Submission:

Consumer Choice in Demand Side Participation

August 2011

by the

Sustainable Energy Association of Australia

www.seaaus.com.au

Table of contents

The issue of consumer choice in Demand Side Participation (DSP).

Overview of the SEA position on DSP

As an organisation, the Sustainable Energy Association of Australia (SEA) supports the opportunity for consumers to become more aware of energy use and minimise this usage where necessary and appropriate. The reduction in electricity consumption in the residential sector and by SMEs provides not only benefits for the individuals and companies in reducing the cost to them from rising electricity prices but can also provide benefits to all market participants through reduced spot price risk to retailers, reduce the cost of network augmentation to network operators and to the community through reduced emissions from generation.

However, through consultation with industry, government and consumers on the issue of Demand Side Participation (DSP), SEA has formed the position that DSP opportunities can only be exploited through a program which:

- is able to provide the adequate level of information for consumers to make decisions with informed consent;
- should not create additional costs to consumers to implement DSP opportunities, or that the consumer investment in DSP capability is able to have an appropriately short payback period to encourage this investment;
- provides tangible benefits to consumers in terms of payback for savings made by other market participants. The concept of reducing future costs may not be an adequate incentive to motivate consumer behaviour change; and
- is holistic in taking into account current and future programs on energy efficiency, demand reduction and avoiding costs on externalities such as carbon pricing.

Methodology and assessment

Overall SEA is in agreement with the approach being taken by the AEMC is addressing the issue of consumer DSP opportunities in the NEM.

In respect of the methodology, many of the opportunities for cost saving from DSP on the supply are directly quantifiable in monetary terms but the scale of uptake will ultimately affect the overall benefits that can be delivered to key stakeholders. *Consumer uptake rates* will be the key factor in determining the economic impact and benefits that can be realised from the introduction of DSP programs. Low consumer uptake rates will make the realization of benefits more difficult the further upstream in the value chain as economies of scale would not be able to be achieved e.g. network augmentation savings below a particular critical mass of involved consumers.

SEA's view on the other potential factors impacting DSP uptake are further described later in this submission.

Consumer participation and DSP opportunities

Consumer DSP opportunities have been limited in many cases due to the lack of effective information available for them to act and a lack of appropriate price signalling in a timely and effective manner. There is little incentive for the consumer to act on DSP, particularly when they are operating in a flat tariff environment and when there is a lack of real time information for them to act on.

To date consumers who have self-selected to manage energy, which would only be a very small segment of the market, have had to make their own investments in internal energy management hardware to monitor and manage their consumption with minimal support from the supply side of the market. Anecdotal evidence from the market indicates that those who have taken up these

measures already only benefit fully through reduced costs for energy consumption and that any other benefits are lost.

Furthermore, from research by SEA, the motivations for DSP in consumers include:

- Avoided energy costs from consumption and where any energy management tools / systems are used, the payback on these is either rapid or is not part of the consideration for implementation;
- Minimisation of impact of lifestyle amenity through these changes; and
- Commitment by the consumer to improving their environmental footprint (being seen as doing the right thing).

The issues paper covers many of the options for potential consumer involvement in DSP but has not included the potential for direct load control (DLC) from the supply side for load control based peak shaving. A number of trials of DLC have been undertaken across Australia on an opt-in basis and appear initially to have some positive outcomes. However, feedback from SEA members has indicated that the current trials have not fully examined the potential impact on equipment performance or longevity after extended DLC uses. The key concern raised was the impact on longevity of compressor / pumps where their effective life may be shortened through cycling in a manner not appropriate for long term sustainability of the equipment. The issue of effectively shortening of the life of such equipment then risk becoming a longer-term cost to the consumer that may outweigh the benefits in energy savings. Unfortunately, there is a lack of evidence to either confirm or deny this position but it is an issue that needs to be considered due to the consumer's assumption of capital cost risk.

Overall, most of the technology required to implement DSP options noted in the Issues paper are available. However, in many cases they are cost prohibitive for the consumer to invest in with minimal or no direct return and the costs are not quickly recovered through energy savings. The benefits of technologies (e.g. self-generation, more efficient equipment) and behaviour change (load shifting, avoided energy consumption) may provide overall benefits to the supply side but these have not clearly been quantified and at this time there are no clear mechanisms to share this value amongst the relevant market participants.

