

# Energex

Response to Queensland Productivity  
Commission (QPC) Issues Paper

Electricity Pricing In Queensland: 16 November 2015



positive energy

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## Version control

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1.0	16 November 2015	Submission to Queensland Productivity Commission

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# 1 Introduction

The Queensland Productivity Commission (QPC) released its Issues Paper for the Electricity Pricing Inquiry (EPI) on 14 October 2015.

Energex understands that the primary objective of the EPI is to examine electricity pricing in Queensland and provide the Government with future options that improve outcomes for consumers.

In meeting the future network challenges, Energex recognises that a strong partnership with Government, retailers, customers, and the community is critical and welcomes the opportunity to provide input to this Inquiry.

Energex's submission has been guided by the following key themes:

- 1) Ensuring efficient costs for customers,
- 2) Providing choice and control for customers,
- 3) Promotion of economic development for Queensland by acting in the long term interests of customers, and
- 4) Facilitation and integration of low carbon energy options (including renewable energy).

Government has a key role to play in setting the policy objectives, providing oversight, and establishing the legislative and structural frameworks for the industry considered in the context of the national electricity regulatory framework. Once set, Energex and other market participants can respond and implement commercial targeted strategies in line with the policy. It is important that the regulatory and policy settings for the distribution networks allow for innovation and adaptability in responding to the dynamic changes currently facing the industry.

Electricity prices for customers can be reduced through the removal of inequitable cross subsidies between customer groups and the expansion of the range of services provided using the existing capability and capacity of the businesses. This improvement in energy productivity will benefit all customers. In addition it must be ensured that where low carbon and other initiatives increase costs, these are borne by those who benefit rather than vulnerable customers who cannot.

The QPC has invited submissions on the issues paper by 16 November 2015.

Responses to the specific questions raised in the issues paper are outlined in Section 4.

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## 2 Supporting key themes

### 2.1 Ensuring efficient costs for customers

With the changing external environment, the business models across the electricity supply chain needs to be flexible, adaptable and provide the best value for customers in the delivery of electricity services.

Energex sees the future connective network being underpinned by appropriate pricing mechanisms that support customer equity and choice while supporting least cost energy solutions.

Over the last regulatory period (2010-15) Energex has pursued and delivered efficiencies in its capital and operating programs. These changes have been incorporated into Energex's 2015-20 program of work and will continue to impact the way Energex plans, maintains and operates the network.

Energex has identified the following areas for continued productivity improvement:

- Energex's network tariff reform program, which is aimed at providing customers with improved cost reflective pricing signals to encourage efficient network use.
- Increased use of new technology will enhance the provision of Energex's network services and will lower future capital expenditure requirements.
- Delivery of the synergies and on-going efficiencies identified through previous Government reforms and by Energex which will result in reduced costs and enhanced operational capabilities.
- Continuing to ensure that administration and regulatory requirements, both internally and externally imposed, do not inhibit competition (including in unregulated services offered by distributors), business efficiency and streamlined business practices.

### 2.2 Providing choice and control for customers

Though the nature of energy use is changing, there will be a continued role for Energex. For the foreseeable future, distribution networks are essential to both the traditional delivery of electricity (ie via the electricity supply chain) and the enabling of customers to have increased choice and control around their energy consumption decisions (eg through the use of alternative energy solutions).

Under the national electricity framework, network businesses, retailers and other market participants all have a role in working collaboratively in providing customers with choices. Energex anticipates that the changes in technology and energy markets, in addition to tariff reform, will also provide customers with more choice and control over what type of energy they use and when and how they use it. The policy and regulatory framework needs to support an efficient market as it evolves whilst ensuring the long term interests of customers are directly considered.

In response to recent National Electricity Rules electricity distribution pricing changes, consumer feedback and the AER's 2015-20 revenue determination, Energex has reviewed its network tariffs and is now commencing a tariff reform program. Energex's tariff reform program seeks to ensure that network tariffs are more appropriately aligned to the way

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network assets are used, operated, maintained and replaced. This will achieve greater network efficiency, reduction in network investment, the removal of internal cross subsidies, and enable more efficient investment in emerging technologies.

Energex is committed to consulting and engaging with customers on tariff reform and providing customers with tariffs that give them options to better control their own energy costs whilst also ensuring the efficient use of the network.

We also support the use of incentives to encourage effective utilisation of the network and design of tariffs to complement demand management options.

However, Energex is aware that any tariff reform needs to be introduced alongside measures to provide a safety net for vulnerable customers. These measures may be in the form of hardship policies and/or targeted concessional programs developed by Government as well as assistance programs provided by the electricity industry participants.

It is important to recognise that the move to more cost and value reflective tariffs requires advanced metering, and consequently the uptake of cost reflective tariffs is limited by the metering replacement rate.

## **2.3 Promotion and economic development of Queensland by acting in the long term interests of consumers**

Network infrastructure is predominately comprised of long life assets and therefore requires a longer term view of investment. Energex considers that the policy and regulatory framework settings must ensure adequate returns to the owners over the life of the assets and a level of certainty commensurate with expected returns.

More broadly, the regulatory and policy environment should encourage innovation and adaptability and not constrain any section of the industry in responding to changes.

A key priority for Energex is to continue to maintain an efficient and resilient electricity network whilst accommodating new and emerging technologies to meet future customer and business requirements. While it is important that the industry address the immediate challenges, the longer term resilience of the industry requires an ongoing commitment to be on the forefront of change.

The importance of a viable electricity network is integral to connecting consumers to new technologies and facilitating the provision of new energy services, which will best serve the long term interests of consumers.

## **2.4 Facilitation and integration of low carbon energy options**

Environmental policies (both at the Commonwealth and State level) can have a significant impact on adoption of new alternative energy technologies by customers. Where plans to support clean energy policy are provided through appropriate tariff packages (avoiding artificial incentives), this will help facilitate fair and reasonable pricing and greater choice and control for the customer.

Plans and targets need to ensure a good outcome for the overall energy industry including shareholders, customers, retailers and the environment.

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Any future plans and schemes need to consider success measures such as:

- Lowest cost energy production and delivery
- Optimal use of existing infrastructure and technology
- Catalyst for new and evolving technology
- Equity in the sharing of costs and benefits
- Focus on carbon reduction rather than supporting particular technologies – let the market respond in the most efficient way.

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## 3 Key recommendations

### 3.1 General

- Given the Queensland Government's multi-faceted role in state energy policy (eg COAG Participant, policy, regulator, shareholder) there is a challenge in balancing national and state policy development and implementation with the regulatory and operational aspects of the industry. Once policy is set by Government, Energex and other market participants should respond and implement strategies in line with the policy.
- A fit for purpose regulatory framework (which evolves with changes in the industry) is required which incentivises the productive and efficient use of assets and resources. This is a key element of any program to reduce electricity costs for customers.
- Where effective competition exists in specific regulated services, regulation should be minimised. Similarly, distributors should not be prevented from entering new unregulated service markets subject to appropriate efficient, minimal and contemporary ring fencing arrangements being in place.
- The regulatory framework should encourage efficient and effective investment, recognising the different risks of the market (and its participants) as it changes from a traditional supply model to an integrated, connective market with a range of new business models and approaches including collaborations between stakeholders in the industry.
- Stability in the policy and regulatory frameworks are required to provide certainty to customers, supplemented by an education role regarding the evolving energy market where there are information 'gaps' in the market.
- Regardless of any change in electricity industry structure, Energex is focusing on improving the efficiency of network service delivery through ongoing market and tariff reform. Effective and ongoing balance sheet management and review is also a key element of any industry futures program. In addition, three new areas of action should be considered, namely; strategic asset management, centres of excellence and emerging energy services.
- Key opportunity exists in the area of productive efficiency, including the best allocation of resources. This could involve lowering regulated business costs through alternative use and funding of infrastructure.

### 3.2 Tariff reform

- As Energex builds network for peak demand, not cumulative energy consumption, a shift to demand or capacity based charging (in addition to advanced metering) is important in order to provide signals for efficient consumption and investment decisions and improve outcomes for asset utilisation.
- Tariff reform needs to support the effective take-up of new technologies, including batteries and low carbon energy sources, which may lead to more efficient outcomes for customers and businesses. In particular, Energy storage systems have the potential to offer significant benefits to customers, giving them the ability to reduce electricity costs by storing excess energy for use during peak demand periods.
- Effective tariff reform is central to increasing choice and control for consumers. Customers must be provided with tariffs that give them options to control their own electricity costs and provide a genuine informed choice.

