the Australian Sugar Industry Alliance

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CANEGROWERS and The Australian Sugar Milling Council are founding members of the Australian Sugar Industry Alliance

30 January 2015

Committee Secretariat
Senate Standing Committees on Economics
PO Box 6100
Parliament House
Canberra ACT 2600

Submitted via email: economics.sen@aph.gov.au

Dear Sir/ Madam

Re: Senate inquiry into incentives to privatise state or territory assets and recycle the proceeds into new infrastructure

Thank you for the opportunity for the Australian Sugar Industry Alliance (ASA[i]) to make a submission to the Senate Inquiry into *Incentives to privatise state or territory assets and recycle the proceeds into new infrastructure*.

ASA does not have a position on the sale or leasing of assets. However, the industry continues to have an overwhelming concern about the sale or leasing of **inflated and/or grossly inefficient** assets, such as Queensland's electricity distribution networks.

The sugar industry has endured extraordinary electricity price increases over the last seven years, of over 96% for growers and 114% for sugar mills[ii]. These price increases have been experienced across regional Queensland, particularly in the agricultural sector. However analysis undertaken by Carbon and Energy Markets (CME) has also demonstrated that these excessive price increases are driven by some of the most inefficient and highest profit networks in Australia, Ergon and Energex. In the particular case of Ergon, these reports highlight that the network has maximised its profits at the expense of regional energy users by:

- revaluing unaltered assets upwards, to inflate the revenue collection base;
- Very high asset investment per connection;
- Very high operating costs per connection; and
- Conflating CSO payments to enhance network profits.

Consequently, ASA's concern remains that if Queensland's distribution networks were sold or leased at an inflated value, regional Queenslanders will be highly vulnerable to further price escalation. The following reports are attached to this submission, to provide further information regarding the underperformance of Queensland distribution networks.

- Carbon + Energy Markets (CME). 2014. *Advice to CANEGROWERS and the Australian Sugar Milling Council on Ergon Electricity Tariff Issues; and*
- Carbon+ Energy Markets (CME). 2013. *Rising Electricity Prices in Queensland: Evidence and Reasons for Action.*

It is the view of ASA that electricity distribution assets should not be sold or leased, until such time as a comprehensive review of the assets' performance, operation and investment profile is completed; and appropriate safeguards developed in sale/leasing arrangements that reduce the risk of dependant customers being further exploited. Furthermore, any Federal Government incentives should be

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contingent on the sale or lease of such assets leading to subsequent improvement in (and demonstrated) economic efficiency, based on extensive evaluation and comparison against the performance of like assets across the National Electricity Market. We hold similar concerns and expectations in relation to other key government owned infrastructure also identified for privatisation, such as ports.

Should you have any further queries regarding the content of this submission, please contact Ms Sharon Denny, Senior Executive Officer for Government and Business Development,

Yours faithfully,

Paul Schembri
Chairman

John Pratt
Deputy Chairman

[i] The Australian Sugar Industry Alliance (ASA) was formed in 2007 to bring together supply chain participants on whole of industry matters. Founding members are CANEGROWERS, representing some 80 per cent of the 4,000 Australian sugarcane farmers, and Australian Sugar Milling Council (ASMC). Sugarcane production and processing is the lifeblood of many regional towns and communities along the east coast of Australia from northern New South Wales to Far North Queensland.

[ii] Calculated from published Queensland Competition Authority Price determinations 2007/2008-2013/2014.

carbon + energy markets

Advice to Canegrowers and the Australian Sugar Milling Council on Ergon electricity tariff issues

August 2014

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1 Introduction

Canegrowers has been advocating for changes to the electricity tariffs for its members in Queensland. The Queensland Competition Authority (QCA) sets these regulated tariffs.

Recently the QCA has concluded that irrigators in Queensland are already being subsidised by other electricity users in Queensland, and that the tariff changes that Canegrowers' are seeking will only increase the level of this subsidy.

We have been asked to advise Canegrowers on the relevant issues. This includes assessing QCA's conclusions on Canegrowers' proposals. We have also been asked by the Australian Sugar Milling Council to investigate their electricity tariff concerns. This report responds to these requests.

