DEVELOPMENT OF kVA NETWORK TARIFFS – PRELIMINARY POSITION PAPER

OCTOBER 2008

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Table of Contents

Executive Summary

ENERGEX Limited (ENERGEX) is the electricity distribution entity for South East Queensland. It builds, owns, maintains and operates a network of substations, overhead wires and underground cables that supply electricity to all customers in this area.

As a commercial business, ENERGEX recovers its costs, including an appropriate return on its assets, through the levying of network tariffs. Under current arrangements, these network tariffs form part of the retail tariff faced by end customers. The retail tariff also includes energy and retail costs (including a retail margin). Network tariffs are approved by the Queensland Competition Authority (QCA), the economic regulator for electricity distribution entities in Queensland. The QCA currently caps the total amount of revenue ENERGEX may earn from these activities. The QCA's economic regulatory role will be assumed by the Australian Energy Regulator (AER) from 2010/11.

Under the QCA's regulatory arrangements, ENERGEX submits a Pricing Principles Statement (PPS) each year, which outlines the basic principles behind the construction of ENERGEX's network tariffs (eg. efficient use of the network, cost reflectivity). The QCA subsequently approves a set of network tariffs each year, which are consistent with the revenue cap and the PPS.

In its December 2006 and December 2007 pricing discussion papers, ENERGEX highlighted some of the factors impacting the debate around changing the network tariff structure, assessed how effective the current structure is in meeting the agreed network pricing principles[1], and discussed a number of areas for potential reform, including a move to tariffs based on kVA.

ENERGEX formed a view that conceptually, a network tariff based on kVA would be a more accurate measure of a customer's impact on the network, relative to a tariff based on kW, as it better reflects the costs imposed on the network by users. Accordingly, a kVA tariff would better meet ENERGEX's pricing principles.

Having flagged this in several discussion papers, ENERGEX then undertook an extensive consultation process around the potential introduction of kVA tariffs. ENERGEX released a further discussion paper on the subject of kVA tariffs, consulted directly with customers, retailers and regulators, and carried out a paper trial to provide customers with the opportunity to understand how kVA tariffs would impact them. The feedback received from stakeholders has been largely positive and has been fully considered.

Following this process, ENERGEX has concluded that its preliminary position is to seek the introduction of kVA tariffs to its tariff structure, as this would better meet its pricing principles. The key features of the proposed tariff are:

[1] ENERGEX 2008, *Network Pricing Principles Statement 2008-09*, February, p6

- Revenue neutrality will be maintained for ENERGEX;

- kVA tariffs will be applied to individually calculated customers (ICCs) and connection asset customers (CACs) from 1 July 2010;

- The power factor neutral point will be set at 0.85 for CACs and 0.90 for ICCs for 2010/11, as these points are close to the median for each customer class, resulting in balanced outcomes for customers; and

- Network charges will be calculated on a kW basis and then converted to kVA based on the customer's actual power factor.

ENERGEX welcomes feedback from all stakeholders, including customers, retailers, policy makers and regulators, on this preliminary position paper.

ENERGEX would prefer submissions to be made publicly available wherever this is reasonable. However, if a respondent does not want their submission to be made public this should be clearly noted on the front page and the relevant sections of the submission so that the remainder can be made publicly available.

Written submissions should be emailed to:

LNSP@energex.com.au

Submissions can also be posted to:

Network Commercial Management
ENERGEX Limited
PO Box 1461
BRISBANE 4001

Submissions should be received by no later than **Friday 28 November 2008.**

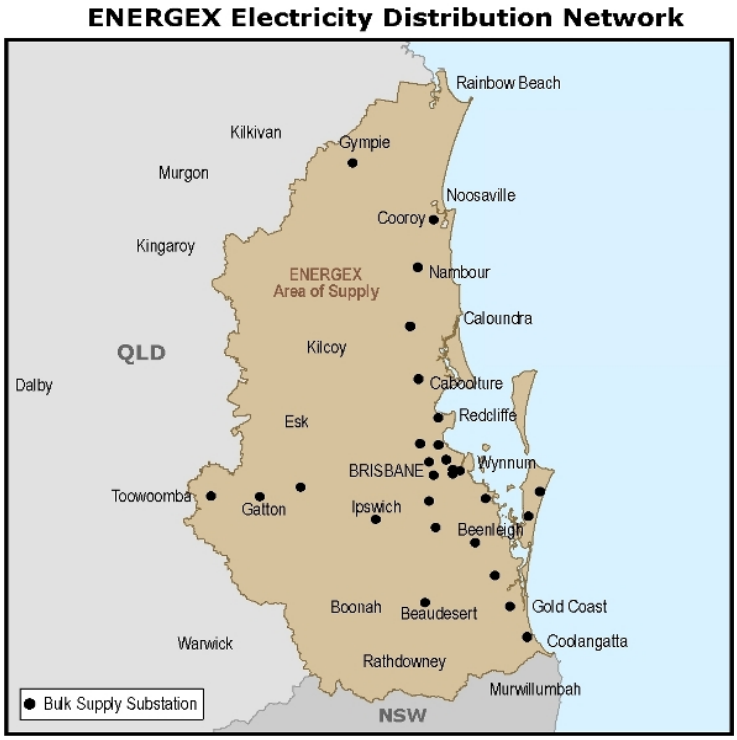
ENERGEX is seeking to release a final position paper in December 2008. This paper will then form the basis of a submission to ENERGEX's regulator seeking the tariff change.