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- The Uniform Tariff Policy (UTP) should follow the objectives of the National Energy Market (NEM) and not constrain Energex's decisions through the application of subsidised tariffs across regional Queensland.
  - Changes to the legislative conditions of the solar bonus scheme (SBS) are required to support the position that installation of Battery Energy Storage Systems (BESS) should result in the removal of a customer's eligibility for the 44c/kWh Feed in Tariff (FiT). These customers will potentially receive significant additional benefits, from being able to store energy and control its release back into the network, which could be considered outside the intent of the original SBS legislation.
  - Price caps currently in place under section 226 and Schedule 8 of the Electricity Regulation 2006 should be lifted to remove market distortions and ensure more efficient outcomes for customers. Section 226 prevents Energex from being able to apply the AER-approved price for certain alternative control services and results in Energex incurring an ongoing loss, which is borne by the shareholder. Energex forecasts losses attributable to section 226 and Schedule 8 of \$65 million over the previous regulatory control period.

### **3.3 Emerging technologies**

- Renewable energy plans should be developed from a holistic perspective and take into account the environmental, economic and social elements of the options.
- Barriers to market participation for rental tenants, unit dwellers, vulnerable and hardship customers need to be removed wherever possible.
- Energex must continue to maintain an efficient and resilient electricity network whilst accommodating new and emerging technologies to meet future customer and business requirements.
- Where possible, the parties that are receiving the benefit of new technologies should proportionately share the costs of implementing the technology, including any costs associated with modifying the network, such as in areas where customers are net exporters of electricity into the grid.
- By targeting solar PV in predominantly commercial and industrial areas there would likely be a more localised reduction in the daytime peak demand on substation and feeder levels, providing a larger network benefit for all electricity consumers.
- As well as enabling the connection of new and emerging technologies, the distribution sector must be able to utilise the lower cost options to provide energy delivery and connection services to customers. An example is the current opportunity with solar PV systems, where network batteries would allow better generation/load matching with resultant improved utilisation of the existing network infrastructure.
- Customers could be provided with the option to invest in community owned 'solar farms' in order to overcome current barriers to market participation. Distributors have a critical role in facilitating these initiatives from technical, safety and economic perspectives.

### **3.4 Customer participation and support**

- Customer engagement needs to provide education/information that enables customers to make choices to benefit from changes or products/services. In addition, tailored education programs are required to support customers' responses and understanding of cost reflective tariff structures.

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- Tariff reform needs to be underpinned by appropriate transitional arrangements and customer protection mechanisms to minimise any adverse impact on customers and achieve the full benefits of reform.
  - Two key areas of support for vulnerable customers include:
    - the change and transition through tariff reform (eg metering costs)
    - ongoing support (long term hardship programs) through initiatives such as energy efficiency and demand management
  - Government, distribution businesses, retailers and customer groups need to work together on a coordinated approach to explore options to protect vulnerable customers.
  - Energex's experience has shown that the most effective way to incentivise customers' behaviour in order to reduce network costs is through a combination of upfront customer incentive payments such as Energex's PeakSmart reward scheme, and ongoing tariff benefits for customers who participate in demand management.
  - Incentives and jurisdictionally based standards can be used to increase the uptake of demand management and energy efficiency but need to be carefully considered to be avoid cross-subsidies, which further disadvantage vulnerable customer groups or create perverse incentives.
  - Energex recommends that a separate working group chaired by the government is established to examine options to protect vulnerable customers in more detail.

## 4 Question responses

### 4.1 Productivity in the supply chain

No.	Question	Response
2.1	Are there changes to the structure of the electricity supply chain and its regulation that might improve the efficient delivery of a reliable supply of electricity to customers?	<p>The electricity supply chain is changing from a linear supply chain (ie generation, transmission, distribution and retail) to one focused on increased decentralisation of electricity generation; as consumers also have their own generation and storage solutions. The electricity grid is an important socio-economic asset as it provides a platform for distribution, trade and consumption of electricity by consumers, prosumers and other market participants.</p> <p>Ongoing changes are inevitable with continued new entrants to the market (eg demand aggregators). Consumers are also taking a more direct and active role in the market both in terms of investment in alternative energy technologies, including distributed energy resources (DER), and adoption of energy efficiency measures, to minimise their exposure to electricity prices or their carbon emissions. In particular, energy storage systems have the potential to offer significant benefits to customers, giving them the ability to reduce electricity costs by storing excess energy for use during peak demand periods.</p> <p>New technology is supporting the evolution of the 'prosumer'; whilst also increasing consumers need for a reliable and safe electricity supply (eg increased adoption of digital equipment). Distributors will continue to play a vital role in this evolving market as they have a long term relationship with customers due to the long-lived nature of their asset base and as access to the network is essential for maximising the benefits of many new technologies.</p> <p>The electricity sector is also undergoing a period of structural reform, with incumbents looking at alternative ownership or governance arrangements to increase efficiency. In this environment, it is critical that market participants are innovative and adaptive, so that they can effectively respond to their customer's needs and technological developments.</p> <p>Energex's primary aim is to deliver a safe, reliable and cost effective electricity supply to our customers in South East Queensland. This objective is reinforced through our licence and regulatory obligations. As noted by our customers through the Customer Engagement Research Program, we currently have high levels of network reliability and performance, which has been achieved through significant investment over the past decade. It is important these standards are maintained as new technologies are connected to the network, both from a regulatory and customer expectations perspective.</p> <p>As a regulated network business operating under national electricity law and rules, Energex builds, operates and maintains its network to deliver safe, efficient, affordable and reliable quality of supply to its customers in accordance with the National Electricity Objective. Efficiency in terms of network investment and operation and use is therefore a primary ongoing objective for Energex consistent with the long term interests of consumers.</p>

No.	Question	Response
		<p>Over recent years there has been a significant level of regulatory reform at the national level aimed at supporting the evolution of the electricity market, driven by the emergence of new and improved technologies, including renewables, and a stronger focus on providing greater choices for energy consumers.</p> <p>Further changes to the national and Queensland regulatory and policy framework are needed to ensure the long term interests of consumers continue to be met and that vulnerable customer groups are not further disadvantaged. Whilst further change is needed; this change must be measured and be cognisant of the importance of certainty and stability to the long term performance of the national electricity market.</p> <p>The Queensland Government currently plays a multi-faceted role as it sets jurisdictional policy, influences the national energy policy agenda via the Council of Australian Government's (COAG) Energy Council, is responsible for the functional allocations specified under the Australian Energy Market Agreement (e.g. distributor technical/safety business authorisation and retail pricing) and is the shareholder of electricity businesses. A challenge therefore exists in the development of policy and its subsequent implementation.</p> <p>Policy development has become increasingly challenging due to the energy market becoming more dynamic. As demonstrated over recent years through the unanticipated rapid take-up of the Solar Bonus Scheme (SBS) including the 44c/kWh Feed in Tariff (FiT), there is an increased risk of unintended consequences. Separation between the policy setting and implementation functions of government may assist with reducing this risk, providing the policy is fully informed of implementation risks. Once the policy is set and a clear framework for triggering revisions has been developed, market participants can respond and implement commercially targeted strategies consistent with the policy.</p> <p>With an increased number of regulatory functions being prescribed and applied at a national level, there is an increased risk for regulated network businesses, such as Energex, being unable to recover their efficient costs due to jurisdictional policies that result in inefficient and inappropriate signals and hence poor customer outcomes. For example, with the introduction of full retail competition (FRC) in 1 July 2007 the Queensland Government established maximum prices that the Queensland Distributors could charge retailers and customers for certain fee-based alternative control services, through section 226 and Schedule 8 of the Electricity Regulation 2006 (Electricity Regulation). These price caps mean that Energex is often unable to recover its efficient costs as approved by the AER. Fee-based alternative control services which are subject to Schedule 8 include services such as de-energisations, re-energisations, meter tests and temporary connections.</p> <p>The Queensland Government's legislative price caps create significant market distortions, providing inappropriate signals to requesters of these particular services resulting in inefficient customer outcomes and losses to Energex (and its shareholders). Lifting the price cap under Schedule 8 or providing a price path to shift to the AER approved prices over time would improve the efficient delivery of these services (refer also response to Question 2.26).</p>

