Attachment 1: Submission on Energex’s regulatory proposal 2015-2020 on Public Lighting.

Purpose

This paper provides Sunshine Coast Council’s (SCC) submission to the 2015-2020 price determination for Energex. It focusses on potential impacts of the SCC’s public lighting project on future lighting pricing arrangements and proposes an approach for assessing the values at which assets transfer from Energex to SCC.

Executive Summary

Energex currently owns the majority of street light assets in the SEQ region. The building block components of street lighting charges are calculated across all forecast street lights. On this basis there is cross subsidisation between councils in terms of age, type and condition of street lights. Councils with older assets face a cost disadvantage for the return of capital and return on capital building block components. However there may be a trade-off for council’s with older assets in terms of deriving greater benefit from operations and maintenance charges which are also assigned equally. This postage stamp pricing arrangement meets the pricing principles outlined in the National Electricity Rules and overseen by the Australian Energy Regulator.

The public lighting project will enable SCC to determine the future direction of public lighting on the Sunshine Coast, reduce whole of life costs and implement energy efficiency measures. Service and maintenance of the lighting, in addition to project delivery, is proposed to be undertaken by Citelum Australia Pty Ltd (Citelum), a company whose core business is public lighting and who have delivered major public lighting projects internationally.

An audit of SCC public lighting assets was completed in April 2014 and identified that Energex was maintaining an ageing, deteriorating public lighting network with many mercury lamps facing obsolescence.

Transfer of ownership of public lighting assets from Energex to SCC must occur before Citelum can take over the service delivery. Negotiations with Energex on the asset transfer progressed in a series of meetings between July 2013 and October 2014. The transfer price has become a key focus and as such the regulatory pricing methodology, since any change will impact other customers who are also interested in their public lighting costs and service delivery.

Two methods have been explored to determine the transfer price payable by SCC to take ownership of the lights. The first uses an average asset age and the second uses an SCC specific age profile based on audit results. Potential impacts of the method on future lighting pricing arrangements are discussed and a preferred method proposed.

SCC proposed approach is for:

1. Age adjusted asset valuation methodology is used for the transfer of Rate 1 lighting assets to SCC at a cost of $3.45 million to SCC (1 January 2014);
2. Post July 2010 Rate 2 assets transfer to SCC at nil value;
3. Pre July 2010 Rate 2 assets transfer to SCC at nil value; and
4. Postage stamp’ pricing arrangements continue to be applied for the 2015-2020 regulatory control period.

Public Lighting Project overview

As SCC is committed to purchase a relatively high volume of electricity, it is consequently exposed to electricity price volatility and the associated price risk. A consistent rise in the price of electricity over the past decade has placed an increased financial burden on SCC.

This is driving an increased focus on alternative electricity options such as the Sunshine Coast solar farm project and the public lighting project, in an attempt to reduce electricity-related costs and associated risk exposure.

Public lighting is forecast to cost SCC $5.0 million in financial year 2014/2015 however only 9% of this expense relates to actual electricity charges. The remaining 91% is network and service charges, related to asset maintenance, operation, capital recovery costs and use of the distribution network system operated by Energex. Future costs are expected to increase with population growth, rising electricity prices and replacement of aging lighting infrastructure.

In late 2011, SCC endorsed the Public Lighting Management Plan and approved the calling for expressions of interest for Public Lighting Services (OM11/252). An expression of interest was considered effective to access market opportunities and enable SCC to explore and assess alternatives to business as usual, with an end goal of achieving financial savings whilst considering energy efficiency, maintenance, asset management and lighting amenity.

Submissions were received from companies ranging from small local companies to engineering consultants, consortiums based around multinational lighting manufacturers and public lighting management service companies. Contracting models ranged from traditional service delivery models to energy performance contracts.

SCC entered into a public lighting services contract with Citelum in October 2013. The contract is subject to successfully progressing through a number of hold points. Citelum is an international firm with demonstrated experience in providing end to end public lighting management services covering 2.3 million lighting points in 19 countries. The contract mitigates the risk of higher and more volatile future energy costs and increasing asset management costs.

Citelum will identify a program of work to achieve energy savings from upgrading the street lights to LED with a smart control network to allow dimming and improved operational performance. A detailed business case has also been developed to assess the whole of life cost and benefits offered by the contract.

Street lighting is a key platform that enables the project economics to provide smart city services to residents and businesses. Lighting is one of the 15 priority technology solutions to be incorporated into the new Maroochydore city centre development. The aim is to fit out the priority development area with smart lighting incorporating LED and sensor technology, providing the opportunity to manage lights through sensors and switches that minimise energy consumption without compromising public safety. Citelum has been working with SCC’s Smart City Framework team to provide input into the smart city framework particularly around their experience on the Copenhagen deployment of smart lighting controls.