1 INTRODUCTION

1.1 ENERGEX'S NETWORK

ENERGEX builds, owns, maintains and operates the electricity distribution network for South East Queensland. The distribution network is the network of poles, wires, underground cables, substations and transformers that transports electricity from the high voltage wires operated by Queensland's electricity transmission company, Powerlink, to all 1.3 million homes and businesses in South East Queensland. ENERGEX's assets include more than 50,000km of underground and overhead electricity lines and cables, over half a million power poles, some 43,000 transformers and more than 290,000 street lights. ENERGEX's distribution network stretches from Gympie in the north to Gatton in the west and Coolangatta in the south (see Figure 1), covering around 25,000 square kilometres.

Figure 1: Map of ENERGEX's electricity distribution network



1.2 ENERGEX'S REGULATORY FRAMEWORK

ENERGEX is regulated by the QCA. The QCA has applied a revenue cap framework, under which the total amount of revenue ENERGEX is permitted to earn for any given year is determined up to five years in advance. In April 2005, the QCA released its *Final Determination - Regulation of Electricity Distribution*[2], which specified ENERGEX's revenue caps for the five year period from 2005/06 to 2009/10.

ENERGEX will be regulated by the AER for the next regulatory period commencing 1 July 2010. The process for transferring from the QCA to the AER, including the regulatory framework that will govern how ENERGEX will be regulated, is currently being finalised. ENERGEX is engaging with both the QCA and the AER in developing its network tariff structures to ensure that any changes will be consistent with the transition from the current regulator to the next regulator.

1.3 HOW ENERGEX'S NETWORK CHARGES ARE DETERMINED

As a commercial business, ENERGEX recovers its costs, including an appropriate return on its assets, through the application of network tariffs. Under current arrangements, these network tariffs form part of the retail tariff faced by end customers. The retail tariff also includes energy and retail costs (including a retail margin).

These network tariffs are derived through a three step process.

- First, the total amount of revenue ENERGEX can earn is established by an independent regulatory body, currently the QCA. This is done through a regulatory Determination which sets revenue up to five years in advance, although various amendments may be made to the revenue cap in the course of the regulatory period, e.g. to allow for previous over or under recoveries.

- Second, on an annual basis, ENERGEX puts forward a set of principles in regard to how this revenue will be recovered from end users of the network (the Pricing Principles Statement or PPS). This document is available on both the QCA's website (www.qca.org.au) and ENERGEX's web site (www.energex.com.au). These principles need to be consistent with the requirements of the QCA's current Determination.

- Third, ENERGEX then annually submits its network tariffs to the QCA for approval, consistent with the agreed PPS and the required revenue cap. Network tariffs are published by 31 May each year, and are also available on ENERGEX's web site.

[2] Queensland Competition Authority (QCA) 2005, *Final Determination. Regulation of Electricity Distribution*, April.

2 CURRENT NETWORK PRICING PRINCIPLES AND NETWORK TARIFFS

ENERGEX's network tariffs are currently developed in accordance with the following agreed pricing principles:

- **Regulatory compliance** – network tariffs must comply with the requirements and controls set by the regulator, including achieving annual revenue target;
- **Free from cross subsidy** – network tariffs should recover costs which are between the incremental cost of supply (the floor) and the stand alone cost of service delivery (the ceiling);
- **Efficient use of the network** – network tariffs should incorporate appropriate signals to network users of their impact on existing and future network capacity and costs;
- **Equity –** network tariffs should be equitable for network users and should reflect the user's utilisation of the existing network and the use of specific dedicated assets;
- **Cost-reflectivity** – network tariffs should reflect the actual cost of service provision to customers;
- **Price stability** – network tariffs should remain stable over time to permit customers to make informed investment decisions; and
- **Simplicity** – network tariffs should be simple and straightforward to apply and readily understood by network users.

Some of these principles may conflict from time to time. For example, a uniform, flat tariff across all customers would be very simple. However, this would be unlikely to promote efficient use of the network and would result in cross-subsidies between customer classes. Accordingly, a balanced approach is required when applying these principles.

Current price structures used by ENERGEX use kW as the measure of demand in calculating demand and capacity based charges. Further information on ENERGEX's current tariff structure can be found in the *Network Pricing Principles Statement 2008-09*[3].

[3] ENERGEX 2008, *Network Pricing Principles Statement 2008-09*, February, p6

3 THE RATIONALE FOR KVA TARIFFS

From ENERGEX's perspective, getting network pricing signals right will assist in ensuring that the utilisation of its network is at its most efficient – an outcome which is of benefit to all customers, as it will reduce the need to spend additional funds on increasing the capacity of the network, thereby minimising price increases. This is one of ENERGEX's pricing principles.

The two methods of measuring utilisation of the network, or customer demand, are kW or kVA. kVA is a more accurate measure of a customer's impact on the network as it reflects the customer's power factor. Poor power factor increases the network capacity required to meet a customer's demand, thereby increasing the costs imposed on the network by that particular user. Ideally, power factor should be as close to unity as possible. Therefore the further it moves away from one, the more network capacity is needed to supply the same kWs. This is demonstrated in Table 1 below.