No.	Question	Response
2.2	<p>What are the key areas for productivity improvement across the electricity sector, and how could these influence Queensland's overall economic productivity?</p>	<p>Energex is best placed to comment on recent and prospective productivity improvements at the network level of the Queensland electricity sector.</p> <p>In May 2012, the Queensland Government initiated the Interdepartmental Committee on Electricity Sector Reform (IDC) to undertake an assessment of the Queensland electricity industry and ensure that electricity is supplied in the most cost effective and sustainable way for customers, industry and government. The IDC appointed a network-specific Independent Review Panel (IRP) to provide recommendations around the optimal structure and efficiency of distribution businesses as well as national regulatory reform issues. The Queensland Government agreed to recommendations by the IDC identifying further reforms across the network businesses in the lead up to the 2015-20 regulatory control period. Central to these changes were revised security and reliability standards, and a heightened emphasis on increased efficiency in the provision of network services. Energex has worked closely with the Queensland Government to implement the recommendations as required. A number of these recommendations will have an ongoing impact on Energex's operations over the forthcoming regulatory control period.</p> <p>Energex has reduced and continues to reduce its costs in a sustainable and efficient way, in line with the reductions in the capex program. In realising these efficiencies, Energex has reduced its future expenditure requirements for the 2015-20 regulatory control period and is pursuing improved asset utilisation. In addition, Energex operates under a number of incentive schemes which are aimed at creating the right incentives to encourage efficient spending by businesses. Businesses then share the benefits of efficiencies with consumers.</p> <p>In addition to these reforms, Energex has identified the following areas for continued productivity improvement:</p> <ul style="list-style-type: none"> <li>• Through Energex's network tariff reform program, which is aimed at providing customers with improved signals to encourage efficient network use. These reforms will be supported through complementary market reforms at both the state and national level, such as retail electricity price deregulation in South East Queensland (SEQ). A key component of the network tariff reform program is considering customer impacts ie. ensuring the resultant prices are easy for our customers to understand, the progressive change toward full cost reflectivity is managed over a period of time to avoid price shocks and inequity across different tariff classes is addressed.</li> <li>• Increased use of new technology will enhance the provision of Energex's network services and will lower future capital expenditure requirements. For example the use of batteries, both on the network and behind the meter (at the residence), combined with appropriate tariff reform will provide benefits to customers able to bear the cost of the associated investment.</li> <li>• Delivery of the synergies and on-going efficiencies identified through previous Government reforms and by Energex which will result in reduced costs and enhanced operational capabilities.</li> <li>• Continuing to ensure that administration and regulatory requirements, both internally and externally imposed, do not inhibit competition (including in unregulated services offered by distributors), business efficiency and streamlined business practices.</li> </ul>

No.	Question	Response
2.3	<p>What are the potential benefits and risks in the Queensland Government's renewable energy plans, including solar targets, for electricity sector productivity and electricity prices in the longer term?</p>	<p>It is important that renewable energy plans are developed from a holistic perspective and that they take into account the environmental, economic and social elements of the options. Furthermore, these plans (and supporting targets) should be consistent with the National Electricity Objective (NEO), which is focused on delivering market outcomes that are in the long term interests of consumers. Failure to adopt such an approach may compromise the outcomes for consumers and efficient development of the electricity market.</p> <p>The Queensland Government's aspirational target of a million solar photovoltaic (PV) rooftops (or 3000MW) by 2020 provides a timely opportunity to review the contemporary status of solar PVs in South East Queensland. Whilst the current policy measures have been highly successful in increasing the number of residential solar PV installations, they have also created equity issues. Inequality has occurred because some customers have not been able to access solar installations (eg people living in rental properties or large unit complexes) or have been disadvantaged by the subsequent increase in electricity prices as a result of previous incentive schemes.</p> <p>If the Queensland Government chooses to develop a renewable energy plan, it should be well considered to enable the market to respond efficiently without providing perverse incentives that drive unintended consequences and costs. Measures considered should be well targeted and holistic in order to:</p> <ul style="list-style-type: none"> <li>• Promote increased uptake and integration of low carbon energy options in the Queensland energy market to the benefit of all electricity consumers</li> <li>• Provide consumers with increased choice on the fuel mix and location of electricity generated</li> <li>• Facilitate the efficient use of renewable energy solutions to offset capital investment in electricity networks.</li> </ul> <p>However, if renewable energy plans fail to consider the economic and social impacts, they may:</p> <ul style="list-style-type: none"> <li>• Exacerbate or contribute to network limitations, necessitating network investment to maintain regulatory and legislative obligations on network reliability and safety</li> <li>• Create barriers to market participation for certain consumer groups based on residence type, ownership of premise or capacity to pay. (based on the Queensland Household Energy Survey 2014, it is estimated that only 6% of the estimated 290,000 non-detached properties (ie units, apartments, townhouses, duplexes, etc.) and just 5% of the 235,000 plus rented homes (private and public) are identified as having solar PV installed</li> <li>• Distort established market principles by favouring one fuel source over others. Historically the National Electricity Market's generation fuel mix has reflected commercial investment decisions based on a generation location's proximity to cheap energy resources</li> <li>• Exacerbate cross-subsidies in current network and retail electricity tariff structures</li> <li>• Increase inequity between customers, if price signals in relation to the new technologies are not visible or are distorted. For example, this could occur in future if customers on the Government's now closed 44c/kWh SBS are able</li> </ul>

No.	Question	Response
		to install Battery Energy Storage Systems (BESS), assuming no changes to the current policy settings. (This is discussed further in Question 2.12)
2.4	What objectives do these plans and targets best support, and are there alternative levers or methods that might be considered?	<p>Plans to support a clean energy policy are likely to be most successful when particular attention is given to ensuring the policy settings are appropriate from the outset, whilst taking into account the over-arching objectives for intervention. Once the policy framework is set the market will facilitate the most efficient outcomes in accordance with the NEO.</p> <p>Any future plans and schemes need to consider success in terms of:</p> <ul style="list-style-type: none"> <li>• Lowest cost energy production and delivery</li> <li>• Optimal use of existing infrastructure and technology</li> <li>• Catalyst for new and evolving technology</li> <li>• Equity in the sharing of costs and benefits</li> <li>• Focus on carbon reduction rather than supporting particular technologies – let the market respond in the most efficient way.</li> </ul> <p>While Energex continues to support the growth of solar PV, the current market structure provides limited benefit to the Energex network as only a very small portion of the solar generation occurs during late afternoon/early evening.</p> <p>If the Queensland Government decides to develop a renewable energy plan then one policy alternative in relation to solar could be to target commercial and industrial customers as they tend to have an energy consumption profile that more closely aligns with the generation profile of solar PVs. Also solar installation penetration in this segment of the market is still low compared to the residential sector. By targeting solar PV in predominantly commercial and industrial areas there would likely be a more localised reduction in the daytime peak demand on substation and feeder levels, providing a larger network benefit for all electricity consumers.</p> <p>Reframing the government solar target of 1 million rooftops or 3000MW of capacity has the potential to encourage innovation, drive commercial scale solar and deliver better network benefits. It could provide the signals needed to encourage increased participation by commercial and industrial customers, community-owned solar farms and large-scale solar farms. This would also result in solar representing a greater proportion of Queensland’s generation mix.</p>
2.9	What is the best way to recover the network costs associated with demand from electricity customers more efficiently and equitably?	<p>As network charges are a significant component of the final electricity bill (approximately 45 per cent<sup>1</sup>), it is a critical issue for Energex that customers are able to see the impact (via the network tariff) of their energy consumption decisions. Therefore, it is important there are no distortions to the network price signals.</p> <p>Network investment is driven in part by the need to accommodate peak demand, which occurs when customers are</p>

<sup>1</sup> Queensland Competition Authority (2015), Final Determination, Regulated electricity prices 2015-16

No.	Question	Response
		<p>typically using the most electricity at the same time. Tariffs based on peak demand are more appropriate to recover demand driven network costs in a declining or stable network peak demand environment, as is currently being experienced on Energex’s network. Energex considers that demand tariffs allocate the cost of the network more fairly and in the longer term will reduce the need for additional infrastructure and electricity price increases.</p> <p>Historically volume based tariffs have not encouraged the majority of customers to respond to the link between usage/demand and cost, or to increase network utilisation by shifting or reducing demand at the peak (eg air conditioning use). Previous tariff structures have not provided signals for efficient consumption and investment decisions and outcomes for asset utilisation.</p> <p>In the future, customer choice will be improved through information which provides signals for efficient consumption. Consumers will be provided with more visibility of the network costs and this will provide consumers with options in the way they use electricity. The key aim of the change is that the costs of these services are then passed on to those customers who will be using them, rather than the broader community. Energex has been working with consumers, retailers, government (local and State) and customer advocacy groups for some time to look at tariffs which better suit the home of today and into the future.</p> <p>As Energex builds network for peak demand, a shift to demand -based charging is important. Demand based tariffs also best meet the pricing requirements set out in the National Electricity Rules (NER).</p> <p>Medium to large business customers are currently charged for electricity based on their peak demand. Energex is proposing the introduction of demand tariffs on a voluntary basis from 2016-17 for residential customers and from 2017-18 for small businesses. These tariff reforms need to be facilitated by the adoption of advanced metering infrastructure and the provision of real-time information to customers.</p>
2.10	How should volume risk be shared between NSPs and electricity consumers?	<p>In accordance with Chapter 6<sup>2</sup> of the NER, this question is considered by the AER for each jurisdiction prior to the start of each regulatory control period through the Framework and Approach (F&amp;A) paper. The F&amp;A paper sets out the AER’s decision in relation to the proposed approach to the classification of distribution services and the form of price and/or revenue control (i.e. the how risk is shared between the DNSP and electricity consumers).</p> <p>The AER gave considerable attention to the form of control to the context of the 2015–19 NSW DNSPs regulatory control period. In its assessment, the AER noted its preference for a revenue cap, where a distributor’s revenue is fixed by the AER, over weighted average price caps, where a distributor’s profits are directly linked to the actual volumes of electricity distributed. According to the AER, weighted average price caps were unlikely to provide an incentive for distributors to set efficient prices when applied in combination with more prescriptive pricing principles. By applying a revenue cap, the AER</p>