The introduction of smart technology could add value for residents by providing new services based around street lighting, for example traffic flow monitoring, weather monitoring, CCTV, parking sensors and WiFi to support other infrastructure and services. The smart city framework alludes to the real opportunity to increase the operational efficiency of SCC service delivery and also to include broader considerations for lighting of the public realm (for example celebratory public art and feature / ornamental lighting).

Public lighting audit

Citelum undertook a detailed public lighting audit between December 2013 and April 2014. The purpose of the audit was to:

* Gain detailed information regarding the public lighting network of approximately 25,000 streetlights and 5,000 public place lights, including asset condition, age and value;
* Inform the negotiation with Energex for the transfer to SCC of street lighting assets;
* Inform the development of an Urban Lighting Master Plan; and
* Provide a platform to identify opportunities for financial savings and to identify best practice operational and asset management.

The audit of public lighting assets was completed in April 2014 and identified that Energex was maintaining an ageing, deteriorating and obsolete public lighting network. Key findings of the audit were:

* That 70% of the network in the SCC area was aged at 10 years or older (and hence will require replacement in the near term). Furthermore, 37% of the network was found to be over 20 years old. Replacement of assets triggers a move to Rate 1 charges (Rate 1 assets are Energex-built as opposed to developer-built) which mean higher costs to SCC.
* There were 28% of assets assessed as being in a poor or bad condition, of which the majority were developer-built Rate 2 assets (where the developer or public body funds the supply and installation costs). As above, replacement of these would place a cost pressure on SCC as they would transfer to Rate 1 pricing once Energex replaces them.
* Mercury vapour lamps account for 60% of the data set with high pressure sodium lamps being used in a further 37% of the lights. Mercury vapour lamps are now globally obsolete as the US banned their manufacture in 2008 with the EU ban due to commence in 2015. High pressure sodium lamps are no longer widely sold either. Upgrading the lamps used to current standard lighting such as LEDs will allow SCC to address sustainability and efficiency targets as well as reducing cost.
* Estimates of the depreciated replacement value of Energex-owned Rate 1 assets range from $2.8 million to $3.8 million.

Energex

Energex is the owner of street lights in South East Queensland and provider of street lighting design, installation and maintenance services to councils and the Department of Transport and Main Roads.

Discussions with Energex identified a number of barriers to the alternative approach identified in the Public Lighting Plan of transferring assets to SCC, including regulatory treatment of contributed assets, wiring rules, asset ownership boundaries, safety, public liability and difficulty providing information on asset age, condition and value.

The Australian Energy Regulator’s rules provide guidance on the value of the street light regulatory asset base (SLAB) at the commencement of the regulatory control period and the roll forward value consistent with the roll forward model. The SLAB value is a one lump sum value and is not categorised according to individual council’s street lights.

The building block components of street light prices are calculated across all forecast street lights in each category (major/minor/contributed/non-contributed) and then further divided by the number of days in the year. Councils with older assets face a cost disadvantage for the return of capital and return on capital building block components however there may be a trade-off for councils with older assets in terms of deriving greater benefit from operations and maintenance charges which are assigned equally.

Negotiations with Energex on the asset transfer progressed in a series of meetings between July 2013 and October 2014. The proposed transfer of streetlight assets from Energex to SCC has identified a number of areas for further consideration, including regulatory treatment of Contributed Rate 2 assets, wiring rules, asset ownership boundaries, safety, public liability and asset valuation not categorised according to individual council’s asset age and condition.

The transfer of street light assets categorised as Rate 1 or Rate 2 would require downward adjustments to either the SLAB as part of the asset base roll-forward or contributed asset register.

The operating charge associated with the remaining street lighting assets in the SLAB or contributed asset register would need to be reduced from the start of the next regulatory control period to reflect the reduction in assets owned and maintained by Energex.

The ‘use of system’ charge (and associated revenues) for the provision of electricity to streetlights will not be affected by the transfer of Rate 1 or Rate 2 assets from Energex to Council.

The results of the South East Queensland Energy Efficient Street Lighting Trial 2008-2011 identified that Energex’s preferred option to replace the mercury vapour M50 was the compact fluorescent CFL32 for residential areas and linear fluorescent T5 2x14 for industrial areas where aesthetics were not a priority. The report noted LED lamps performed poorly over the course of the trial but that LED technology is changing rapidly and significant advances have been made since the trial began in 2008 which may make it a viable option in the future. However the study also concluded it was not economically viable to councils for Energex to deploy the trialled lights due to network charges, residual asset costs and capital costs. Energex is about to commence another LED trial, if successful, LED lighting could be made available to councils as a standard product after this. Allowing time for trial evaluations and tenders to be called and contracts awarded, this would likely be sometime around 2018/19.

SCC will consider the move to LED as part of the public lighting project in 2015.