Table 1: Impact of power factor on the network

	Demand (kW)	Power factor	kVA impact on network
Customer 1	1,600	0.7	2,286
Customer 2	1,600	0.8	2,000
Customer 3	1,600	0.9	1,778
Customer 4	1,600	1.0	1,600

Poor power factor can also increase the amount of electricity lost during the process of transporting it from the point where it is generated to the point where it is consumed by customers. This means that poor power factor is likely to result in a greater need for investment in transmission and distribution networks. It may also mean an increase in the amount of generation needed to meet the same level of demand on the distribution system. All other things being equal, improved power factor will reduce the level of greenhouse gas emissions resulting from the generation and distribution of electricity to meet the same level of demand, having a positive impact on the environment.

It is also worth noting that ENERGEX and its customers have statutory obligations in relation to power factor. The *Electricity Regulations 2006* allow for ENERGEX to require customers connected at low voltage to have a minimum power factor of 0.8[4]. In addition, the *Electricity Regulations 2006*, by way of reference to the *National Electricity Rules*, require customers where the voltage at the point of connection is between 1kV and 50kV to maintain a power factor of no less than 0.9 and customers where the voltage at the point of connection is between 50kV and 250kV to maintain a power factor of no less than 0.95[5].

[4] *The Electricity Regulations 2006*, s36(2)(d)(i)

[5] *National Electricity Rules,* v21, s5.3.5

4 OVERVIEW OF CONSULTATION PROCESS

ENERGEX has undertaken an extensive consultation process in the development of this preliminary position paper. The potential introduction of kVA tariffs was initially flagged in an ENERGEX Discussion Paper in December 2006[6]. The consultation undertaken by ENERGEX since then includes the following:

- A second annual discussion paper on network pricing structures was released in December 2007[7], which further explored a potential move from kW tariffs to kVA tariffs. ENERGEX received six responses in relation to the issues discussed around kVA tariffs - two from retailers and four from customers (two of these were received via a third party);

- Customer forums were held in September 2007, December 2007, June 2008 and September 2008. These customer forums were well attended by stakeholders. More than 50 customers, retailers and industry organisations attended the September 2008 forum, which focused on kVA tariffs;

- Meetings were held during 2007 and 2008 with the DME, the QCA and the EUAA;

- ENERGEX held bilateral discussions with more than 40 customers during 2008 to discuss kVA tariffs;

- A consultation paper on kVA tariffs was released in August 2008;

- ENERGEX undertook a paper trial of kVA tariffs in September, whereby all large customers (ICCs and CACs) were sent a letter comparing their network charges based on both a kW tariff and a kVA tariff with the exception of a small number of customers where there was insufficient data.[8] Actual customer data was used to illustrate how their network charges would have varied if kVA tariffs had been applied to their 2007/08 consumption. Each letter also provided an estimate of the kVA impact in 2008/09 based on forecast consumption data;

- ENERGEX published a web-based tool on its website to enable demand metered SACs to calculate billing information for themselves by entering their own demand, energy and kVA information. While ENERGEX does not propose to introduce kVA tariffs to these customers at this time, the purpose of the calculator was to enable demand metered SACs to understand the likely impact of kVA tariffs should ENERGEX propose to implement this type of tariff structure in the future.

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[6] ENERGEX 2006, *Discussion on ENERGEX's Network Pricing Strategy*, December

[7] ENERGEX 2007, *Development of Network Tariff Structures – Discussion Paper*, December

[8] This was generally the case for new connections and where the configuration of existing connections had significantly changed.

5 RESPONSES TO CONSULTATION PROCESS

Throughout the consultation process, ENERGEX has canvassed a range of issues relating to kVA tariffs and invited stakeholders to provide their views on these issues.

In relation to its August 2008 consultation paper, ENERGEX received five written responses – one from a retailer, one from an industry consultant working on behalf of customers and three from customers.[9] In addition, as detailed earlier in this paper, ENERGEX spoke directly to a number of its customers in relation to kVA tariffs, many in response to queries regarding the paper trial.

The responses received raise issues that can generally be summarised into six main categories:

- Retail tariff reform;
- On-selling cost recovery;
- Power factor neutral point;
- Implementation timeframe;
- Application to SACs; and
- Site specific issues.

The key issues raised by stakeholders and ENERGEX's responses are set out below.

5.1 RETAIL TARIFF REFORM

The submission received from a retailer raised a number of issues relating to tariff reform. These issues, some of which were raised by the same retailer in response to a previous discussion paper, included:

- There is a misalignment between supply costs and regulated retail tariffs, and any restructure of the network tariff will not result in effective price signals for customers on regulated retail tariffs;
- ENERGEX has not presented any evidence of the expected value that kVA tariffs will add to network utilisation. This objective cannot be achieved by tariff reform at the network level only;
- Access to regulated retail tariffs should be removed for large customers; and
- Customers with poor power factors on regulated retail tariffs will have their network bills subsidised by their retailer.

[9] One of the customer responses did not raise any issues directly related to kVA tariffs. ENERGEX has responded directly to this customer on the specific issues raised.

Similar issues were also raised in a submission from another retailer to the December 2007 discussion paper.

ENERGEX Response

ENERGEX recognises that there may be issues that result from a change to the structure of network tariffs that are not reflected in regulated retail tariffs.

However, ENERGEX has an obligation to structure its network tariffs according to its stated pricing principles, which have been approved by the regulator. These principles require that network tariffs are cost reflective and equitable, and encourage the efficient use of the network. This means reflecting the impact of each customer class on existing and future network capacity and costs in the tariff structure. ENERGEX maintains that kVA tariffs will better achieve these principles compared with kW tariffs.

Further, ENERGEX notes that the proposed kVA tariffs would only apply in the first instance to ICC and CAC customers, the vast majority of which are on market contracts. Thus, the issue raised by the retailer about network charges not being reflected in retail bills where the customer is on a regulated retail tariff applies to a very small subset of the ICCs and CACs.

