct load control of pool pumps	188	231
Electric vehicles	60	537
Energy Savings Measures	361	486
Enhanced uptake of Solar PV	300	528
Total gross benefits	1,551	4,585

Source: Deloitte analysis

Firstly, and most importantly, states and territories need to end regulation of retail prices where scope for effective competition exists. This inhibits companies from developing products and services which could relieve upward pressure on electricity prices and help consumers to manage their electricity use in a smarter way.

Secondly, network businesses need to be free to move away from the 'postage stamp' method of pricing, where the price per unit must be the same regardless of how much energy is used by the consumer and regardless of the location. Retailers must also be able to efficiently pass on changes in network costs to give customers an incentive to use electricity in a more efficient way. The Victorian Government's moratorium on networks introducing time-of-use (TOU) pricing is one example of this method restricting energy companies from developing tariffs which encourage more efficient use of energy.

Finally, more information about their usage patterns needs to be available to consumers so they genuinely understand the benefits of DSP tools. We note that retailers are already required by the National Electricity Rules to provide consumption data to consumers when requested. Several energy companies are already providing or developing online portal functionality to facilitate customers' understanding of their energy use.

Retailers and network businesses will also need to work closely together to find ways to co-ordinate their approaches to DSP.

The introduction of new energy technology and smarter pricing structures will empower Australian households to use electricity in the most cost-effective way. Over time, this will mitigate upward pressure on electricity prices. This is a long-term challenge. Prices won't fall overnight, but empowering consumers and establishing a

policy and regulatory framework that encourages efficient pricing structures will contribute significant to containing peak demand and rising retail prices.

In Attachment 1 we provide detailed responses to some of the questions raised in the Directions Paper.

The full Deloitte report, *Analysis of initiatives to lower peak demand*, is included at Attachment 2.

Any questions about our submission should be addressed to Kieran Donoghue, by email to kieran.donoghue@esaa.com.au or by telephone on (03) 9205 3116.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Matthew Warren', with a large, stylized flourish extending to the right.

Matthew Warren
Chief Executive Officer

Attachment 1 – Detailed discussion of issues raised in the Directions Paper

Introduction

As a fuel and technology neutral organisation, the Association considers that demand side participation (DSP) has a role to play in meeting Australia's energy needs where it is efficient. Consistent with the allocation of resources in the broader Australian economy, the Association considers that prices should be the primary driver for DSP. DSP should be facilitated via open and competitive markets that allow for efficient cost-reflective pricing and through effective, incentive-based economic regulation of networks that appropriately rewards networks owners for innovation and investment in DSP.

Provision of information

All areas of the supply chain should be able to take a role in informing consumers about the potential benefits of DSP. This is not limited to energy retailers and network businesses. Obviously, most consumers' first point of contact is with their energy retailer, but with several areas of the supply chain likely to provide DSP products it is up to all participants to provide information to consumers about potential benefits.

With several types of business having the scope to offer products and services, whether directly or via a retailer, it is important that all businesses are faced with a level playing field in terms of regulation. The Association considers that a light-handed approach to regulation would be beneficial in terms of encouraging innovation. However, applying some regulations to one form of business, while excluding others, will distort the market for DSP services.

In terms of providing information to consumers, the esaa agrees that this is an important tool to assist consumers. We also note the existing requirements to provide customers with consumption data. Nonetheless, several of our members have highlighted the difficulties in complying with these requirements and the lack of clarity over the role of networks and third parties in providing data. The shift to DSP could lead to a move towards delivering consumers energy 'services' rather than energy alone. With this shift, clarity will be needed on which areas of the supply chain may provide customers with data. We caution that any requirement for data to be provided in one specific format could prevent new products and services being delivered. There is also a need to be cautious about multiple parties providing information that may conflict, as this could serve to confuse and alienate consumers.

Furthermore, any requirements for data to be provided need to be applied consistently in each area of the supply chain. The provision of information to consumers entails material costs. Where parties are subjected to a regulated price, the efficient costs associated with providing information need to be recoverable. Where prices for an energy service are set by competitive forces, then any obligation needs to be equally applied to all parties providing the relevant service.

We also welcome the AEMC's consideration of the Standing Council on Energy and Resources' (SCER) national smart meter work program. The esaa has made a submission to SCER's smart meter review and agrees that the results of this review will be important in the context of AEMC's DSP Review.

The esaa is concerned however about any requirement for businesses – be they energy retailers or network businesses – to pass on customer information to a third party. We stress that a customer’s explicit informed consent should be necessary for their consumption data to be released. In order to promote innovation in energy services, we note that aggregated consumption data may be a useful tool which can be provided to businesses. In this case, there must be appropriate safeguards around customer privacy.