Asset Transfer Implications – Rate 1 assets

In August 2014, Energex initially valued the assets on the Sunshine Coast at $8.8 million based on the average age of assets in SEQ council areas. However this approach did not take account of the age and condition of the lighting assets that was revealed by SCC’s audit. SCC proposed an alternate asset valuation methodology whereby the asset valuations for individual councils reflect the age profile of assets for individual councils in relation to other SEQ council areas.

After SCC requested they factor in the specific profile of Sunshine Coast assets relative to lights in other SEQ council areas Energex subsequently provided the following average age profile data for SEQ councils. Note that SCC assets had a mean age of 18.3 years at 1 January 2014 which is older than the average age of 14.5 years.

*Table 1 Age profile of Rate 1 street lights as at 1 January 2014*

|  |  |
| --- | --- |
| **Council** | **Mean age (years)** |
| Brisbane City | 10.6 |
| Other | 16.2 |
| Ipswich City | 16.4 |
| Gold Coast | 16.4 |
| Logan City | 20.0 |
| Sunshine Coast | 18.3 |
| Moreton Bay | 18.3 |
| Redland Bay | 20.1 |
| **All Councils** | **14.5** |

The asset related charges for SCC appear to be higher under postage stamp pricing.

As an example, in undertaking an age adjusted asset valuation, a 3 year old (major) streetlight would warrant an 85% claim against the “as new” value (adjusted for indexation). The aggregate value of each individual Rate 1 streetlights across all councils would remain equal to the total regulatory SLAB value (which for the purpose of this illustrative example is $119 million as per 2014/15 opening SLAB value).

Energex has provided the following example (see Figure 1) for discussion purposes to illustrate the potential impact on individual councils of an age adjusted asset valuation methodology versus the current ‘postage stamp’ pricing arrangement.

*Figure 1 Averaged and Age adjusted Asset Values by Council*



Energex now propose a $3.45 million (as at 1 January 2014) transfer value could be acceptable once consultation with other SEQ councils is conducted.

The consultation will examine the impact of the SCC transfer on the future Energex pricing for public lighting services.

Determination of an appropriate valuation methodology (if different from current) will need to consider consultation outcomes with SEQ councils, regulatory guidance/process and relevant approvals.

Energex indicate that determining the transfer price based on the average age of assets in SEQ is consistent with the postage stamp pricing approach. To avoid any pricing inequalities, an alternate asset valuation methodology reflecting the age profile of assets for individual council’s would require a move away from postage stamp pricing toward council specific pricing. However, SCC notes the existing cross subsidisation inherent in the postage stamp pricing as demonstrated by Figure 1 above.

Asset Transfer Implications – Post 2010 Rate 2 assets

These assets were categorised as contributed assets (i.e. assets which were gifted to Energex or were paid for by a customer). Contributed assets received by Energex from 1 July 2010 have a $nil value for the purposes of price setting for street lighting services. Alternative control service charges have excluded a return on capital and return of capital component. Post July 2010 Rate 2 assets should transfer to SCC at nil value.

Asset Transfer Implications – Pre 2010 Rate 2 assets

Prior to 1 July 2010 public lighting services in Queensland were provided as standard control services. The assets used to provide those services were categorised as contributed assets (i.e. assets which were gifted to Energex or were paid for by a customer) or non-contributed (i.e. paid for by Energex). Both types of assets were included in Energex's RAB for the purposes of calculating the revenues Energex could earn in providing its standard control services.

With the AER's reclassification of street lighting services as alternative control services from 1 July 2010, Energex separated the value of the contributed and non-contributed assets as at 30 June 2010. Consequently:

1. the SLAB reflects the value of the non-contributed assets ($96.1 million as at 30 June 2010) and was used for the AER's price setting of prices and a price path mechanism for street lighting services for the Current Regulatory Period (Table 17.6, Determination); and
2. the value of the contributed assets as at 30 June 2010 ($173.4 million) remained in the RAB for the purposes of calculating Energex's revenues for standard control services in the Current Regulatory Period (Table 5.1, Determination).

The difference in treatment of Pre-2010 Assets was to enable Energex to receive revenues for Pre-2010 Assets on a consistent basis until the end of the economic life of these assets. This regulatory distinction for the purposes of revenue controls should have no relevance to the transfer of the assets.

Following the transfer of the assets to the SCC, the SLAB and RAB will be adjusted. There are established processes under the NER by which this will occur.

Schedule 6.2 of the NER concerns establishing the opening RAB for a regulatory control period. Rule S6.2.1(e)(6) requires that in setting an opening RAB, the closing RAB from the previous regulatory control period must be reduced by the value of any asset which has been disposed of during the previous regulatory period. In the regulatory reset for the period concerning 1 July 2015, this requirement would be applied so that the value of any assets transferred by Energex to SCC would be removed from the opening RAB and SLAB for the period from 1 July 2015.