ENERGEX acknowledges that retailers will face extra costs where they have an ICC or CAC with a poor power factor on a regulated tariff. However, the reverse also applies in that the retailer will benefit where they have an ICC or CAC with a good power factor on a regulated retail tariff.

ENERGEX has a clearly defined and transparent process for engaging with stakeholders on the potential introduction of kVA tariffs. ENERGEX has previously said that it will endeavour to provide 12 months firm notice to the market of the introduction of kVA tariffs which it believes is sufficient time for customers and retailers to consider the potential impact and decide how best to respond.

ENERGEX has endeavoured to keep the retailers informed of developments in relation to kVA. ENERGEX is also being proactive in communicating with customers about the potential impact that kVA tariffs may have on them specifically, including following up to ensure that customers have understood this information in addition to seeking their feedback on the proposal.

ENERGEX will continue to work with the DME, the QCA and retailers to ensure that all interested parties have access to the information necessary to set regulated retail tariffs to allow for the retail tariff to take account of any changes to network tariffs. However, ENERGEX's agreed pricing principles require tariffs to be set such that they encourage efficient use of the network and kVA tariffs better achieve this principle compared with a kW tariff.

5.2 ON-SELLING COST RECOVERY

The retailer noted that electricity on-sellers will be unable to pass on the cost of customers with poor power factors due to restrictions in the *Electricity Act 1994*. This issue was also raised by customers at the customer forum in September 2008 and in subsequent one-on-one discussions with customers.

ENERGEX Response

ENERGEX acknowledges that there are difficulties in passing on network charges where the customers of the on-seller are supplied on a regulated retail tariff. It is likely that this is an issue for an on-seller under the current kW based demand tariffs also.

ENERGEX notes that where a customer of an on-seller has an actual power factor above the neutral point then the on-seller is likely to benefit. In addition, where the overall site's power factor improves it would likely be the on-seller who would receive the financial benefit under the kVA tariff proposal.

ENERGEX notes that there may be a requirement for demand metering to be installed in such circumstances.

ENERGEX will continue to work with the DME, the QCA and retailers to ensure that all interested parties have access to the information necessary to set regulated retail tariffs to allow for the retail tariff to take account of any changes to network tariffs. However, ENERGEX's agreed pricing principles require tariffs to be set such that they encourage efficient use of the network and kVA tariffs better achieve this principle compared with a kW tariff.

5.3 POWER FACTOR NEUTRAL POINT

ENERGEX's initial consultation paper proposed two alternative means by which the power factor neutral point could be determined if a kVA tariff was introduced:

- Option 1: a consistent power factor neutral point for all customer classes; or
- Option 2: power factor neutral point for each customer class based on statutory obligation.

In its written submission, the retailer suggested it would be practical to use the power factor requirements set out in *The Regulations 2006* and the *National Electricity Rules* (i.e. Option 2), as customers can be required to meet these statutory obligations. There would then be no disputes over the imposition of the power factor neutral point. Further, the retailer argues that this supports the principle that customers should pay appropriately for network utilisation.

One customer suggested the power factor neutral point should be based on statutory obligations, so that ENERGEX and individual customers are treated equally.

One industry consultant suggested that customers should be financially incentivised to improve power factor. The response received from the industry consultant canvassed the environmental benefits of a higher power factor as well as economic benefits to the community. It was suggested that 0.9 would be an appropriate power factor neutral point at this point in time in achieving the desired result.

At the September 2008 customer forum and subsequent one-on-one discussions with customers, customers were less concerned with which option ENERGEX chose to set the power factor neutral point. Rather, customers were more concerned to understand what the value of the power factor neutral point would be.

ENERGEX Response

ENERGEX notes that one retailer and one customer supported option 2, setting a power factor neutral point for each customer class based on statutory obligation. This option has proven difficult to implement in practice because customer classes as currently defined have a variety of statutory requirements.

Similarly Option 1, a consistent power factor neutral point for all customer classes, may not create sufficient incentive for customers to respond due to the varying statutory obligations faced by the range of customers in the ICC and CAC classes (0.8 – 0.95).

ENERGEX has also modelled these options to assess the impact on customers. Both of the original options canvassed resulted in significant price impacts for some customers, resulting from a strong imbalance of customers on either side of the neutral point.

For these reasons, ENERGEX sought to modify the original options proposed to achieve a more balanced outcome. ENERGEX has developed an amended position as an alternative to these two options. The alternative proposal is to adopt a uniform power factor neutral point for each customer class, which is close to the median point. This approach treats customers equally where they have similar levels of consumption, and results in more balanced pricing outcomes.

ENERGEX acknowledges this means that for many customers, the neutral point will be above their statutory requirement. However, ENERGEX considers that the statutory requirement is a minimum that customers should be required to meet, and that the pricing incentive should reward customers for achieving better than this minimum. This approach is very similar to ENERGEX's own network reliability requirements, which have both a legislative minimum, and an incentive structure designed to reward good performance over and above this minimum. ENERGEX therefore considers that the power factor neutral point will be most effective if set higher than the statutory obligation.

It is proposed to adopt a single power factor neutral point of 0.90 for ICCs and a single power factor neutral point of 0.85 for CACs.

Power factor neutral point is further discussed in section 7.1.3.

