2 September 2011

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

energex
positive energy

Dear Mr Pierce

EPR0022 – AEMC Issues Paper - Power of Choice

ENERGEX welcomes the opportunity to respond to the Australian Energy Market Commission Issues Paper *Power of Choice – giving consumers options in the way they use electricity.* Based in South East Queensland, ENERGEX distributes electricity to one of Australia's fastest growing regions servicing more than 1.3 million residential, industrial and commercial customers.

Solid economic growth, an expanding population and the ever increasing use of energy-intensive appliances continues to result in higher peak demand which is a primary driver of network investment. ENERGEX believes greater Demand Side Participation (DSP) by all participants in the market will encourage optimal utilisation of energy system resources and therefore assist in managing the current and future price impact of peak demand.

As a distributor, ENERGEX is required to meet established service standards in regard to the provision of safe and reliable electricity. Demand Side solutions have a different risk profile to traditional supply side solutions and this difference must be recognised and addressed as part of the promotion of DSP in the market.

ENERGEX supports flexible market and regulatory arrangements that provide customer choice and allow ENERGEX to work directly with customers for the purposes of network management. ENERGEX considers cost reflective pricing as the foundation for DSP, with a suite of complementary measures including customer engagement and awareness, key to effective growth of DSP options in the market.

Attached is ENERGEX's response to the key points raised in the Issues Paper. ENERGEX looks forward to providing more detailed input to the AEMC as the consultation develops and the material issues emerge. Should you require any further information please contact Louise Dwyer, Group Manager Regulatory Affairs (07) 3664 4047.

Yours sincerely

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Submission Paper

AEMC Issues Paper
Power of choice – giving consumers options in the way they use electricity

ENERGEX Response

August 2011

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1 Introduction

ENERGEX Limited (ENERGEX) welcomes the opportunity provided by the Australian Energy Market Commission (AEMC) to submit comments on the Issues Paper *Power of choice – giving consumers options in the way they use electricity.*

ENERGEX supports the importance of a robust and consultative approach to electricity market reform. Providing market and regulatory arrangements which promote the growth of demand side participation in the market is critical to delivering the optimal utilisation of energy industry resources and systems.

1.1 Key Points

ENERGEX is committed to delivering safe, reliable and affordable electricity in a commercial environment that recognises the need to balance customer outcomes with effective risk and price management. As an electricity distribution business operating in the national electricity market, the challenge for ENERGEX is meeting peak demand at a price customers are prepared to pay.

Solid economic growth, together with increasing population numbers and the ever increasing use of energy-intensive appliances such as air-conditioners, computers and large screen televisions is resulting in higher peak demand. Accordingly, meeting customers' peak demand continues to play a major part in ENERGEX's service delivery challenge.

Demand during peak periods drives network investment. ENERGEX supports greater Demand Side Participation (DSP) in the market through market and regulatory arrangements which encourage the optimal utilisation of energy system resources.

ENERGEX supports the position set out in section 3 of the Issues Paper that:

> *"The optimal (efficient) use of resources from a societal viewpoint will occur when the lowest cost combination of DSP and traditional supply solutions is used to meet demand".*

Key points for ENERGEX are detailed below:

- ENERGEX, as an electricity distributor, is required to deliver established network security, power quality, and reliability standards. It is important that the impacts of any market and regulatory changes be considered holistically. Some DSP options carry a greater risk then traditional supply-side solutions in relation to

reliability risk and commercial and technology risk. As a result, legislative requirements (e.g. Minimum Service Standards and Guaranteed Service Levels) should be reviewed in conjunction with any proposed changes to promote greater DSP in the National Electricity Market.

- Demand Side Participation/ Demand Side Management/Network Demand Management is key to the provision of economically efficient energy supply systems and networks. From the perspective of addressing network and generation sector capital investment, reducing peak demand is more important than encouraging increased energy efficiency.

- Market and regulatory arrangements must support and promote efficient DSP options and provide customer choice. ENERGEX requires the ability to provide DSP services to customers directly for the benefit of customers and network security and management.