A similar approach is applied for the adjustment of the RAB from year to year within a regulatory period under rule S6.2.3(c)(3) to reduce the RAB to reflect the value of disposed assets. Given that we are in the last year of the Current Regulatory Period, the approach set out in S6.2.1(e) (rather than rule S6.2.3(c)) would be adopted.

Energex's Regulatory Proposal for the period July 2010 – June 2015 (July 2010) (Proposal) indicates the treatment of contributed assets prior to 30 June 2010 was to treat the value of the assets as a capital contribution under the revenue cap in accordance with a methodology approved by the Queensland Competition Authority whereby the assets were included in the RAB with an equivalent amount taken off the revenue cap in that year. Energex's basis for this approach is that it continued to be entitled to receive a rate of return and depreciation charge over the life of the pre-2010 Assets.

This seems justifiable while Energex remains the owner of the assets, but does not appear relevant if the assets are disposed of by Energex. Under the NER, revenues are intended to reflect the efficient costs of providing services by means of assets in the RAB. If assets are no longer in the RAB due to their disposal then there no longer appears to be a basis for customers to be charged a rate of return on these assets.

We consider that, the adjustment of the SLAB and RAB will be dealt with by the AER applying processes which are well established under the NER. The adjustments are not relevant to the process by which the Transfer Price will be calculated and are not a constraint on the asset transfer.

We have not identified any factor which would mean that transferred pre-2010 Assets would not be dealt with in the same manner as any other disposal of assets from Energex's RAB under rule S6.2.1(e) of the NER.

Energex indicates that the Rate 2 contributed assets are included in Energex's regulatory asset base (RAB) and the transfer of these assets at a nil value could only occur if Energex is not financially impacted by the transfer. Energex suggests seeking guidance from the Australian Energy Regulator on the impact of the transfer of Rate 2 assets on its RAB.

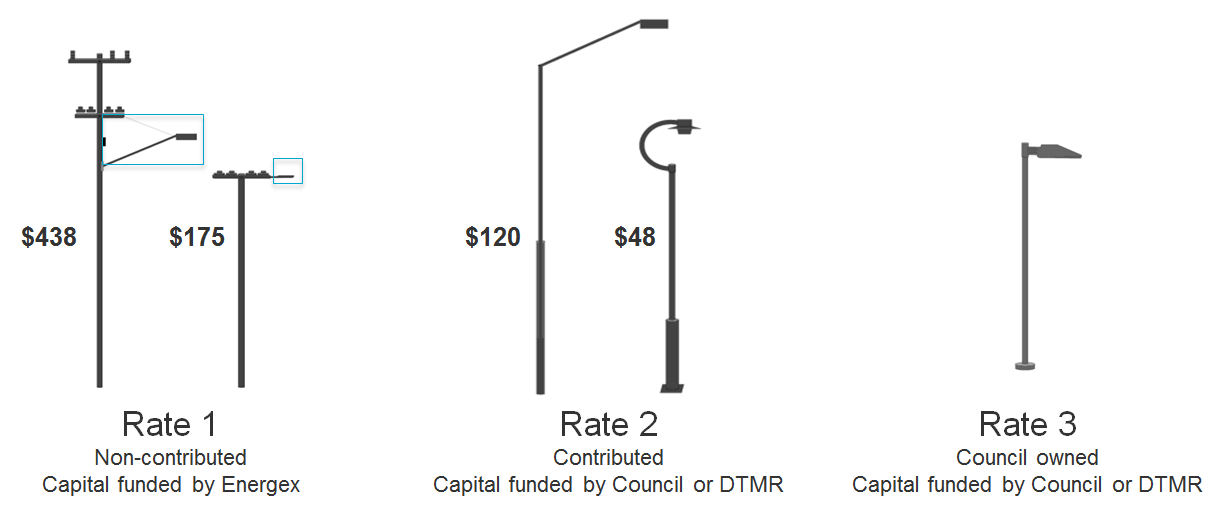
SCC proposed approach

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Glossary

Figure 1 below shows typical asset configurations for each of the 3 tariff categories and the annual alternative control service (service and maintenance) charge levied by Energex in 2014-15.

*Figure 1 Typical asset configuration for each tariff category.*



*Source: SCC*

Rate 1 assets are built, owned, operated and maintained by Energex.

Rate 1 assets include the lamp, luminaire, bracket/arm, and cables from the terminal connection point or from the downside of the connection point associated with the distribution network. i.e. the part inside the blue rectangles. Distribution poles and wires remain with Energex.

Rate 2 assets are built by developers or SCC and contributed to Energex. These assets are operated and maintained by Energex.

Rate 2 assets include the pole, lamp, luminaire, bracket/arm, and cables from the terminal connection point or from the downside of the connection point associated with the distribution network.

Rate 3 assets are built and maintained by SCC