5.4 IMPLEMENTATION TIMEFRAME

In its consultation paper, ENERGEX proposed to implement kVA tariffs from 1 July 2010, subject to regulatory approval.

In a written response, one customer expressed concern that the timing coincided with the introduction of emissions trading. This customer also noted that they require 12 months' notice with full cost implications finalised at least six months prior to those costs being incurred.

Another customer expressed concern that the lead time was insufficient given the scarcity of suitably qualified people and suppliers in the field of power factor correction equipment. This customer argued that a transition period of at least four years be provided during which time the customer may choose the option of either kW or kVA based network tariffs. This would also provide a number of years for retail contracts based on kW billing to be honoured without dispute regarding the cost impact of kVA.

One retailer at the customer forum held in September 2008 suggested that, given the benefits of kVA pricing, it should be introduced sooner than 1 July 2010.

Two customers present at the forum suggested the proposed timeframe was appropriate for their businesses as it allowed sufficient time to enable any required expenditure on power factor correction equipment to be factored into their 2009/10 capital expenditure budgets. One customer stated they would prefer to see ENERGEX's position paper released no later than December 2008.

Another customer stated that they would need to know the power factor neutral point as soon as is possible in order for them to consider any technical changes they need to make.

ENERGEX Response

While a few customers expressed concern about the length of the implementation period, a greater number of customers were supportive of the proposed timeframe provided that regulatory approval (and thus certainty) was provided at least twelve months prior to the implementation of kVA tariffs. ENERGEX proposes to publish its final position paper 18 months before the commencement of kVA tariffs, which allows up to six months to obtain regulator approval while still providing 12 months certainty of introduction to customers.

ENERGEX does not believe it is necessary to provide a transition period over which customers would have the option of switching from a kW to a kVA tariff. The potential introduction of kVA tariffs was first flagged a number of years ago, and has been the subject of a number of customer forums, as well as several consultation papers. Further, ENERGEX is of the view that the proposed implementation timeframe provides sufficient lead time for businesses to plan for the commencement of kVA tariffs. A transition period with both kW and kVA based demand tariffs would make it difficult to achieve revenue neutrality, which is a regulatory requirement. Revenue neutrality is discussed further in section 7.1.1.

ENERGEX recognises that the timing does coincide with the proposed implementation of the emissions trading scheme in Australia. However, for the reasons outlined above ENERGEX considers that the proposed implementation timetable is a reasonable balance between providing customers with sufficient lead time and introducing a change to its network tariffs that better achieves the pricing principles as it improves cost reflectivity.

5.5 APPLICATION TO SACs

One retailer expressed concern that no parameters have been set around the possible future extension of kVA tariffs to demand metered standard asset customers (SACs), as this approach may not include full consideration of the impacts of kVA tariffs upon the network system. Therefore, the retailer requested that ENERGEX provide a statement of policy on the future plans for kVA tariffs, how the success of the implementation of the roll out to ICCs and CACs will be measured and the potential application to SACs.

ENERGEX Response

As noted in the consultation paper, ENERGEX will undertake a review of the introduction of kVA tariffs for ICCs and CACs prior to any extension of the application of kVA tariffs to SACs. ENERGEX will also undertake an extensive consultation process before any changes are implemented. Further, the extension of kVA tariffs to other customer categories would need to be approved by the regulator.

ENERGEX does not intend to articulate a policy on the extension to SACs at this time, as the review and subsequent consultation process will need to be undertaken prior to developing its policy.

5.6 SITE SPECIFIC ISSUES

Stakeholders raised a number of issues that will need to be resolved on a case by case basis. The following table summarises these issues.

Table 2: Summary of site specific issues

Issue	ENERGEX Response
Responsibility for installing power factor correction – building owner or tenant	This will need to be negotiated between the landlord and the tenant. The owner of the account has the incentive to install power factor correction as they see the price signal. In part, it will depend on the nature of the connection assets.
Can the power factor correction be installed near the transformer or does it need to be mounted in the switchboard	This needs to be considered on a case by case basis (in consultation with the relevant ENERGEX Asset Manager) as it depends on what space is available for mounting the equipment (if not on the customer's premises).
Timing coincided with a structural re-organisation within the customer's business	ENERGEX considers that the proposed implementation timetable is a reasonable balance between providing customers with sufficient lead time and introducing a change to its network tariffs that better achieves the pricing principles as it improves cost reflectivity.

5.7 OTHER ISSUES RAISED

5.7.1 Pricing principles to consider external factors

One retailer suggested that ENERGEX's network pricing principles should consider the impact of the pricing decision on the entire structure of the electricity market in Queensland, as the regulatory framework protects some customers from the price signals in network tariffs. Further, it argues that pricing decisions should be based on actual impacts instead of theoretical outcomes.

ENERGEX Response

As noted above, ENERGEX has a statutory obligation to structure its prices to meet its approved pricing principles. ENERGEX will take the above feedback into consideration when it develops its pricing principles for 2009/10, which will be submitted to the regulator for approval in December 2008.

5.7.2 Metering impact

A customer at the September 2008 forum asked what the overall metering impact would be.

ENERGEX Response

The proposed kVA tariffs will initially be rolled out to large customers, which already have the required metering installations. Pending the outcome of a review of kVA tariffs to these customers, ENERGEX will then undertake a consultation process before any changes for demand metered SACs are implemented. Thus, there will generally be no changes required to customers' metering installations.

The exception may be on-selling situations, where the on-seller's customers do not have demand meters installed.