- It is important customers are aware of the impact of their consumption and demand decisions and are engaged to act through efficient energy prices and incentives. Greater customer awareness and market initiatives can influence the uptake of appliances capable of demand management and support the development and uptake of technology such as home energy management systems, smart appliances, energy storage and smart networks. New 'smart grid' technologies enable load management at a 'local' level. This is important as each part of the network has a varying amount of capacity and reaches peak demand periods at different times of the day based on customer demographics, type of business and industry.

- ENERGEX notes existing market mechanisms and regulatory arrangements support the growth of DSP through broad-based delivery programs and funding for DSP research and development. The Demand Management Incentive Scheme (DMIS) allows for expenditure on DSP particularly in the areas of research, development and information, and ENERGEX supports its continuation.

ENERGEX understands the AEMC is planning extensive consultation with the industry prior to finalising the 'Direction Paper' that follows this Issues Paper and looks forward to contributing to the AEMC's consultation process.

2 Response to Questions

ENERGEX's responses to the questions raised in the Issues Paper are provided below.

2.1 Methodology and assessment

Questions	Methodology and assessment
1.	Chapter 3 outlines our approach to identifying "market and regulatory arrangements that enable the participation of both supply and demand side options in achieving an economically efficient demand/supply balance in the electricity market." Do you agree with our approach?
2.	How should the benefits of DSP be measured? Can they be accurately quantified?
3.	What are appropriate discount rates to apply to DSP investments for the various parties across the supply chain?
4.	Are there other issues which we should consider in our assessment process and criteria?

ENERGEX notes the following key points in relation to methodology and assessment:

- As network assets are built to service capacity requirements ENERGEX considers quantifying costs of capacity (megawatt) is more relevant than measuring on a consumption basis (megawatt hour).

- Existing incentive models that operate across the electricity supply chain do not always align on the issue of peak demand. For example, electricity retailers are more driven to manage wholesale market price risk calculated using 'whole of system' peak capacity while electricity distribution businesses are more driven to manage network security concerns caused by 'localised network' peak demand.

- An important consideration in the provision of DSP products and services is evaluating the 'channels to market'. The introduction of new DSP initiatives requires the establishment of clearly aligned market supply chains as incentives in one part of the supply chain may not apply to other parts e.g. in the case of air-conditioning load control devices it is important incentives are aligned across appliance manufacturers, electrical retailers, air-conditioning installers and

government incentive programs to encourage the use of these load control devices.

- The distinction between 'firm' versus 'non firm' demand reductions is important as network obligations are to meet demand on successive peak demand days. Non firm measures will need to include diversity factors in order to assess their value to the network.

2.2 Consumer participation and DSP opportunities

Questions	Consumer participation and DSP opportunities
5.	What are considered the drivers behind why consumers may choose to change their electricity consumption patterns? Please provide examples or evidence where appropriate.
6.	Chapter 4 lists some plausible DSP options that are currently used or could be used by consumers. Are there any other plausible DSP options currently used by consumers that have not been identified? Please provide description of measures and examples, where available.
7.	Are there DSP options that are currently available to consumers, but are not commonly used? If so, what are they, and why are they not commonly used (i.e. what are the barriers to their uptake)? Please provide examples and evidence if available.
8.	Are there other DSP options that are not currently available to consumers, but could be available if currently available technologies, processes or information were employed (or employed more effectively) in the electricity (or a related) market?

ENERGEX notes the following key points in relation to consumer participation and DSP opportunities:

- As energy prices increase, customers are more likely to actively seek options to manage energy bills. Whilst price is a key driver for changing consumption patterns, there are constraints on the number of appliances/devices that can be used for DSP due to technology and lifestyle requirements.

- Research shows that customers are concerned about their electricity costs but are unsure how to mitigate this effectively. The link between customers' appliance usage and their energy consumption on the bill appears to be weak e.g.

customers are concerned air-conditioners are expensive to run but are unable to quantify specifically what amount or percentage of their energy consumption relates to air-conditioner use.

- There are a range of possible options to influence customer's consumption patterns. Approaches include pricing incentives and customer education on the drivers of network investment that are supported by technology options which enable understanding and monitoring of electricity usage patterns.