The report is set out as follows:

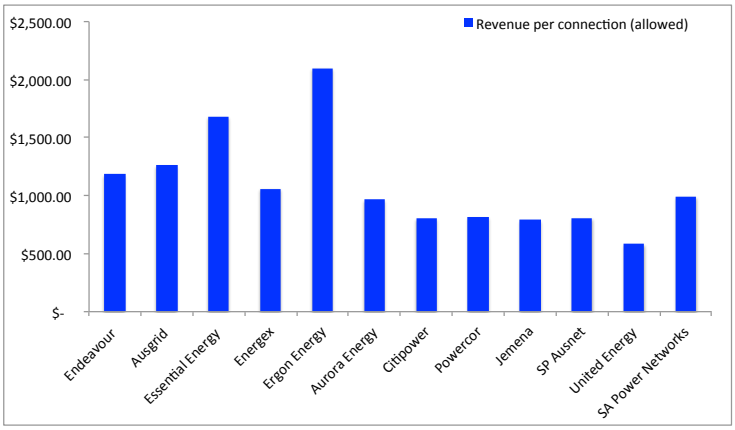
- Section 2 provides relevant background to the issues. It examines Ergon's revenues, costs, profits, regulated assets, average prices and operating conditions. It then describes the Uniform Tariff Policy, and the relationship between this, the Community Service Obligation and Ergon's profits. Finally the section compares the average price that irrigators in Queensland are paying for network services, compared to what they would pay if they were located in New South Wales, Victoria, South Australia or Tasmania.
- Section 3 is our assessment of QCA's subsidy claims in relation to Canegrower's proposals.
- Section 4 is our analysis of tariff issues affecting sugar millers in Queensland.
- Section 5 comments on Canegrower's tariff proposals to the QCA.
- Section 6 concludes and Section 7 recommends.

2 Background

2.1 Ergon revenue, costs and profits

Figure 1 below shows Ergon's maximum regulated revenue per connection in 2014/15 compared to other distribution network service providers (DNSPs) in the National Electricity Market (NEM). It shows that Ergon's revenue per connection is far higher than any other DNSP.

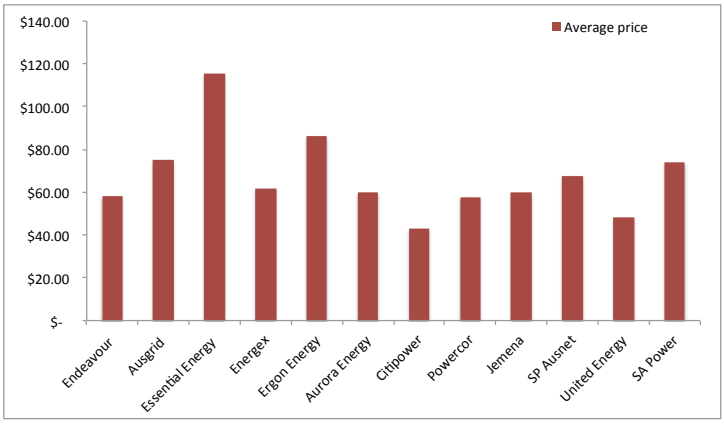
Figure 1. Maximum allowed regulated revenue per connection in 2014/15 for DNSPs in the NEM. ($/connection)



Source: regulatory decisions, CME analysis

Figure 2 shows that Ergon's average price is second only to that charged by Essential. In other words, while Ergon's customers on average consume more than others in the NEM (it actually has the highest energy density in the NEM), Ergon's very high income per connection is not explained by the fact that their consumers use more electricity. Ergon's high average prices are also play a major role.