<sup>2</sup> NER, cl 6.2.5(b)

No.	Question	Response
		<p>believed it would provide benefits in terms of individual tariff stability, efficient cost recovery and incentives for demand side management.<sup>3</sup></p> <p>Energex supports the AER's position, as a revenue cap provides an appropriate volume risk sharing mechanism between NSPs and electricity consumers, provided the forecasts approved in the regulatory determination process are reasonable.</p> <p>The most efficient and effective allocation of risk means that the party in the best position to manage the risk should bear the risk. Ultimately it is the customer who is in control of their usage and therefore the volume risk that the network is exposed to. Energex notes that the customer's ability to effectively manage this risk is currently impeded due to the absence of real-time consumption data information and supporting price signals.</p> <p>As capacity is a more equitable value mechanism, Energex proposes to move towards demand based charging, which will provide a more equitable and appropriate network value.</p>
2.11	Do Queensland's network reliability standards effectively allocate risk between consumers and businesses, and to the extent they exist, mitigate any risks?	<p>As an outcome of recent reviews, reliability standards in Queensland have moved from deterministic to outcome based standards that underpin prudent capital and operating network costs to deliver the appropriate level of service outcomes to customers.</p> <p>Energex's Distribution Authority DO7/98 (DA) now contains network performance targets and planning criteria consisting of three key elements to manage network performance and customer experience outcomes, which are:</p> <ul style="list-style-type: none"> <li>• A <b>reliability-based output</b> standard that defines a set of minimum service standard targets. This element is designed to meet customer expectations of supply reliability.</li> <li>• A <b>safety net input</b> standard that prescribes a baseline level of network resilience to effectively mitigate the risk of high impact - low probability events. This element is designed to avoid widespread community or economic disruption.</li> <li>• A program to improve the network reliability for customers connected to <b>the worst performing 11 kV feeders</b>. This element is designed to provide a degree of equity for customers through targeted improvement of the worst performing 11 kV feeders.</li> </ul> <p>Outcome based standards can lead to high network utilisation levels. This means a key challenge for Energex is to manage the risks of degrading reliability, network operability issues and network access difficulties for maintenance, refurbishment and augmentation.</p> <p>When considering the allocation of risk, it is important to also consider the value of customer reliability (VCR). That is, in dollar terms, a customer's willingness to pay for the reliability of supply of electricity that they receive. A consumer's VCR varies according to a wide range of variables such as customer type, the activities undertaken at the premise and geographic location.</p>

<sup>3</sup> AER (2013) Stage 1 Framework and approach paper Ausgrid, Endeavour Energy and Essential Energy: Final Report, March p 49.

No.	Question	Response
		<p>Through our Customer Engagement Research Program, Energex sought to ensure its regulatory proposal for the 2015-20 regulatory period aligned with customer expectations. A key insight from this program was that our customers believed the current reliability standards were adequate and should be maintained without significant cost increases (with the exception of areas with poor supply performance).</p> <p>Energex therefore believes the current reliability standards (as set out in the DA) effectively allocate the risks between consumers and businesses.</p>
2.12	<p>What are the potential benefits and risks of emerging technologies for the electricity networks in terms of electricity prices and supply chain productivity?</p>	<p>Energex as a network operator facilitates customer adoption of new technologies, and is actively working to ensure that its network is capable of accommodating customers' appetites for technological change. This is illustrated by the fact that Energex's network has facilitated one of the highest rates of penetration of solar PV in the world, and is actively trialling the connection of energy storage on its network to position itself for the emergence of batteries on the customer side of the meter.</p> <p>Emerging technologies, including home energy systems, battery storage, and electric vehicles (EVs) will have a varying range of impacts on the network - physical, operational and/ regulatory - depending on the nature of connection to the network or customer installations and the tariff structure.</p> <p>A key priority for Energex is to continue to maintain an efficient and resilient electricity network whilst accommodating new and emerging technologies to meet future customer and business requirements. Energex needs to enable and promote a network for the 21<sup>st</sup> century which includes and embeds renewable energy use, in addition to storage options and capacity.</p> <p>Energex has an important role to play in maximising the benefits customers can derive from emerging technologies. This issue is discussed in our response to Question 2.13.</p> <p>From a network perspective, the potential benefits of emerging technologies include</p> <ul style="list-style-type: none"> <li>• Better management of peak load on the network <ul style="list-style-type: none"> <li>- Energex will seek to offer customers either lower electricity prices or upfront incentives in return for control of some appliances. This will allow better management of load on the network at different times (including peaks and troughs), improving network utilisation and lowering electricity prices for customers in the medium to long term.</li> </ul> </li> <li>• Avoiding or deferring capital investment and offsetting peak demand <ul style="list-style-type: none"> <li>- While emerging technologies may reduce network peak demand and therefore capital investment costs greater efficiencies are likely if those technologies are adopted on the grid side of the meter.</li> </ul> </li> </ul> <p>Emerging technologies also present the following potential risks to the network:</p> <ul style="list-style-type: none"> <li>• Increased network costs <ul style="list-style-type: none"> <li>- Additional network costs could be incurred if incentives to install new technologies behind the meter are not</li> </ul> </li> </ul>

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		<p>cognisant of associated network impacts, as well as the impact on other connected customers. In particular, there is a need for networks to send appropriate price signals as new technologies emerge, to ensure customers understand how their usage of the technology impacts network costs. This is a key objective of the reform of network tariff structures.</p> <ul style="list-style-type: none"> <li>• Compatibility of systems <ul style="list-style-type: none"> <li>- A critical issue is the compatibility of the emerging technology with Energex’s network control systems. Consequently, development of and adherence to Australian Standards will be important for distribution networks to be able to derive value from customer side technologies.</li> </ul> </li> <li>• Inequity in the sharing of costs and benefits <ul style="list-style-type: none"> <li>- One example involves customers on the 44c/kWh SBS who install Battery Energy Storage Systems (BESS). These customers will potentially receive significant additional benefits, from being able to store energy and control its release back into the network, which could be considered outside the intent of the original SBS legislation. Energex is working with stakeholders to address this issue at present and is seeking changes to the legislative conditions of the scheme to support the position that the installation of BESS should result in the removal of the customer’s eligibility for the 44c/kWh Feed in Tariff (FIT).</li> </ul> </li> <li>• Safety issues and adherence to standards <ul style="list-style-type: none"> <li>- Emerging technologies may not have appropriate standards and controls in place before they are implemented (eg an Australian standard for network connected batteries has not yet been developed).</li> </ul> </li> <li>• Support for outages <ul style="list-style-type: none"> <li>- Energex currently provides a 24/7 service to customers for outages associated with the network. New technologies, depending on the service provider, may not have the same level of product/service support or provide this at an acceptable cost.</li> </ul> </li> <li>• Inequity of market participation <ul style="list-style-type: none"> <li>- As with our response to Question 2.3, barriers to the adoption of emerging technologies particularly for rental properties reduces the capacity of tenants to participate in the market. There is a risk that this will lead to decreasing affordability for tenants.</li> </ul> </li> </ul>
2.13	What is the role of economic regulation of networks in the face of increasing competition from non-network services and products?	<p>Energex considers that economic regulation should only be applied to the extent necessary to ensure networks do not exercise significant market power, including in the form of excessive prices or poor services. However, the way in which it is applied needs to be periodically re-evaluated to ensure regulatory measures are appropriate for contemporary market dynamics. Regulation needs to complement, not drive or constrain the evolving market. Regulation should only be applied in response to a clearly defined problem and the regulatory response needs to effectively target the problem. Over recent years network regulatory reform has focussed on enhancing the efficiency of provision of network services with the policy objective of moderating future electricity price increases. Most significantly, this objective has been achieved through the</p>