The application of kVA tariffs to non-demand metered SACs is currently not feasible as these customers generally have accumulation meters, which do not measure demand. ENERGEX may consider introducing kVA tariffs for non-demand metered SACs if there is a change in policy on metering installations for this customer group.

5.7.3 Relative weight of kVA in overall network tariff

A retailer at the September 2008 forum suggested that, at the current weighting of demand tariffs in the overall network tariff, the impact of kVA tariffs would not be significant. It was suggested that the weight should be increased by 5% or 10% to have a major impact.

ENERGEX Response

ENERGEX is proposing to calculate network charges initially using the kW based approach that it currently applies. These charges would then be adjusted up or down by a relative amount based on the difference between the measured power factor and the power factor neutral point. ENERGEX has considered a range of different neutral points and considers that the neutral points being proposed send a price signal that provides the right incentive for customers to respond.

The relative weights of the various components of ENERGEX's network tariffs are reviewed annually as part of the annual pricing process.

5.7.4 Responsibility for installing power factor correction equipment

In a written response, one customer argued that ENERGEX should be responsible for providing customers with a quotation for assessment, indicative costing, supply, installation and commissioning of power factor correction equipment. The customer

argues that this is required to overcome the scarcity of individuals and organisations suitably qualified to develop appropriate specifications, the lead time for such equipment and the anticipated market shortage of power factor correction equipment.

A customer at the September 2008 forum inquired whether the building owner or tenant was responsible for installing the power factor correction equipment.

ENERGEX Response

The market for assessment, supply, installation and commissioning of power factor correction equipment is a competitive market and therefore there is no obligation on ENERGEX to offer services in relation to power factor correction equipment. However ENERGEX has undertaken some initial research to attempt to understand the depth of the market. This initial research suggests that there are a large number of service providers that already operate in this market.

5.7.5 Time of Use demand tariffs

A stakeholder at the September 2008 customer forum asked whether ENERGEX was considering a time of use (ToU) demand tariff.

ENERGEX Response

ToU demand tariffs are not on the short term agenda for tariff reform; however, they are being considered as part of ENERGEX's medium term pricing strategy. ENERGEX acknowledges that ToU demand tariffs would further improve the cost reflectivity of its network tariffs as the timing of demand is a key factor in overall network utilisation (see separate discussion paper on the ENERGEX website).

6 PAPER TRIAL

In addition to the consultation paper published in August 2008, ENERGEX undertook a paper trial of kVA tariffs in September 2008. With a small number of exceptions, ICCs and CACs were sent a letter detailing the impact of the proposed kVA tariff on their network charges. The impact was estimated on both a retrospective (2007/08) and forecast basis (2008/09) for a power factor neutral point of 0.8.

ENERGEX received more than 25 enquiries from customers, of which about half were from ICCs and CACs. The balance of enquiries were from SACs.

For those customers who understood the concept of kVA tariffs (generally larger ICC and CACs), the enquiries centred around clarification of the power factor neutral point and the implementation timeframe. These customers generally understood the nature of the impact on their business and what they would need to do to determine whether they would benefit from installing power factor correction equipment.

SACs, on the other hand, generally sought further clarification on the impact of kVA tariffs for their businesses.

In addition, ENERGEX proactively sought to initiate bilateral discussions with all of its ICCs and those CACs who are likely to be more adversely affected by kVA tariffs. The information below summarises the number and nature of interactions that ENERGEX had with its customers regarding kVA tariffs during this phase of the consultation process:

- 2 bilateral meetings;
- 9 teleconferences;
- 27 customer initiated queries; and
- 25 customers who did not respond to attempts to make contact to discuss kVA tariffs.

In addition, ENERGEX contacted Queensland retailers via email to inform them of developments in the kVA tariff consultation process. In response, a number of retailers attended the customer forum held in September 2008.

ENERGEX will continue to seek to proactively engage with stakeholders in relation to kVA tariffs throughout November 2008.

7 PRELIMINARY POSITION

As outlined above, ENERGEX has undertaken an extensive consultation process in the development of this position paper. ENERGEX has consulted directly with customers, retailers and regulators, and undertaken a paper trial to provide customers with the opportunity to understand how kVA tariffs would impact them. The feedback received from stakeholders has been largely positive and has been fully considered.

ENERGEX has concluded that overall, a tariff based on kVA will better reflect the impact of each customer class on existing network and future network capacity and costs in the tariff structure. This should encourage customers to use the network more efficiently thereby minimising the need for future investment. ENERGEX considers that the implementation of kVA tariffs therefore will benefit the community overall. ENERGEX recognises that there are some issues to work through with customers, but is of the view that these can be successfully dealt with through the implementation process.

The following sections describe the features of ENERGEX's preliminary kVA tariff proposal.

7.1 PROPOSED KVA TARIFF METHODOLOGY

The proposed methodology set out below remains very similar to the methodology presented for consultation in the August 2008 consultation paper. There are some variations, mainly in respect to the approach to setting the power factor neutral point.

The approach to setting the power factor neutral point, in addition to the approach for each of the other elements of the proposal, is set out below.

7.1.1 Revenue neutrality

The objective of this proposal is to continue to recover the same costs currently allocated to each customer group – i.e. the proposed kVA network charges will be revenue neutral for ENERGEX. Revenue neutral means that if ENERGEX recovers revenue in one year above its revenue allowance, the amount over-recovered would be returned to customers in subsequent years through network tariffs.