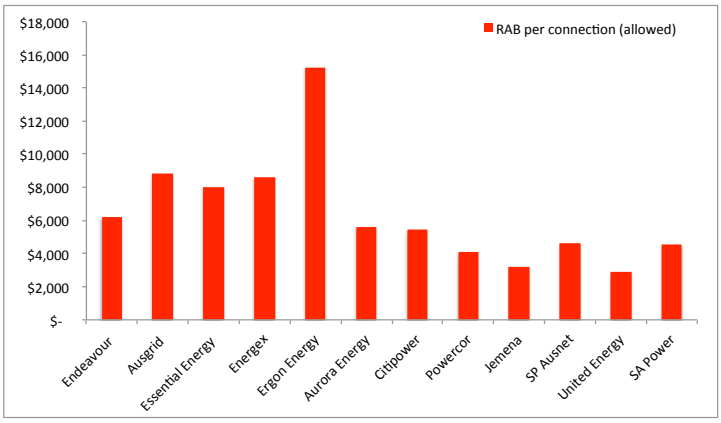
Figure 2. Average prices in 2014/15 ($/MWh)



Source: regulatory decisions, CME analysis

Figure 3 shows that a large part of the explanation of Ergon's high revenues per connection and high average prices is a regulated asset base per connection that is very much higher than that of other DNSPs

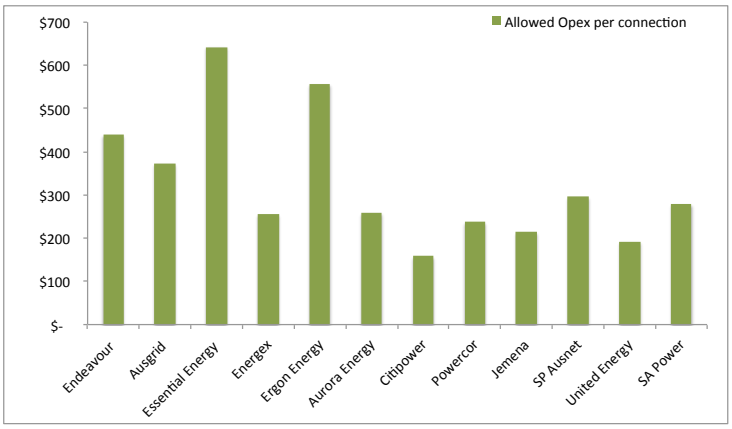
Figure 3. Regulated assets per connection in 2014/15 ($/connection)



Source: regulatory decisions, CME analysis

In addition to very high regulated assets per connection, Figure 4 shows that Ergon also has very high operating costs per connection, second only to those of Essential Energy.

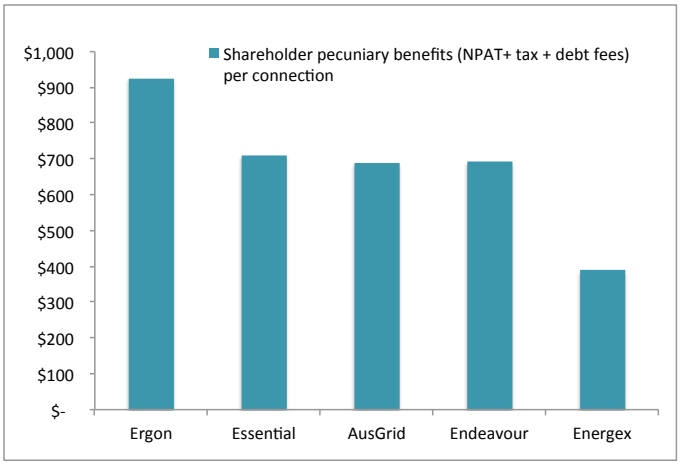
Figure 4. Operating costs per connection in 2014/15 ($/connection)



Source: regulatory decisions, CME analysis

Very high assets per connection combined with a generous allowed rate of return translates into high profits. This is shown in Figure 5. This figure shows the financial entitlements of the mainland state governments in the NEM that own DNSPs (i.e. their entitlement to after tax profits plus debt guarantee fees plus income tax on profits). It shows that per connection, Ergon is by far the most profitable of all government-owned DNSPs. This chart is for the latest financial years for which audited data has been published. We expect that profitability in the 2013/14 financial year will have risen further.

Figure 5. Profits per connection 2012/13 ($/connection)



Source: published financial reports, CME analysis

2.2 Ergon operating conditions

Does Ergon Energy face operating conditions that are significantly more onerous than its peers that might explain costs, prices and profits that are higher than other DNSPs in the NEM?