Market conditions

Pricing options, products and consumer incentives

There are a number of market conditions that are required for effective implementation of consumer DSP including:

- Agreements within the market that are approved by regulators must allow for an equitable direct transfer of value between market participants. For example, if a consumer is to adopt DSP they must have the value of that DSP reflected in the price they pay to, or rebate they receive from, a retailer and a retailer must be able to receive any benefits from their suppliers to support this based on the impact of these savings;
- Additional administration costs and other transaction costs should be minimised and limited to a recovery of cost with no profit component where there is a pass-through of benefits;
- Any relevant state based legislation or regulations should not prevent a fair transfer of value to point at which the benefit / value is derived which is particularly pertinent to utilities owned or controlled by government; and
- Market rules should be flexible enough to cater for varying uptake of catering for the fair transfer of the value DSP across different levels of the network and between participants.

From the outside of the industry looking in, it is difficult to ascertain whether the business models for retail and network businesses are supportive of DSP. Based on consolation across the industries, including energy efficiency specialists, there was a noted lack of understanding of how their business models work, particularly on the benefits of energy efficiency / DSP for retail businesses. The general view was "*what's in it for them is they are selling less kilowatts to customers*?". While those who are familiar with the retail business model can acknowledge the issue of high spot pricing, unhedged positions etc. and the effect that this can have on retail margins, there is a remarkable lack of knowledge from consumers on how retailers can benefit. Furthermore, this lack of understanding of the drivers for DSP extended to some degree to network operators as well. A lack of understanding of the benefits to retailers and networks by consumers can engender cynicism about the supply side's perceived actual interest versus the mere payment of lip-service to energy efficiency or DSP because it is required of them. This cynicism can taint consumer views of the true value of these activities to supply side businesses and act as a disincentive to uptake.

Pricing

In many cases there are direct and indirect subsidies and price controls in retail markets which do not reflect a true cost of energy being paid by the consumer, particularly those who operate under a flat rate (non-time of use) tariff. ToU tariffs reflect better the time-value of energy but are not universal. In addition to the consideration of ToU tariffs, other pricing mechanisms such as inkling block tariffs (IBT) can provide price signalling to consumers to assist in offsetting or being more efficient in their use of energy.

The issue of cost reflective pricing, particularly for vulnerable consumers, is problematic. Price signalling through cost reflective tariffs is only effective where the consumer has the information, ability and incentive to act on the signalling in a timely manner. Without real time or near- real time information, the price signal becomes a price shock when the consumer receives the bill. Then there is subsequent rationalization, which minimises the impact of price signals, diluting their overall effect. While this can be mitigated through the use of technology (interval metering with easily accessible information for the consumer), there must be a direct incentive to act in their own interests. Unfortunately, consumers are not always able to act rationally, with complete information in their own interests and to achieve longer-term outcomes, some positive incentive in terms of pricing to encourage correct behaviour is also needed (the carrot & stick approach).

Information

Consumer availability of information, as previously noted, is limited unless they had already invested personally in the technology from their own motivation, although some may have adopted it through subsidies under the Solar Cities program. Without good information, on consumption, consumers must rely either on very general recommendations on behaviour change. Most consumers are aware to a degree about energy saving but often there is a lack of specific knowledge on how to select and use home appliances etc. in an efficient manner. Much of the focus of consumer programs has been to reduce overall consumption or to try to shift peak usage, but the effectiveness of these programs is arguable considering the consistent growth of both total consumption and peak demand.

On the issue of appliance consumption, there are very few opportunities for consumers to ascertain specific information on the energy consumption performance of specific home appliance and white goods. Overseas websites such as Sust-it (http://www.sust-it.net/) provide an example of comparisons for shoppers in choosing their appliances based on energy consumption for minimising energy use. We have not yet been able to find a similar site that shows brands and pricing available for Australia. However, comparison sites such as this are possible and can be extended to assist consumers in modelling their energy consumption based on the appliance and their consumption behaviour. A website format such as this (combining both data and behaviour patterns) could also assist in conveying consumer information on energy efficiency and consumption management as well

as how they may become involved in DSP. Obviously, there is a degree of consent and collaboration required from manufacturers / distributors in maximising the informational value of such a site.