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		<p>2012 changes to the National Electricity Rules, which have allowed the AER greater discretion in setting the rate of return and assessing proposed expenditure in electricity networks' five yearly regulatory proposals. .</p> <p>Regulatory reform has also recognised the importance of customers through the introduction of customer engagement initiatives and the National Energy Customer Framework (NECF), which is designed to protect customers. The AER's focus on national economic benchmarking and ongoing service delivery efficiencies will mean that Energex faces more stringent cost constraints over the 2015-20 regulatory period. This will have flow on implications for Energex's workforce and network investment program, and influence business opportunities over the longer term.</p> <p>Further changes in the regulatory framework have either commenced or have been identified in the areas of metering services (to facilitate expanded competition to residential and small business consumers), distribution network pricing, a national ring fencing guideline, and changes to the demand management incentive scheme.</p> <p>In a number of instances these reforms have reduced the levels of flexibility, previously afforded to regulated network business to respond to changes in the market or consumer preferences; especially within the regulatory control period -for example, the introduction of the Tariff Structure Statements.</p> <p>Despite these recent changes, a key concern for the industry is the AER and policy maker's ability to establish policy responses and appropriate regulatory framework given the rapid pace of change in technology, market developments and the growing industry pressure to justify product/ service value. Similar concerns have been raised by the Expert Panel reviewing the Governance Arrangements for Australian Energy Markets. According to the Panel a 'strategic policy deficit' has emerged due to the pace of change in the energy section, resulting in diminished clarity and focus in institutional roles. This is most evident at the policy level, but also exists at the level of market institutions.<sup>4</sup></p> <p>Energex supports the ENA position that the review is critical to the ongoing strength and resilience of energy markets, and to safeguard the delivery of outcomes in the long-term interests of energy customers.</p> <p>As noted above there needs to be a willingness on the part of regulators and policy makers to periodically assess the appropriateness and scope of economic regulation in a rapidly changing market. A fit for purpose regulatory framework is required which incentivises the productive and efficient use of assets and resources. Overly prescriptive regulation and inefficiency drives unnecessary compliance costs which could be overcome with a simpler regulatory approach. For example, where effective competition exists, and distributors can provide the service at the lowest, most efficient cost, regulation should be minimised to promote competition. In a competitive market, where distributors are prevented from providing services it could lead to reduced market competition and higher prices.</p> <p>This view is consistent with the AEMC's recent discussion paper on the Regulatory Implication of the Integration of Energy Storage where it noted for the purposes of network regulation, storage should be considered a contestable service and market arrangements should promote consumer choice while providing a level playing field for all market participants. The</p>

<sup>4</sup> COAG. 2015. Review of Governance Arrangements for Australian Energy Markets: Final Report. October. pp 19-20.

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		<p>AEMC also noted network businesses should be allowed to participate in this market provided their activities are conducted on an arm-length basis from the regulated business.<sup>5</sup></p> <p>It should also be noted that what is known as the triangular relationship between the electricity customer, retailer and distributor is more relevant than ever, even though it will be increasingly challenged through the use of more innovative market-driven product offerings, including alternative energy generation solutions. However, distributors, such as Energex, remain legally obliged to continue making long term network service commitments to customers, in the form of network investments. This long term relationship between distributors and customers is likely to remain very important given access to the network will remain critical for a very large number of customers, as well as essential for maximising the benefits of many new technologies.</p>
2.14	How should the costs associated with implementing new technologies be shared between the businesses and consumers?	<p>This is a complex issue which requires an understanding of where the full costs and benefits of the new technology lie. As a matter of principle, Energex is of the view that where possible, the parties that are receiving the benefit should proportionately share the costs of implementing the technology, including any costs associated with modifying the network. Costs should be considered in a forward looking context and factor in future costs when penetration is high.</p> <p>Energex can see a role for network operators in aggregating the benefits of controlling certain technologies under this scenario. Energex would compensate customers for this level of control, working with them to ensure their level of utility from their technology investment is not compromised. Energex would then share the benefit of the load control with all customers in the form of lower network costs over the medium to longer term.</p> <p>This question also needs to be considered in the context of the NER, where expenditure is assessed in terms of prudence and efficiency. Under this framework, a network business is unlikely to receive funding for higher risk investments that could facilitate improvements in network performance in the longer term or the functionality required to accommodate a broader range of energy services. This is due to the benefits to customers needing to be demonstrated before funding is provided and that for these types of investments the benefits are often uncertain. The current regulatory framework favours proven, traditional responses and this could act as a barrier to the adoption of new technologies beneficial to consumers receiving the network service.</p>
2.15	What are the potential benefits and risks associated with structural reform of Powerlink, Energex and Ergon Energy in terms of electricity pricing and supply chain productivity?	<p>The potential benefits of structural reform could include synergies in joint workings, economies of scale and improved resource allocation and capability development. The potential risks include integrating the distinct nature and complexity of individual network businesses (including somewhat different cost drivers and topography), regional issues with a large geographical area and ACCC/ ring-fencing issues. In addition, experience with similar utility restructures indicates that the up-front costs can be significant, and may outweigh any forecast savings. Further, the network businesses are working to become more agile and adaptive to meet the changing needs of customers. Any structural reform needs to consider how this flexibility and agility can be retained including the ability to respond to the needs of customers in different</p>

<sup>5</sup> AEMC. 2015. Integration of Storage: Regulatory Implications, Draft Report. October. p ii.

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		<p>geographical and demographic areas.</p> <p>Regardless of any change in electricity industry structure, Energex is focusing on improving the efficiency of network service delivery through ongoing market and tariff reform. Effective and ongoing balance sheet management and review is also a key element of any industry futures program. In addition, three new areas of action should be considered, namely; strategic asset management, centres of excellence and emerging energy services.</p> <ul style="list-style-type: none"> <li>• Strategic asset management - capability to deliver leading asset investment and management approaches with the objective of enhanced asset utilisation and the adoption of practices that deliver contemporary services to customers and fit within the AER approved regulatory cost allowances.</li> <li>• Centres of excellence – delivering low cost, effective and streamlined back-office and support services, including financial, operations, systems data and control, human resources and enterprise systems and processes.</li> <li>• Energy services – establishment of a vehicle to enable participation in the existing and emerging energy market opportunities as well as to provide an appropriate channel to markets for the conventional distribution services.</li> </ul> <p>In addition, to achieve the objectives of Government, the community and our customers, Energex firmly believes that the key governance principle for the structural reform process includes single point accountability with clearly defined and agreed objectives and where reporting is fundamental.</p>
2.20	What would be a better alternative for funding the Solar Bonus Scheme?	<p>The vast majority of solar PV systems have been installed by owner occupiers in detached homes. Further, owner occupiers with the capital capacity to invest in the solar PV systems have been best able to take advantage of the now closed 44c/kWh SBS (also known as premium FIT). Energex research has shown that customers with PV installed now consume on average more than customers without PV and this gap is widening.</p> <p>Customers who installed solar PV systems made an investment with a long term view of cost recovery. Scheme costs associated with customers who remain eligible for the SBS will continue to be funded until 30 June 2028. For the 2015-20 regulatory control period, Energex is proposing to treat FIT payments under the jurisdictional scheme provisions under the Rules and, as such, there will be more transparency around these costs. Forecast amounts will be included in the annual pricing proposal to determine the total DUOS revenue for each year.</p> <p>The increase in solar PVs has provided a limited benefit to Energex's network as only a very small portion of the solar generated occurs during the domestic peak time. At the same time as having very limited impact on network peak demand (and hence network costs), the high penetration of solar PV has reduced energy throughput (kWh) delivered through the grid. Under the current volumetric network and retail tariffs, solar PV customers are therefore avoiding their fair share of network cost.</p> <p>Customers who have been unable to take up solar PV incentive arrangements are generally located in rental or leased premises, non-detached homes (ie units, apartments, townhouses, duplexes, etc.) or complexes with central metering (ie gated communities). These customers are disadvantaged as they are unlikely to have any control over the decision</p>