Finally, retailers and network businesses need to be aware of any DSP arrangements that have been agreed between a customer and a DSP provider. Retailers need to be aware how any DSP will affect their customers and the quantity of energy they purchase in the NEM. Network businesses need to understand the impact of DSP on their infrastructure in order to help them plan for an efficiently-sized network. A clear, coordinated process needs to be in place so that when a customer agrees to a specific DSP activity, this information can be passed on to relevant parties.

The importance of retail price deregulation

The Issues Paper queries whether efficient DSP can occur without cost-reflective pricing. The esaa considers cost-reflective pricing is important to the energy market as a whole, and is crucial to some DSP options being implemented. In particular, critical peak pricing and TOU pricing rely on cost reflective tariffs. However, other options for DSP, such as direct load control (DLC), do not require cost-reflective pricing as such.

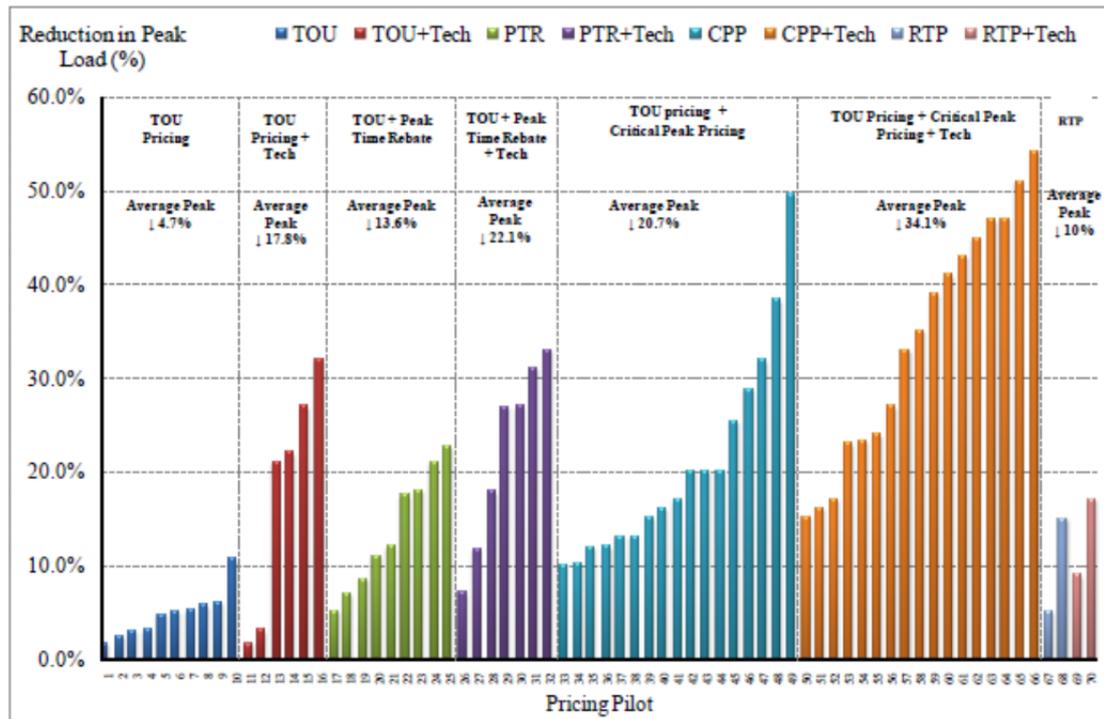
Efficient DSP will require a portfolio of products and services, some of which will require cost-reflective tariffs while others will not. Ultimately, in order to maximise the amount of DSP that can efficiently achieved, cost reflective pricing will be a necessity. To achieve this, deregulating prices is essential. Of course, this is subject to there being scope for effective retail competition. The effects of retail price regulation are similar for DSP as for the entire retail electricity market. Retail price regulation will stifle innovation in the sector. Regulation prevents retailers from developing a range of products which may be of benefit to many of their customers. Some jurisdictions, such as Queensland, have introduced regulated (but voluntary) TOU prices. However, this does not provide retailers with the option for more flexible offerings such as critical peak pricing (CPP).

TOU pricing as it currently exists is generally restricted to a broad approach of off-peak, shoulder and peak periods. To drive greater changes in peak demand, retailers and networks will need the freedom to develop other tariff options. As is seen in Deloitte’s report on initiatives to reduce peak demand, CPP has a far greater potential for savings compared to general time of use pricing. Deloitte estimated that CPP could lead to more than \$1.2 billion in gross benefits from 2012-13 to 2021-22. Over the same period, the benefits of TOU pricing were calculated at up to \$193 million.

Other analysis shows a similar result in terms of customer response to dynamic pricing such as TOU and CPP. In the US, Ahmed Faruqi has shown that the customer response to TOU pricing alone is far less than when other options such as

CPP or peak time rebates are available (see Figure 2). The use of technology including direct load control (labelled 'Tech' in Figure 2) also resulted in greater reductions in peak demand.