Incentives to invest and access to capital

The issue of capital access to consumers for the implementation of DSP can be a significant one as:

- there is often an uncertain or unknown payback in this implementation of domestic energy efficient / DSP measures;
- Those most sensitive consumers to energy pricing – primarily low income earners, retirees etc. may not be able to afford the capital expenditure or pay higher cost of capital (i.e. higher interest rates, loan refusal etc.) to install or manage more efficient appliances or energy management systems;
- Individuals may already have a debt burden that would make access to additional capital problematic;
- Consumers may have internal "competition for capital" where other capital expenditures have a higher priority to them than energy savings, particularly if energy is not seen as a high priority item; and
- The current economic conditions and financial uncertainty from the "two speed" economy may act as a disincentive to make capital investments in this area;

Split incentives affects energy efficiency across the supply chain and the misalignment of incentives needs to target the affordability of options for consumers and to target what benefits will accrue and who will be able to exploit them. Most options that address the issue of split incentives involve some form of transfer of capital to revenue expense, which is taking away the "up-front pain" in incurring the expenditure and spreading both cost and benefits across an appropriate time period. Issues regarding access to capital can be addressed through potential alternative financing options such as vendor financing opportunities property assessed clean energy funding (PACE funding) schemes

Technology and system capability

Current technologies are available to support consumer DSP in the market but the technologies have only had a limited application in some areas, or where there has been broad roll-out, it has not enabled consumer adoption of DSP due to poor implementation (e.g. Victoria's smart grid program). The key barrier to their adoption is the high cost of network oriented technologies to enable adoption of DSP opportunities;, often where there is a pass through of these costs to consumers in terms of upgrading infrastructure but with a lack of consumer side benefits being delivered.

Unless there is some for of interval based, bi-directional metering in the majority of consumer residences, this becomes adoption rate limiting as only those consumers with this technology may be able to effectively be encouraged to adopt DSP and have the appropriate knowledge / information to act on it. Some consumers will not adopt any form of DSP through choice; others may not do so through lack of understanding/ or knowledge to derive the benefits and others because the technology is not yet available to them. However, we would reiterate that without the information being available for consumers to act in a timely manner, then the technology aspect, from the consumer side, risks being perceived as having no benefit to them, which acts as a disincentive to any DSP activity.

On the matter of tariffs and pricing, innovative tariff models that deliver perceived value to consumers can act in encouraging uptake although they do need to reflect the benefits to both sides of the market, supply and consumption.

On the matter of consumer information privacy, consumes should have the choice on what information may be available to market participants, and this needs to be explicit, rather than a general permission. That is consumers should choose what information to share and what

information to keep private as well as whom this information can be shared with. The privacy mechanisms which enable the integration of smart grid technologies and / or DSP behaviour is problematic as there are conflicting interests between consumers and market participants in this matter. Informed consent from consumers on what to share and with whom is the minimum acceptable standard.

Energy efficiency measures and policy

As noted in the issues paper, there are too many energy efficiency schemes to examine in detail and it would be pointless to do so. The key schemes that need to be considered in respect of DSP opportunities on the NEM are:

- Retailer efficiency obligations;
- 'White certificate' schemes at both state and federal levels;
- minimum energy performance standards for appliances; and
- building standards for thermal efficiency which impact on peak energy consumption through heating and cooling.

Energy efficiency schemes cover a broad range of aspects but generally focus on total demand reduction rather than dealing with peak load issues and therefore efforts should focus around peak management as well as the reduction in total demand to maximize its effectiveness in reducing supply side costs, which benefit both supply and consumption sides of the market.

About the Sustainable Energy Association of Australia (SEA)

The peak body for sustainable energy

SEA promotes the development and adoption of sustainable energy technologies and services that minimise the use of energy through sustainable energy practices and maximise the use of energy from sustainable sources.

SEA 2030 VISION

'On behalf of the people of Australia, the Association will vigorously promote the development and adoption of sustainable energy so that by the year 2030 more than 30% of Australia's energy use in and across all states and territories is displaced by sustainable energy practices so that energy demand is more than 30% below that measured in the year 2000, and that more than 30% of energy use is derived from sustainable sources.'

About SEA

SEA is a chamber of businesses variously promoting, developing and/or adopting sustainable energy technologies and services that minimise the use of energy through sustainable energy practices and maximise the use of energy from sustainable sources.

SEA is building relationships with businesses that aspire to be more sustainable in their own energy use, are providing the commercial solution to climate change through their products and services, or indirectly through their actions adopting more sustainable energy practices in their own business. Many businesses are acting to support the development of the best policy outcomes for the industry by becoming SEA members.

The role of governments is to build frameworks of governance that establish clear market signals for change and growth, and allow Australia's innovative businesses to respond and deliver market-based solutions.

A key role of SEA is to offer policy options to governments building those frameworks.

SEA supports action on sustainable energy in every region and in all sectors of Australia's economy.

SEA Contact Details

Prof Ray Wills, Chief Executive Officer (ceo@seaaus.com.au)
Neil Prentice, Advisory Services Manager (nprentice@seaaus.com.au)
Sustainable Energy Association of Australia (SEA)
GPO Box 2409 PERTH WA 6000
(08) 9228 1292
www.seaaus.com.au

SEA Corporate members