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		<p>whether or not to install solar PV systems. Moreover, the electricity charges that these customers pay includes the cost of subsidising those customers who have solar PV systems installed.</p> <p>One option is to dilute the impact that SBS costs have on customers unable to take up previous incentive arrangements. These customers could be provided with the option to invest in community owned 'solar farms'. These are centralised solar facilities owned by community members, who receive credits based on their electricity bill for the power produced. The solar farm can be operated and maintained by the utility or a third party operator and customers receive credit based on their share/investment. Energex notes that providing this investment alternative may not help those customers where the constraint to participation is a financial one.</p>
2.21	<p>What are the likely or potential impacts of new technology on the productivity of the electricity supply sector and its component parts, and electricity prices?</p>	<p>Energex is unable to comment on the productivity impacts on elements of the electricity supply sector outside of distribution.</p> <p>As a regulated business, Energex is currently funded for a regulatory period of five years. Given the uncertainty around new technology (eg timing, type, uptake), Energex's response may be limited due to the need to meet regulatory requirements or existing expenditure commitments.</p> <p>There are potential benefits and costs for network operators from all new technologies. New technology provides a potential opportunity to leverage the existing network to enhance the regulated network service or provide non-regulated services. However the overall impact will depend on how effectively network operators respond to these challenges, which also depends on the flexibility they have to respond to the changing market environment. Accommodating regulatory arrangements can significantly contribute to this flexibility.</p> <p>By way of example, EVs will increase load on the network overall, and have the potential to improve network utilisation if charging occurs outside of the network peak. Similarly, there are possible benefits to network utilisation and hence networks costs, from energy storage if charging and discharging is optimised.</p> <p>If charging and discharging of EVs and energy storage is not optimised, they have the potential to not only increase peak demand, but to also impact on community safety and cause problems with voltage, system stability and equipment damage. Any or all of these issues could require remediation, which would ultimately drive up costs for all customers. However, if network operators are able to optimise these loads, and ensure the direct beneficiaries of the new technologies bear the full network costs associated with their use, there is the potential for productivity to be enhanced and network costs to be lowered.</p>
2.22	<p>How could existing regulatory and institutional arrangements in the Queensland electricity sector support the efficient adoption of emerging technology across the</p>	<p>In order to support the adoption of emerging technology, the industry needs:</p> <ul style="list-style-type: none"> <li>• Clear and consistent policy statements by government, particularly at the Commonwealth and State level to encourage investment and innovation across the electricity supply chain</li> <li>• To progress tariff reform (including the rollout of advanced metering), as this is required to support the efficient take</li> </ul>

No.	Question	Response
	electricity supply chain?	<p>up of mutually beneficial new technologies for networks and their customers</p> <ul style="list-style-type: none"> <li>• Government policies which ensure a fair treatment for all customers (e.g. the installation of BESS should result in the removal of the customer's 44c/kWh FIT to prevent further cross-subsidies<sup>6</sup>)</li> <li>• Regulatory mechanisms which encourage seed funding and collaboration between stakeholders in the industry</li> <li>• Effective management of different stakeholders with different requirements and expectations</li> <li>• Stability in the policy and regulatory frameworks to provide certainty to customers, supplemented by an education role regarding the evolving energy market where there are information 'gaps' in the market</li> <li>• Certainty also needs to be provided to the network businesses to effectively manage the potential risk of asset stranding; noting this is a matter for the NER.</li> </ul> <p>Energex is working with and supporting other industry participants to assess the implications and opportunities associated with the adoption of new emerging technologies. The Energy Networks Association, of which Energex is an active member, has developed a campaign to highlight the benefits to the broader community of the existing electricity networks.</p> <p>The "Hello Grid" campaign is primarily a digital campaign, promoted via various websites and social media channels, as well as integrating various ENA members' connections. The key targets of the campaign are so-called 'early adopters' – essentially householders interested in technology, including solar PV, energy storage, home energy management/automation, demand management etc. The key takeout of the campaign is that "Australia's energy grid is the bridge to a clean and smart energy future" and that the grid is becoming more innovative, dynamic and accessible than ever before.</p> <p>The campaign will highlight some of the work being carried out across the industry, including some within Energex, to ensure energy consumers best understand the implications and opportunities associated with some of the new emerging technologies in the electricity sector.</p>
2.23	What are the potential costs and benefits to Queensland as a result of national harmonisation of energy policy and laws in terms of electricity prices or supply chain productivity?	<p>Significant effort was made at the time of establishing the national energy framework (i.e. NEL/NER) to achieve a harmonised approach across jurisdictions including:</p> <ul style="list-style-type: none"> <li>• Removing barriers that discourage market participants operating in multiple jurisdictions, resulting in increased competition and a reduced cost to serve</li> <li>• Improving the quality of reporting to the AER and consumers</li> <li>• Facilitating more meaningful comparisons about network and retail performance</li> <li>• Reduced reporting costs for participants operating across jurisdictions</li> </ul>

<sup>6</sup> Customers with SBS FIT who install BESS may have the opportunity to exploit the SBS FIT beyond the original intention of the scheme. This would be funded by the broader customer base and be to the disadvantage of vulnerable customers.

No.	Question	Response
		<p>Efforts to achieved increased harmonisation have continued with the most recent example being the adoption of the National Energy Customer Framework (NECF) in Queensland.</p> <p>Energy policy, however, is more variable, reflecting the different resource endowments, geographic and market conditions, which have affected the policy priorities across jurisdictions.</p> <p>Energex is supportive of nationally agreed arrangements but still sees a role for derogations in limited instances where important jurisdictional differences prevail.</p>
2.24	What are the risks and costs to customers and industry in Queensland arising from failure to harmonise regulation underpinning the NEM?	Refer to response to Question 2.23.
2.25	What are the key opportunities remaining for national harmonisation in regulation and governance of the NEM, and benefits from these reforms for productivity and prices?	<p>One of the key opportunities remaining for national harmonisation is the development of a national distribution network ring-fencing guideline. Currently ring-fencing is regulated through a number of jurisdictional guidelines that originated from the respective jurisdictional regulators in the early to mid-2000s i.e. prior to the regulation of the distribution businesses being transferred to the AER in 2008.</p> <p>The development of the national ring-fencing guidelines was deferred by the AER so that they could be informed by the Rule changes stemming from the Australian Energy Market Commission's (AEMC) Power of Choice Review. At this stage, the timing of the review remains uncertain. Energex would welcome a timely resolution to a national ring-fencing guideline given the role that the guideline will play in influencing how NSPs respond to the changing market.</p> <p>Energex supports the national harmonisation of the distribution ring-fencing guidelines.</p>
2.26	What aspects of the Electricity Act should be considered for review in support of the longer-term provision of a more responsive and efficient electricity industry?	<p>There are a number of obligations set out in the Electricity Act and regulations that require review.</p> <p>As noted above for Question 2.1, the Queensland Government currently establishes the maximum prices that the Queensland Distributors can charge retailers and customers for certain fee based alternative control services - Electricity Regulation 2006, Schedule 8. These price caps may conflict with the AER's approved cost reflective prices, thereby creating market distortions, providing inefficient and inappropriate signals to market participants that request these particular services resulting in poor customer outcomes.</p> <p>These pricing anomalies are also driving perverse retailer behaviours, who as a result are requesting inappropriate services as they are cheaper under Schedule 8, but with higher actual costs. For example, with no price signal, retailers request a de-energisation rather than a final meter read, (which is already funded for under Energex's revenue cap), when a customer advises they are vacating a premise. In addition to the increased cost, this process results in considerable</p>

No.	Question	Response
		<p>inconvenience to the move-in customer as they often move into a de-energised premise and have to make an appointment to have the premise re-energised (as a visual examination is required following a physical de-energisation).</p> <p>Energex has made numerous submissions to the Queensland Government to lift the price cap under Schedule 8 or agree a price path to incrementally shift to the AER approved prices over time.</p> <p>At the time of introducing the SBS, batteries behind the meter particularly at the residential premise were not explicitly considered as the technology was not sufficiently developed. However, there have been significant developments since the scheme was initially introduced, for example the uptake of BESS by residential consumers.</p> <p>The legislative positions regarding the eligibility of customers with the SBS FiT also installing BESS is not sufficiently clear and should be reviewed by Government. This lack of clarity may result in the SBS FiT being exploited by customers who install BESS for purposes beyond the original intention of the scheme. Energex believes the installation of BESS should result in the removal of the customer's SBS FiT to prevent further cross-subsidies at the expense of all customers.</p> <p>Similarly the national regulatory framework is based on an assumption of an interconnected national electricity grid. As such, it does not explicitly address the use of microgrids by customers or the possibility of energy customers disconnecting from the grid. The policy framework needs to be reviewed to ensure there are clear obligations established for DNSPs in relation to connecting customers and maintaining supply in a more complex energy services market, including for the connection of microgrids and/or customers seeking to disconnect from the network. It will also be important that consumers are aware of their legal rights under such arrangements (i.e. billing, disconnection, retailer of last resort) and the obligations that will be placed on the owners of the microgrid (e.g. reliability and supply obligations).</p>
2.27	<p>What aspects of other Queensland laws and regulation potentially act as barriers to improving the efficiency of electricity supply in Queensland?</p>	<p>Energex believes a reassessment of the following standing obligations, policies and constraints should be reviewed as they currently act as barriers to improved efficiency:</p> <ul style="list-style-type: none"> <li>• The prohibition<sup>7</sup> on the distribution businesses owning and connecting permanent generation capacity to the distribution network as an alternative to network augmentation.</li> <li>• Red and green tape obligations on Government Businesses that do not apply to other market participants</li> <li>• Restrictions on network businesses engaging in energy purchase and sale activities which will likely undervalue the business case for batteries as an alternative to conventional network investment.</li> </ul> <p>To the extent that any standing obligations, policies and constraints are considered appropriate, these should be suitably valued so that the impacts on the network businesses are understood and acknowledged.</p>

<sup>7</sup> This prohibition has been established via the current jurisdictional ring-fencing guidelines - QCA (2000), Electricity Distribution Ring-Fencing Guidelines, p20. This constraint may impair or preclude Energex from providing energy services to customers in the most efficient way.