Ergon does have the lowest customer density in the NEM, although not significantly lower than a cohort of peers that includes Powercor in Victoria, Aurora in Tasmania and SA Power Networks in South Australia. Ergon also has the highest proportion of customers on long rural networks. Both of these factors might explain relatively higher costs for Ergon.

However against this, 45% of Ergon's network is single wire earth return, a far cheaper technology than others. It also has a predominantly overhead network (more than 99% by length) not unlike other DNSPs that service sparsely populated areas such as SP Ausnet, Powercor, SA Power Networks and Aurora. Furthermore, Ergon has the highest energy density (MWh sales per connection) in the NEM and this would suggest lower average costs compared to networks that serve many smaller customers with lower average sales.

More generally, stepping back from the contemporary comparison, we find that in the period that Ergon's network costs have risen so much, its network density has actually improved. Even if network density might explain relatively higher costs for Ergon than other DNSPs – and we are not suggesting it does – it certainly can not explain why Ergon's costs and assets have risen as much as they have over the last decade. Low customer density can also not explain Ergon's extraordinary profitability.

2.3 Uniform Tariff Policy, CSO and Ergon's Profits

Under Queensland's Uniform Tariff Policy (UTP), non-market customers of the same class generally have access to the same regulated retail prices (notified prices) throughout Queensland. It applies to all customers accessing regulated prices.

The QCA suggests that although the objective of the UTP has not been clearly defined, such policies are generally justified on equity or fairness grounds. The application of the UTP however is clear: subject to transitional arrangements for various electricity users, those who consume electricity in Ergon's area of supply are able to access the same regulated tariffs in Ergon's area of supply. The higher network charges levied by Ergon, we presume, are used in the calculation of part of the Common Service Obligation (CSO) although precisely how this is done (and the CSO calculated) is not clear.

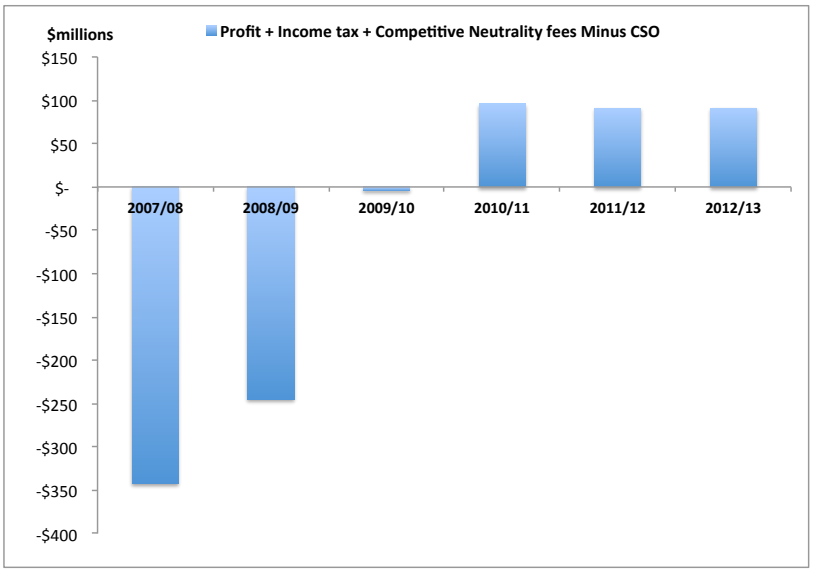
The QCA reports that the scope of the UTP might be too broad because it is also available to business customers, including very large commercial businesses and that the biggest customers of electricity receive some of the greatest benefits. The QCA suggests that some very large customers received individual subsidies worth more than $1 million each during 2012-13.

While the implementation of the UTP and the consequential CSO is reasonably clear, the detail of the CSO's calculation is not. For the past seven years the CSO paid to Ergon has varied between $585m in 2007/8 to less than half that ($252m) in 2010/11 to more than double that ($573m) in 2012/13. The annual value of the CSO does not seem to have any predictable relationship to the difference between Energex and Ergon's network tariffs as one might expect, since its main purpose, we understand, is to make up for that difference.