- ENERGEX considers there are a number of other plausible DSP options in the market that may add value to customers whose uptake can be encouraged through flexible pricing and incentives. These opportunities include air-conditioning and swimming pool pump demand response, incentives for energy storage for peak shifting and power quality, load limiting devices and home energy management systems (HEMS) and smart appliances.

- The predominance of accumulation energy meters in the market and the inability to provide capacity charging signals are barriers to the uptake of DSP options.

- Customer research indicates customers prefer automated solutions that meet lifestyle requirements with minimal effort i.e. set and forget. Direct load control options enable customers to participate without having to manually interact with appliances once a pricing signal is sent.

- Policies that encompass a 'whole of community' approach to energy and demand efficiency may offer some of the lowest cost alternatives to traditional supply-side solutions. For example, varying the start and finish times of businesses, encouraging urban design to enable people to work closer to home, utilising flexible working hours and work from home policies and increasing public transport off peak capability may be considered cost effective alternatives.

2.3 Market conditions required for efficient DSP outcomes

Questions	Market conditions required for efficient DSP outcomes
9.	What are considered the relevant market conditions to facilitate and promote consumer take up of cost effective DSP?
10.	Are there any specific market conditions which may need to be in place to enable third parties to facilitate consumer decision making and capture the value of flexible demand? Please provide examples and evidence as appropriate.
11.	What market conditions (technologies, processes, tariff structures, information etc) are needed, that are not currently employed in the electricity market, to make other DSP options available to consumers?

ENERGEX notes the following key points in relation to market conditions required for efficient DSP outcomes:

- ENERGEX supports market conditions and efficient incentives that encourage the growth of DSP options by enabling consumers to capture the value of flexible demand.

- Market conditions required to facilitate DSP options include information and education so customers understand how their choices impact on the cost of energy delivery and pricing and incentives to promote the development and uptake of new technology such as home area networks (HAN), HEMS and smart appliances.

2.3.1 Consumer incentives to respond - pricing

Questions	Pricing
12.	Do you consider retail tariffs currently reflect the costs to a retailer of supplying consumers with electricity?
13.	Are any changes needed to retail price regulation to facilitate and promote take up of DSP?
14.	Do the charges to retailers for use of transmission networks reflect the value of that use?
15.	Do the charges to retailers for use of distribution networks reflect the value of that use?
16.	Do all consumer groups, including vulnerable consumers benefit from having cost reflective prices in place? If not, are any special provisions required to protect certain classes of consumers?

ENERGEX notes the following key points in relation to pricing:

- ENERGEX network prices are approved by the Australian Energy Regulator (AER) on an annual basis and must comply with Chapter 6 of the National Electricity Rules. ENERGEX applies a set of pricing principles which are intended to meet these obligations and to guide the formulation of robust tariffs over time. The principles are cost-reflectivity, efficient use of the network, free from cross subsidy, equity, price stability and simplicity. ENERGEX's network prices seek to recover the cost of distribution and transmission network services through a cost reflective, combined network use of system charge (NUoS).

- Cost reflective from a network costing perspective means recognising the fixed nature of network costs. ENERGEX supports cost reflective retail tariffs and the direct pass-through of network costs for all customers through retail tariffs. Incentives to shift energy usage include Time of Use (TOU) and Critical Peak Pricing (CPP) rates.

- ENERGEX is of the view that sending cost reflective price signals to customers in regard to their usage of the network will provide significant benefits in terms of encouraging customers to minimise demand at peak times and in the long term reducing the total cost of delivered energy. Consumers will be more aware of the impact that their usage has on infrastructure requirements to meet demand and, have the option of adjusting their usage patterns to benefit from lower prices.

However where groups of customers are unable to shift load for various reasons, other financial incentives may be considered.

2.3.2 Consumer willingness to respond – information

Questions	Information
17.	To what extent do consumers understand the how they can reduce their electricity bill? What information do consumers need in order to increase their understanding of how they can reduce and manage their electricity consumption and hence bills?
18.	What issues are associated with provision of existing information in the market? Are there arrangements that could improve delivery of such information? If so, how and by whom?
19.	Could better information be provided to consumers on the actual consumption of individual appliances and pieces of equipment? If so, what information could be provided and in what form?