No.	Question	Response
2.28	What should be the focus for state regulation (Electricity Act and other legislation) to complement harmonised inter-jurisdictional energy law?	Energex supports the state regulation providing guidance in areas where the current inter-jurisdiction energy law is silent. Refer to response to question 2.26.

## 4.2 Deregulation

No.	Question	Response
3.1	What are the potential costs and risks of maintaining retail price regulation in a competitive market?	<p>Full retail competition (FRC) was introduced in south east Queensland in July 2007. Despite the AEMC finding there is sufficient competition amongst retailers in the SEQ electricity market, customers still have access to a regulated retail price.</p> <p>Energex supports the removal of retail price regulation in SEQ, as price regulation restricts the ability of retailers to respond to changes in the market or the needs of its customers as regulated price structures can limit tariff innovation. The lack of cost-reflective prices can also skew the take up of new technologies, as customers may not see the true cost of connecting and using different technologies.</p> <p>Deregulation of retail prices should encourage innovation in retail tariffs and create an environment that will better support network tariff reform, which Energex considers to be essential for delivering efficient costs to customers and supporting new technologies.</p>
3.5	What are the lessons to be learned from deregulation in other jurisdictions that could be applied to the SEQ market?	<p>Energex supports retail price deregulation but recognises that measures may need to be taken to ensure customers benefit from deregulation. One way this can be achieved is through the development of a monitoring and reporting regime.</p> <p>In developing a monitoring and reporting regime, guidance can be sought from the jurisdictions that have deregulated their retail electricity prices. For example, the Essential Services Commission of Victoria (ESC) performs a broad monitoring role in relation to the energy retail market in Victoria and each year produces a monitoring report on comparative pricing.<sup>8</sup> Energex considers this approach to monitoring market outcomes to be valid, particularly given the conjecture as to whether customers are really benefiting from retail deregulation in Victoria.</p> <p>Tasking the Queensland Competition Authority (QCA) with a monitoring and reporting role as outlined in the Electricity</p>

<sup>8</sup> ESC (2013). Progress of Electricity Retail Competition in Victoria – Research Paper, p2

No.	Question	Response
		Competition and Protection Legislation Amendment Act 2014 (ECPLA Act), replacing their current notified retail price setting role, would be an effective way to implement this function. Implementing effective measures to monitor market competitiveness will be critical to demonstrating value to customers from deregulation.
3.6	In the event retail prices in SEQ were deregulated, are the market monitoring and reporting arrangements adequate, or are there changes or improvements that could be made?	<p>Energex, in general, supports the amendments that were drafted in the ECPLA Act in relation to market monitoring and reporting. Energex considers that it is important to maintain a reserve power to allow the Minister for Energy to reintroduce price controls in SEQ if an independent review proves that competition is not effective. This will create appropriate incentives for retail market participants. Energex notes that this type of safeguard supported the retail price deregulation process in Victoria.</p> <p>The market monitoring regime proposed by the drafting of the ECPLA Act incorporated monitoring of retailer product offers and prices. However, Energex questions whether these measures will be sufficient to understand the competitiveness of the market or whether additional measures are required. The development and implementation of a robust and effective monitoring and reporting role is critical to ensuring customers benefit from retail price deregulation.</p>

### 4.3 Regional Queensland

No.	Question	Response
4.2	Could the UTP be targeted more effectively to better achieve these objectives?	<p>In order to address local area network constraints one option is to implement load control tariffs to restrict access based on location. However, the current wording of the Uniform Tariff Policy (UTP) prevents this from occurring by not allowing locational based pricing. By reframing the UTP to provide this option in the future could improve Energex's ability to reduce the need for network augmentation and therefore reduce prices in the long run.</p> <p>Overall, the UTP should follow the objectives of the NEM and not constrain Energex's decisions through the application of tariffs for regional Queensland.</p>

## 4.4 Customer participation and support

No.	Question	Response
5.1	What are the barriers to improving consumer participation in the electricity market?	<p>The complexity of the electricity market makes it difficult for consumers to understand the roles of a wide and increasing range of service providers in the market. In Energex's experience interest in the electricity sector is generally sparked when price or reliability of supply becomes a factor, otherwise the electricity market is of little concern to consumers. This suggests that there is likely to be a reasonably large number of consumers who not currently and may never be interested in participating actively in the electricity market. It is important to recognise these consumers when identifying potential barriers to greater market participation.</p> <p>Energex undertakes a customer engagement program that meets the requirements of the AER's Consumer engagement guideline, which was developed as part of the Better Regulation Reform program. Energex used information gathered through its customer engagement program to inform the development of its 2015-2020 regulatory proposal. In practice, customer engagement has relied on a few consumer groups to represent the community's interests.</p>
5.2	What are the benefits to the productivity of the electricity market and broader supply chain in increasing customer participation, and how can these benefits be measured?	<p>Energex's recent experience in tariff reform has demonstrated that effective customer engagement can result in customer supported change. This support will improve distributor efficiencies, reduce rework and limit the time spent by distributors devising policies and programs that will never be adopted and/or accepted by customers. One of the key aims of customer engagement in tariff reform is to reduce customer use of the network at peak times; this will also support improved productivity of the electricity supply chain in the medium to long term.</p> <p>At this stage it is difficult to measure the benefits of increased customer participation. However what can be anticipated is that enhanced customer participation will result in services that better meet their needs. This should result in fewer customers experiencing negative impacts such as bill shock or hardship and potentially reducing the number of complaints. It should also provide where necessary education/information that enables customers to make informed choices about existing network and new products/services.</p>
5.3	What is the existing level of consumer knowledge and understanding of new electricity sector business models, products and services, and technologies?	<p>Consumer knowledge and understanding is predicated on being able to access the right information in a form that is readily understood. Currently there is a lot of information in the market place, including information that is not correct. It is difficult for consumers to navigate and means that, broadly, there is limited consumer knowledge and understanding of the new electricity business models, products and services and technologies. For example, there is a large amount of speculation and rumour regarding the use of batteries both 'behind the meter' and within the grid but there is very limited knowledge in the broader market. There are small numbers of consumer groups who have a sound level of knowledge but at this stage that knowledge and understanding is disparate and often selective.</p>

No.	Question	Response
5.4	How will future developments, including changes in technology and the growth of new markets and business models, influence consumers' participation in electricity markets?	<p>Energex anticipates that whilst the specific technological developments are difficult to predict, the changes in technology and the creation of new markets will provide customers' with more choice and control over the source of energy that they use and when and how they use it.</p>
5.5	What are the key information gaps in consumer knowledge and understanding of electricity markets?	<p>Research commissioned by Energex and conducted by Colmar Brunton shows that customers do not always understand who does what in the electricity market, and often get confused between retailers and distributors. They also consider electricity tariff structures daunting and not easily understood.</p> <p>The research also shows that, in general, electricity customers are not engaged with new/alternative technologies and do not have an understanding of what is available or the effectiveness of the new technology options.</p> <p>Furthermore consumers are faced with significant information asymmetries when considering the respective merits of new technology options. Energex believes DNSPs have a critical role to play in educating customers about how to maximise their energy consumption choices.</p> <p>Energex has for a number of years linked with regional distributor Ergon Energy and transmission business Powerlink to conduct an extensive survey of energy use in the Queensland home.</p> <p>The Queensland Household Energy Survey collects the views of more than 3500 home owners and tenants on a range of key questions regarding current and planned energy use. The survey aims to identify trends in household energy use patterns and energy-saving attitudes and awareness across the State. Among the key insights are current and planned installation and use of air-conditioners; trends regarding televisions and other home entertainment; energy efficiency and tariff take-ups; solar power and swimming pool ownership; and the knowledge of and likely investment in new technologies such as battery storage and electric vehicles.</p> <p>The annual survey results provide a snapshot of current and potential future energy use that assists with efficient and effective electricity network planning.</p>
5.6	What have industry or consumer groups done to address existing information and behavioural barriers, and how effective have these strategies been?	<p>Several consumer groups have been running education workshops and campaigns. Energex supports these initiatives but cannot comment on the effectiveness of these strategies.</p>