Whatever might be the mechanics for the calculation of the CSO, it is paid by the Queensland Government to Ergon and since the Government owns Ergon, the government collects the gains in Ergon's profits that result from Ergon's receipt of the CSO. In this sense, the CSO is no more than the Government paying itself, albeit via a circuitous route. The CSP does however seem to provide an incentive for Ergon to inflate its network tariffs in the knowledge that the impact of this is not to increase prices paid by the regulated customers supplied by Ergon, but rather to increase the CSO it receives.

In Figure 6 below we show the Queensland Government's financial entitlements from Ergon (i.e. Ergon's after tax profits plus its Competitive Neutrality Fee plus its Income Tax) less the CSO it received. This moved from strongly negative in 2007/8 to stable at around $100m per year in 2012/13.

Figure 6. Queensland Government's financial entitlements relating to Ergon ($millions)



Source: published financial reports, CME analysis

The amounts in Figure 6 can be shown per connection served by Ergon, as shown in Figure 7. The numbers in this chart show that Ergon's after tax profits plus debt fees plus competitive neutrality fees less CSO receipt has been roughly constant at around $130 per connection for the last three years.

Adding the CSO per connection in 2012/13 of around $800, gives Ergon's actual net profit after tax plus CNF plus income tax of around $930 per connection as shown in Fugure 5. To put these profits per connection into context, SA Power Networks' reported net profit attributable to shareholders of $430 per connection in 2012/13 while UK Power Networks reported net profit attributable to shareholders of $100 per connection in 2012/13.

In other words, after receipt of the CSO, Ergon delivers more than twice as much to the Queensland Government per connection as SAPN delivers to its shareholders and more than nine times as much as UK Power Networks delivers to its shareholders.

Even before the CSO, in 2012/13 Ergon delivered greater financial benefit[1] per connection ($130 per connection) to the Queensland Government than UK Power Networks delivered to its shareholders ($100 per connection).

It might however be argued that this level of profit, although higher per connection is still only equivalent to a return of 2.5% on the $3700m equity in Ergon's balance sheet. Since 2.5% is far below a reasonable return on equity, by implication Ergon is returning far less than reasonable However, this criticism is fallible to the observation that $2082m of the $3715m equity in Ergon in 2012/13 is just an asset revaluation reserve rather than retained earnings or subscribed capital (it represented the accumulated upward revaluation of Ergon's assets). Adjusting for this revaluation reserve the return

[1] This is calculated as $611m pre-tax profit plus $53m in Competitive Neutrality fee less $573m in CSO, which equals $91m.

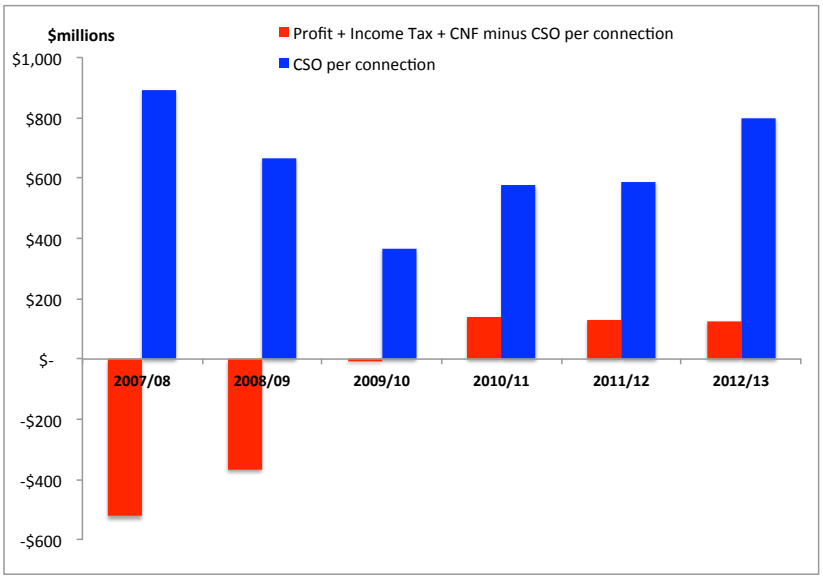
[2] If their tariff was calculated on the basis of Ergon's network charges rather than Energex's network charges.