ENERGEX notes the following key points in relation to information:

- Current policies such as the Queensland Government's ClimateSmart initiative, Minimum Efficiency Performance Standards (MEPS) and appliance ratings are encouraging steps towards making information available to customers. However from a distributor's perspective they do not specifically deal with the critical issue of peak demand.

- Peak demand usage has driven significant growth in network investment over the last decade. As mentioned previously the application of cost reflective prices is one of the key ways to provide customers with a clear signal of the impact of both the volume and timing of electricity usage. Reflecting the cost of peak usage via ToU prices (a form of indirect load control) can be an incentive for individual consumers to shift load or change usage patterns.

- Customers would benefit from both cost reflective price signalling and general education on appliance energy consumption. Research indicates consumers generally have a limited understanding of what drives their bills or how they can reduce these effectively.

- ENERGEX considers better information could be provided to customers in a number of different ways. The aim would be to assist customers to understand the

relationship between appliance energy demand and consumption and the total energy usage and total bill in a clear and simple manner.

  - To help address this issue ENERGEX and Ergon Energy are jointly developing an energy information portal to provide a definitive source of reliable information about the relationship between energy conservation and demand management. The portal will provide consumers with Queensland centric information about the actions they can take to reduce their full cycle energy and energy infrastructure costs both now and into the future.

- ENERGEX considers the combination of new technologies such as the National Broadband Network, smart networks, home energy management and smart appliances will support the provision of greater information to consumers and a greater ability to manage their energy use through choice.

2.3.3 Consumer willingness to respond - Pricing options, products and consumer incentives

Questions	Pricing options, products and consumer incentives
20.	Are retailer and distributor business models supportive of DSP?
21.	What incentives are likely to encourage research and development of other parties to promote efficient DSP?
22.	Are there any regulatory, cultural or organisational barriers that affect take up of DSP opportunities?
23.	What form of commercial contracts/clauses are required for facilitating and promoting efficient DSP?

ENERGEX notes the following key points in relation to pricing options, products and consumer incentives:

- Current retailer and distributor business models could be seen to provide mixed messages to consumers. While consumption is an issue for consumers, peak demand is the main issue for distributors and this is different again from the main hedging drivers / pressures for retailers. Any incentive model should recognise and optimise alignment for consumption / energy savings by customers with peak demand reduction for distributors and optimal hedging controls for retailers. ENERGEX believes peak demand signalling capability in the market should be

expanded. The market structure for DSP and signalling of peak demand events needs to be able to operate autonomously as network peak demand events are not always aligned to pool price spikes in the wholesale market.

- The current jurisdictional and legislative requirements on distributors in relation to network security and reliability of supply limit the incentives to deploy DSP due to the inherent risk associated with the use of some DSP options and the absence of risk acknowledgement in relation to network security and reliability requirements.

- Research indicates that incentives connected to appliance use are effective in motivating customers to participate in DSP. Consumer adoption of appliance linked incentives will help drive DSP market opportunities for industry participants.

- The promotion of products that reduce peak demand whilst having no / or limited impact on consumer comfort, may encourage consumers' willingness to respond and provide significant reductions in network peak demand e.g. AS4755 compliant air-conditioning.

- Some DSP products and services carry a higher risk to network management than traditional supply-side solutions. Contracts must acknowledge the riskier nature of these DSP options and incorporate a level of flexibility and risk sharing between network operators and third party commercial operators. Contracted DSP alternatives must balance risk in a way that allows network operators to appropriately compare them with lower risk traditional infrastructure solutions.

2.3.4 Consumer ability to respond - Incentives to invest and access to capital

Questions	Incentives to invest and access to capital
24.	Are there specific issues associated with investment in infrastructure that is needed for consumers to take up DSP opportunities?
25.	Do you consider that the issue of split or misaligned incentives has prevented efficient investment in DSP from taking place?
26.	What are potential measures for addressing any issues associated with split or misaligned incentives?
27.	What are the specific issues concerning ease of access to capital for consumers and other parties?