No.	Question	Response
5.7	What are the potential benefits and risks in the transition to cost-reflective pricing, in terms of electricity prices and supply chain productivity?	<p>Network tariff reform will, in the long run, reduce network prices for all consumers by reducing network augmentation requirements. In the short term, some consumers will benefit from the removal of cross subsidies inherent in existing tariffs, while those currently benefitting from these subsidies will pay more.</p> <p>Cost reflective pricing means that Energex passes costs to consumers proportionately to how they utilise the network. Customer education and awareness about how Energex incurs costs will be critical in the success of tariff reform. Energex is therefore offering customers genuine informed choice, providing incentives for effective utilisation of the network, designing tariffs to complement demand management solutions and supporting a customer lead rollout of advanced metering when justified by net customer benefits.</p> <p>The introduction of cost reflective pricing will need to be a staged approach, relying on improved market data such as more targeted customer information on demand and usage patterns. In addition, it is important customers understand the opportunities and limitations associated with different tariff options.</p> <p>However, there is a risk that when tariffs are reformed customers who currently have low levels of market participation will carry the burden of higher prices unless their ability to participate in the market is improved. For example, tenants who are unable to access cost reflective tariffs due to lack of suitable metering may remain on legacy tariffs that continue to increase in price.</p>
5.8	In what ways could customers be better supported and equipped to understand and accept more cost-reflective tariff structures?	Tailored education programs are required to support customers' responses and knowledge of cost reflective tariff structures. Energex plans to work closely with consumer groups to provide the right information, in the right format, to enable broader understanding and knowledge of tariff reform.
5.9	What barriers and costs does a voluntary uptake of advanced metering present for the rate at which cost-reflective tariffs are able to be adopted?	Cost reflective tariffs require advanced metering, and consequently their uptake is limited by the metering replacement rate. It is expected that, unless market drivers accelerate the roll out of advanced metering, complete tariff reform will not be achieved in the short to medium term.
5.10	What are the benefits and risks of cost-reflective pricing?	The benefits of cost reflective pricing are reduced network augmentation requirements in the medium to long term, efficient customer investment in emerging technologies and appropriate distribution of network costs to network users.
5.11	What strategies or safeguards could support low-income and vulnerable consumers in the	<p>Tariff reform needs to be underpinned by appropriate transitional arrangements and customer protection mechanisms to minimise any potential adverse impact on customers and achieve the full benefits of reform.</p> <p>Energex's experience indicates that hardship customers have a wide diversity of consumption behaviours making it</p>

No.	Question	Response
	transition to new tariff structures	<p>difficult to use tariff design alone as the mechanism to deliver hardship rebates. Additionally, the sole use of tariff design is a poorly targeted and costly mechanism to deliver hardship rebates which can impair tariff reform and innovation. It also inhibits pricing signals which are key to effective network utilisation.</p> <p>The two key areas of support include:</p> <ul style="list-style-type: none"> <li>• the change and transition through tariff reform (eg metering costs)</li> <li>• ongoing support (long term hardship programs) through initiatives such as energy efficiency and demand management</li> </ul> <p>It is important for Government, distribution businesses, retailers and customer groups to work together on a coordinated approach to explore options to protect vulnerable customers, including through targeted education initiatives. Energex therefore recommends that a separate working group chaired by the government is established to examine these issues in detail.</p>
5.12	What is the role of retailers in the transition to new tariff structures?	Retailers continue to have a customer facing role and responsibility for billing and customer communications. In addition, retailers will need to make decisions about how to best pass through network tariff signals to customers. Energex will continue to engage with retailers to support this function.
5.13	In what ways do the benefits of energy efficiency and demand management programs help consumers offset price risks?	<p>Energex operates a significant demand management (DM) program with the aim of reducing peak demand and improving overall network utilisation. The ultimate benefit from this program is that customers are more empowered in regard to managing their electricity consumption, and network costs are reduced for all customers in the medium to long term.</p> <p>More specifically, Energex's DM program provides for customer benefits such as:</p> <ul style="list-style-type: none"> <li>• Access to upfront rebates or lower tariffs for providing control of appliances eg PeakSmart air-conditioning, hot water and pool pumps</li> <li>• Reduced electricity consumption (and therefore lower electricity costs) through increased appliance efficiency eg energy efficient pool pumps</li> <li>• Reduced demand charges (and therefore lower electricity costs) for customers on demand based tariffs eg through improving power factor</li> </ul> <p>Broader based indirect benefits also accrue to all Energex customers through:</p> <ul style="list-style-type: none"> <li>• Long term reductions in network augmentation costs through reduced peak demand (eg Energex has managed residential hot water load as part of its business-as-usual operations for several decades and this program is considered both national and world leading in this area)</li> </ul>

No.	Question	Response
		<ul style="list-style-type: none"> <li>• Short term reductions in network remediation costs by using control of load to “soak up” solar PV generation during the day</li> <li>• Increased ability for the network to host more solar PV through using appliances controlled via DM programs</li> </ul>
5.14	<p>What types of incentives would be the most effective in balancing benefits and costs to achieve better outcomes in terms of electricity pricing and supply chain productivity?</p>	<p>Energex’s experience has shown that the most effective way to incentivise customers’ behaviour in order to reduce network costs is through a combination of upfront customer incentive payments such as Energex’s PeakSmart reward scheme and ongoing tariff benefits for customers who participate in demand management (DM).</p> <p>The upfront incentive has proven highly effective in gaining initial acceptance of DM activities while the ongoing tariff savings can provide an additional incentive to customers to sustain the benefits of DM.</p> <p>Energex has significant experience in this space, having run an incentive based DM program for a number of years, as well as tariff reform programs. The two work best when operating in tandem to achieve the maximum benefit.</p> <p>In particular, Energex has conducted studies of customer behaviour in regard to different tariff structures. Among other findings, these studies have shown that there is a tipping point for customers when price will not affect a customer’s consumption decision. For example, on the third very hot and humid day in a row, customers will turn on their air conditioner almost regardless of the tariff impact – particularly if they have not used the air conditioner the previous two days (ie they have “saved” money for two days, but they are now going to “spend” that saving). This is the time a network peak is most likely, and hence there is significant value in having the ability to control load – particularly air conditioning load – on this day. In summary, a good tariff structure can deliver many but not all benefits, and both the right tariff structure and load control is required to deliver optimal network outcomes.</p>
5.15	<p>What are the benefits and risks in the Queensland Government providing incentives for households, businesses and industries to become more energy efficient or manage their peak levels of demand, including implementing energy efficiency standards for sectors within its jurisdictional authority?</p>	<p>Incentives and jurisdictionally based standards can be used to increase the uptake of demand management and energy efficiency but need to be carefully considered to be sure they do not create cross subsidies, further disadvantage some customer groups or create perverse incentives.</p> <p>For example, Minimum Energy Performance Standards (MEPS) specify the minimum level of energy performance that appliances, lighting and electrical equipment (products) must meet or exceed. By specifying a minimum performance level increased costs may initially be borne by equipment suppliers, but will then likely be passed on to customers through higher equipment prices. In addition, the reduction in energy consumption can impact electricity prices under the current volumetric tariff structure. However, ultimately benefits will be realised including the prevention of inefficient products from entering the marketplace, appropriate signals to increase product efficiency and lower running costs for customers.</p> <p>Energex would be happy to work with the Queensland Government to identify opportunities for amending standards and regulations which would provide benefits to customers.</p>

No.	Question	Response
5.16	What barriers and costs does a voluntary uptake of advanced metering present for energy efficiency and demand management tools?	<p>Voluntary uptake of advanced metering will limit the ability of network operators to introduce demand based tariffs on a wide scale. However, the availability of advanced metering does not impact Energex’s incentive based DM programs. Energex can gain and operate control of loads such as hot water, pool pumps and air conditioning, without the need for smart meters.</p> <p>The implementation of metering contestability does bring risks and potential additional costs for DM programs. In particular, there is a danger that a metering provider may remove network load control devices from the customer’s meter board when replacing an old meter. Energex has a large amount of load controlled through these devices – over 700MW. If this load was no longer able to be controlled, significant network costs would likely arise. For example, approximately 16% of Energex substations would revert from summer peaking to winter peaking. A number of these substations would need to be upgraded to cope with these new peaks with these additional costs being passed on to all customers.</p>
	Concessions	<p>Energex is strongly supportive of active engagement of customers and targeted customer protection mechanisms. Energex is aware that it is important to consider the impact of tariff reform on particular customer groups and align protection mechanisms to those vulnerable customers most in need. Energex agrees that the design principles proposed by Queensland Council of Social Services (QCOSS) in the issues paper would be useful in assessing the concessions framework.</p> <p>Fundamental tariff reform cannot occur in the absence of an appropriate approach to disadvantaged customers facing potential hardship.</p> <p>Initial discussions with peak advocacy groups suggest there are measures other than the level of household income that would more effectively identify vulnerable customers. These measures should be identified through engaging with peak advocacy groups such as QCOSS.</p> <p>As noted in our response to Question 5.11, it is important for Government, distribution businesses, retailers and customer/advocacy groups to work together on a coordinated approach to explore options to protect vulnerable customers. Energex therefore recommends that a separate working group is established by the government to examine these issues and the concessions framework in detail.</p>