As such, the methodology employed is simply a change in the formulation of the price to recover those costs – customers with a good power factor will receive a discount, while customers with a poor power factor will pay a premium. The effect of a change to kVA tariffs will therefore be a redistribution of each customer's contribution to the total revenue recovered from each customer class (and sub-class).

7.1.2 Calculating the kVA tariff

Network charges will be calculated initially using the kW based approach currently applied by ENERGEX. These charges will then be adjusted up or down by a relative amount based on the difference between the customer's measured power factor and the power factor neutral point.

7.1.3 Power factor neutral point

The power factor neutral point is the point at which customers would face no change in their charges relative to the current position. However if an individual customer's power factor is above this neutral point, the charges levied on that particular customer would decrease. Conversely, if a customer's power factor is below the power factor neutral point then the charges faced by that particular customer would increase relative to their current tariff.

ENERGEX has undertaken a modelling exercise to scenario test a range of different power factor neutral points to consider the different outcomes of each scenario. Lower power factor neutral points can result in more extreme price impacts. The power factor neutral points being proposed by ENERGEX are considered to be an appropriate balance between sending a price signal that provides the right incentive for customers to respond but ensuring that the impact on customers is appropriate.

In the first instance, ENERGEX proposes to adopt a single power factor neutral point of 0.90 for ICCs and a single power factor neutral point of 0.85 for CACs. ENERGEX is proposing to keep these neutral points under review. As the power factor of each customer class improves it may be necessary to increase the neutral point to ensure that the incentive remains appropriate.

ENERGEX recognises that these neutral points are above the levels canvassed in the August 2008 consultation paper. However, ENERGEX has tested the range of power factor neutral point options against it pricing principles and considers that the proposed power factor neutral points best achieve these principles. ENERGEX considers that this proposal will best achieve the objectives of:

- Encouraging efficient use of the existing and future network capacity;
- Cost-reflectivity as the DUoS charge will more accurately reflect the cost of service provision;
- Price stability as the power factor neutral points proposed will result in tariffs that will remain stable over time which will permit customers to make informed investment decisions.

ENERGEX's ultimate objective with regards to kVA tariffs is to embed kVA in the tariff development process. This will remove the adjustment as explained in section 7.1.2 and therefore also remove the need to set a power factor neutral point.

7.1.4 Impact of proposed kVA tariffs

The charts below demonstrate the impact of a move to kVA tariffs for ICCs and CACs by tariff class. The charts show the impact on customers with the proposed power factor neutral points of 0.90 for ICCs and 0.85 for CACs.

Note that the impact on network charges as illustrated in the charts below is reduced compared with the impact on network charges presented in Chart 1 and Chart 2 of the August 2008 consultation paper. ENERGEX initially proposed to apply to power factor adjustment to the total DUoS charges. ENERGEX has reconsidered this approach and decided that it would be more appropriate to apply the power factor adjustment to the demand charge and capacity charge elements as these are the only two elements of the

DUoS charges that reflect the costs that power factor imposes on the ENERGEX network.

Chart 1: Impact on Network Charges for ICCs –power factor neutral point of 0.90

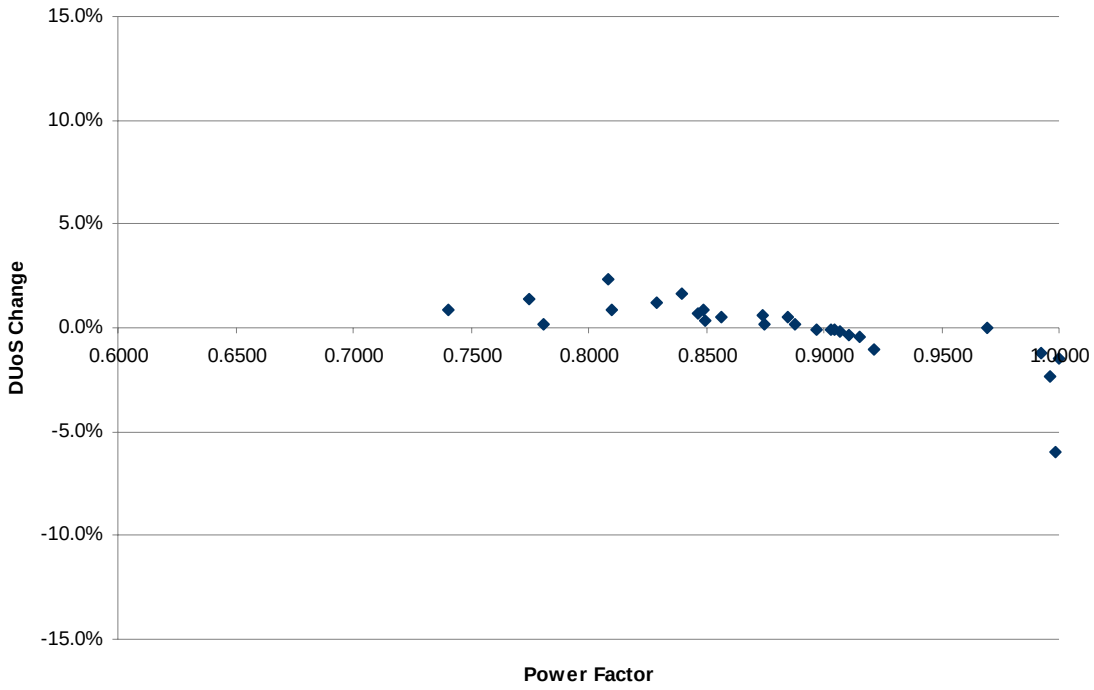
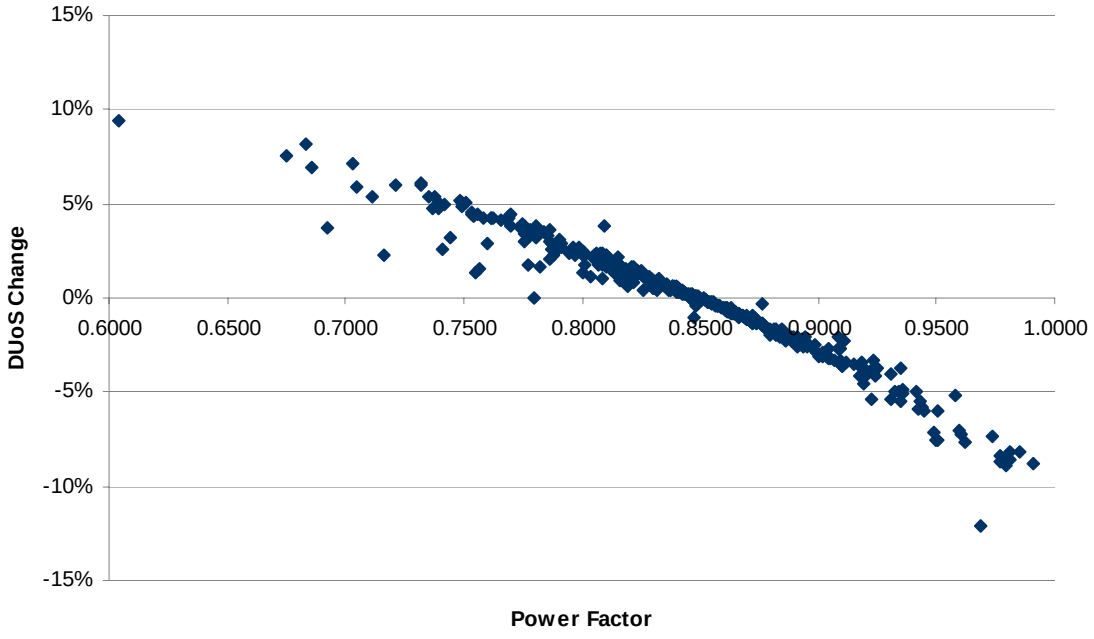