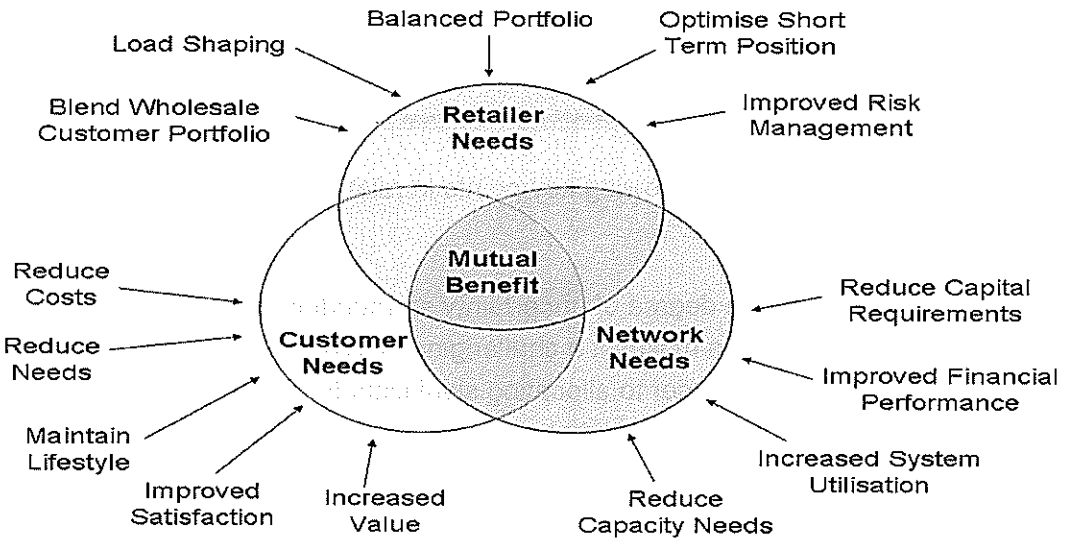
ENERGEX notes the following key points in relation to incentives to invest and access to capital:

- ENERGEX believes regulatory arrangements must provide an appropriate level of return for DSP options, including acknowledgement of the varying levels of risk and reliability.

- ENERGEX agrees with comments made in the Issues Paper that split and misaligned incentives currently exist in the disaggregated electricity market. Misaligned incentives have been assessed to have an impact on the business case for smart grid technologies, particularly energy storage which is central to a smarter grid providing benefits across the supply chain.

- ENERGEX's assessment is that there are mutual and exclusive benefits of DSP across the energy supply chain as set out in the figure below.

Figure 1 – Value across the electricity supply chain of managing peak demand



- ENERGEX supports market and regulatory changes that enable the full benefits of managing peak demand to be realised across a disaggregated electricity supply chain. A market mechanism which facilitates peak demand benefits sharing arrangements between the various market participants may be one way to realign business models across the supply chain. However, such a mechanism would need to avoid being overly prescriptive.

- ENERGEX believes market and regulatory arrangements that facilitate flexible business models to encourage greater market competition and reward innovation, may be a significant incentive to the development of greater DSP options and 'smart grid' technologies. However, any changes need to recognise network distributors' security and reliability obligations.

2.3.5 Consumer ability to respond - Technology and system capability

Questions	Technology and system capability
28.	What are the significant energy market challenges in optimising the value of technology and system capability to facilitate an efficient level of DSP?
29.	Do current technology, metering and control devices support DSP? If not, why not, and what are considered some of the issues?
30.	How can issues relating to weak and/or split incentives be addressed to ensure that the benefits of smart grid technologies are aligned and felt across the electricity supply chain, including by consumers?
31.	How can pricing signals/tariff arrangements be made complementary with smart grid technologies to facilitate efficient DSP in the NEM?
32.	In maximising the value of technologies, such as smart grids for DSP, what are the issues relating to consumer protection and privacy?

ENERGEX notes the following key points in relation to technology and systems capability:

- There is a large degree of uncertainty surrounding the development of new technology. This makes it a challenging environment for investors who require a level of certainty prior to allocating significant funding to electricity infrastructure development. Energy market participants are reluctant to preferentially support any particular developing technology when there is a risk that the investments may be stranded should technology evolve differently.

- Prior to investing large amounts of capital in new technology it is critical for market participants to understand customers differing requirements and what particular segments of the market are willing to pay for DSP options.