Figure 2 - Peak demand reduction arising from various dynamic pricing pilots¹



Understandably, many groups are concerned about the impact of dynamic pricing structures on vulnerable households. The esaa agrees that this is an important issue to consider. We contend that targeting vulnerable customers directly through community service obligations is a far better outcome than blocking reforms designed to improve the system overall. State and Territory Governments can take a leading role, in consultation with the energy industry, to design ways to assist households struggling to adapt to new pricing structures.

Direct load control as a DSP option

The benefits of DLC have been assessed by Deloitte as part of the analysis of the benefits of peak demand reduction. The analysis found that DLC of air conditioners could result in peak reductions of up to 35% per customer and benefits from 2012-13 to 2012-22 of more than \$1.3 billion. Extending DLC to pool pumps would lead to benefits of up to \$231 million over the same period.

An opt-in trial of DLC of air conditioners in Perth as part of the Perth Solar City program showed that reductions in peak demand of 20% were possible through cycling air conditioners on and off during periods of high demand. In Queensland, Energex is also trialling DLC of air conditioners through the Energy Conservation Communities program by offering customers a \$250 voucher for the purchase of an air conditioner with in-built peak smart technology. This technology enables Energex to send a signal to the in-built peak smart technology that tells the air-conditioner to

¹ Faruqui, A. (2010), "The ethics of dynamic pricing", The Electricity Journal, 23(6): 13-27.

cap its energy consumption during peak demand periods. The air-conditioner will continue to circulate and cool air, to ensure comfort levels are maintained.

One key issue will be to determine the rights and responsibilities of different parties in offering DLC. Retailers, network businesses and other parties will all consider that they have a role. For retailers, it may be a valuable way of managing price risk. If another party provides their customers with DLC services, the retailer will need to understand the implications of this on their customers' load profile so that they can procure their customers' energy requirements efficiently. For network businesses, it may be a viable alternative to network upgrades or allow for cheaper replacement options than otherwise. If another party provides customers on their network with DLC services, the network will need to understand the implications on the expected demand peaks on their network so that they can operate and maintain the network efficiently.

Network pricing

The Issues Paper asks whether network charges should vary by TOU and whether charges should be based on a volume or capacity basis. The esaa considers that networks should have the option to charge on a TOU basis. The Victorian Government has currently imposed a moratorium on TOU network pricing. The esaa contends that this is hindering development of pricing plans which may contribute to effective DSP.

The Association also considers that networks should be able to charge on a volume or capacity basis. Allowing networks to charge on a capacity basis would allow for charges to be passed through in the most effective manner to encourage DSP and reduce the drivers of peak demand.

However, any shift in the way in which network tariffs are passed on needs to be treated with caution. The presence of retail price regulation in most jurisdictions risks harming energy retailers if network costs are imposed on them in a fashion which prevents them from efficiently passing on the costs to customers.

While networks may be driven to develop innovative pricing structures, energy retailers have the direct interface with customers and are the party that charges them for the full spectrum of energy costs, including the network component. This risks leaving retailers with a cost burden that cannot be efficiently passed on. Any changes to network charging need to be co-ordinated between retailers and network businesses. Customers will require clear information to inform them of how any changes affect their bills. The greatest scope for benefits to accrue to customers will be if incentives to customers come from both networks and retailers. These incentives need to be complementary otherwise any price signal will be muted.

Influence of energy efficiency schemes on DSP

The Issues Paper also queries the role of energy efficiency schemes in contributing to DSP. The esaa considers that energy efficiency programs can play a role in DSP. However, the Association considers that many of the proposed energy efficiency schemes do not adequately address the barriers to increased energy efficiency. The

barriers to energy efficiency are largely non-price barriers, with the notable exception of the lack of dynamic pricing. We have identified five barriers to increasing energy efficiency. These are:

1. static, inefficient and non-cost reflective consumer pricing;
2. information asymmetries in consumer education;
3. capital constraints faced by financially vulnerable consumers;
4. split incentives (landlord/tenant) to install energy efficient products; and
5. bounded rationality (limited understanding/interest dictating product purchase).

The esaa considers that any energy efficiency measures should directly and efficiently address the identified barriers to energy efficiency. To achieve this, we contend that a package of nationally-consistent measures directly targeting these barriers to energy efficiency would be a more successful approach the market-based approaches that have dominated the policy space so far.

Conclusion

DSP has an important role to play in reducing peak demand and helping to reduce the upward pressure on electricity prices. There are a range of measures that could be used to help drive DSP in the residential and commercial spheres. In the first instance, state governments need to end regulation of retail prices and allow for the market to set cost-reflective prices that encourage efficient use of energy.

The outcomes of increased DSP will only become clear over the long-term. Care should be taken to avoid raising expectations that electricity prices will drop overnight. But with the right set of incentives and market settings, we will see a more productive and efficient energy system.