Chart 2: Impact on Network Charges for CACs –power factor neutral point of 0.85



8 NEXT STEPS

Subject to regulator approval, ENERGEX is proposing to implement a change to kVA tariffs for ICCs and CACs commencing 1 July 2010. kVA tariffs for demand metered SACs will then be considered based on a review of the initial roll out of kVA tariffs for ICC and CACs.

ENERGEX invites views from stakeholders on the proposed kVA tariff methodology set out in this paper. ENERGEX will consider the views of stakeholders gathered through this stage of the consultation process in developing its final position.

There is an option to hold a subsequent workshop in November 2008 if interested parties feel that there are issues that require further debate. At this stage ENERGEX has not received feedback to support the need for this further workshop.

ENERGEX plans to publish a final position paper in December 2008, and to seek regulatory approval for implementation of its proposal at least 12 months in advance of the proposed implementation date of 1 July 2010.

Table 3 below sets out details of the key milestones and dates leading up to the implementation of kVA tariffs.

Table 3: Key milestones for kVA tariff implementation

November 2008	Option to hold further Industry Workshop
December 2008	Publication of ENERGEX's final position paper
July 2009	Regulatory approval to implement kVA tariffs expected to be received by no later than July 2009
July 2010	Implementation of kVA tariffs

9 GLOSSARY

AARR	Aggregate annual revenue requirement
AER	Australian Energy Regulator, expected to take over as the regulator of ENERGEX's distribution network prior to the commencement of the next regulatory period on 1 July 2010.
CAC	Connection Asset Customer, which is a customer that consumes between 4 and 40 GWh per annum of electricity.
DME	Department of Mines and Energy (Queensland Government)
DUoS	Distribution Use of System, which refers to the network charges for the use of the distribution network.
EUAA	Energy Users Association of Australia
FRC	Full Retail Competition, which means that all customers (irrespective of their level of consumption) may purchase electricity from their electricity retailer of choice. From 1 July 2007, all electricity customers in Queensland have this option.
ICC	Individually Calculated Customer, which is a customer that consumes more than 40 GWh per annum of electricity.
kVA	Kilovolt Amperes, which is a measure of the apparent power flowing and is used to measure demand. One kVA equals 1,000 Volt Amperes.
kW	Kilowatt, a unit of electrical power and is used as a measure of demand.
MW	Megawatt, which is equivalent to 1,000 kW.
Wh	Watt hour is a unit of energy. It is the product of power and the time during which that power is generated or consumed. One kWh represents the consumption of electrical energy at the rate of one kilowatt over a period of one hour.
Power Factor	Power factor, is the ratio of kW to kVA, and is a useful measure of the efficiency in the use of the network infrastructure. The closer to one the power factor, the more efficient the network assets are utilised.

$$\text{Power Factor} = \frac{\text{kW}}{\text{kV.A}}$$

QCA	Queensland Competition Authority, the jurisdictional economic regulator for ENERGEX. The QCA determines ENERGEX's aggregate annual revenue requirement (AARR) and approves ENERGEX's network tariffs.
SAC	Standard Asset Customer, which is a customer that consumes less than 4 GWh per annum of electricity.