- ENERGEX considers there could be a significant cost impact to cater for the amount of information technology infrastructure required over the medium term to manage the increased data requirements from a smart grid in the absence of the DSP benefits of a smart grid being realised.

- ENERGEX believes that understanding a range of capabilities in relation to DSP technologies including, diversity factors, resource availability (duration, frequency)

and expected customer acceptance, is required to effectively evaluate an efficient level and mix of DSP.

- ENERGEX considers smart meter load limiting devices that can provide warnings to customers when they reach a certain level of utilisation triggering a shut down of the electricity supply is an important capability in assisting customers understand and manage their demand. While this capability exists its benefits have not been assessed or implemented anywhere in Australia although it has been widely adopted in Europe.

- Customers need clear signals which allow them to understand the required response to a DSP event, education to move from a highly manual process to a fully automated service and market capability to deploy 'set and forget' options, particularly if a customer is not available to respond to a DSP event and would be penalised with higher rates.

- ENERGEX believes cost reflective pricing will create market opportunities that encourage appliance industry participants to facilitate the cost effective delivery of smart grid technologies to customers.

2.4 Market and Regulatory arrangements

Questions	Market and regulatory arrangements
33.	To what extent do parties have appropriate incentives to put in place the systems, technologies, information flows etc that facilitate efficient DSP?
34.	Are there aspects of the NEL or the rules which prevent parties taking actions that would otherwise allow for more efficient levels of DSP?
35.	Are there market failures which mean regulation is needed in some areas to ensure appropriate market conditions are in place?

ENERGEX notes the following key points in relation to market and regulatory arrangements:

- ENERGEX supports market and regulatory arrangements that recognise the broader market benefits delivered through distributor's DSP programs and that many customer DSP programs require broad-based network-wide approaches to demand side management in addition to location-specific solutions.

- ENERGEX believes changes to market and regulatory arrangements should be made holistically and consider the interplay between network operators' legislated network security and reliability obligations (i.e. MSS, GSLs etc) and the increased commercial and technology risk some DSP options carry.

2.5 Energy efficiency measures and policies

Questions	Energy Efficiency measures and policies
36.	What energy efficiency policies and schemes should be considered as part of this Review, i.e. as impacting on, or seeking to integrate with the NEM?
37.	To what extent can energy efficiency policies and schemes be adopted as options for enhancing the efficiency of DSP in the NEM? What are the strengths and limitations of energy efficiency policies as a DSP option compared to other options?
38.	To what extent do existing retailer obligation schemes facilitate efficient choices by consumers in their electricity use? Are there aspects of those schemes facilitate efficient consumption choices more than others? If so, please explain.

ENERGEX notes the following key points in relation to energy efficiency measures and policies:

- A greater industry focus on peak demand reduction would result in better consumer electricity price outcomes as peak demand is a significant driver of increased network infrastructure costs. From the perspective of addressing network investment, promoting the ability to reduce customer's peak demand is more important than promoting energy efficiency. The optimum policy outcome is for energy efficiency and DSP options policy to work concurrently to reduce costs.

- Energy efficiency may not necessarily lead to better peak demand outcomes. For example electric boosted solar systems are very efficient in terms of electricity consumption but the timing of the 'booster' operation can increase peak demand significantly. If this demand coincides with a network load peak this can drive up infrastructure investment even though customers may be simultaneously reducing their overall consumption.

- ENERGEX acknowledges the valuable work done on the AS4755 suite of Australian Standards regarding demand response enabling devices (DREDs) for electrical appliances. Further, the extension of the current minimum energy performance standards (MEPS) energy efficiency ratings to also include demand response enablement would bring an important additional ability to give customers information, and lead to further management of peak demand.

- ENERGEX supports clear messaging to consumers in relation to the difference between energy efficiency policies and schemes as distinct from policies and incentives focussed directly on peak demand. Energy conservation, energy efficiency, peak demand and renewable generation policy need to come together as part of an overarching environmental package for the electricity market.

- ENERGEX notes retailers encouragement of energy efficiency for customers. However as mentioned above, this can at times exacerbate peak demand if the energy efficient appliance is used at peak times. ENERGEX believes that common messaging and application of DSP is necessary to deliver total energy supply system benefits.