[3] For example, the utilisation of Queensland's network has declined over the last decade as capacity has expanded has increased far faster than demand. For example Ergon's Regulatory

on subscribed and retained equity – assuming no CSO payment – rises to 5.6%. While not a fabulous rate of return on equity, it has to be questioned why shareholders might reasonably expect much higher given Ergon's very high costs and apparent comparative inefficiency.

We are also aware that some readers might question our calculation of Ergon's profitability, i.e. that we have included the Government's receipt of Competitive Neutrality Fees and income tax equivalents in our calculation of the return on equity. We defend this on the following grounds: the competitive neutrality fee is ultimately just a fee and constitutes income to the government. It does not compensate costs incurred by the Government. Likewise the Government's receipt of income tax equivalents is a receipt that is contingent on profits and its shareholding. In this sense it is no different to any other profit and ownership-contingent return.

Figure 7. Queensland Governments' Ergon entitlements and CSO paid per connection ($/connection)

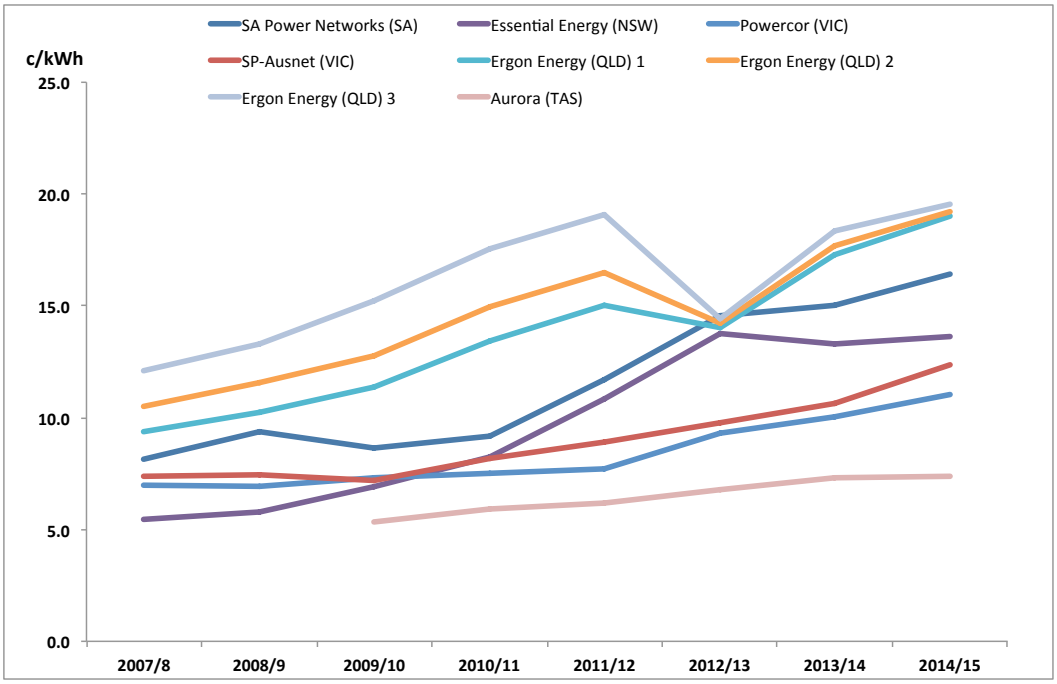


2.4 Irrigation tariffs in Queensland compared those elsewhere

We have analysed Ergon's network tariffs applicable to irrigators (Standard Asset Customer (SAC) <100MWh per annum East Region 1- EVLT1, 2014/15 - Business IBT) and compared it to the network tariffs that irrigators would pay – assuming the same consumption profile and the same average consumption as for irrigators in Queensland. The results are shown in Figure 8. It shows that irrigators in Ergon's zone 1, 2 and 3 would consistently pay more for network services[2] than they would if they were purchasing network services from network service providers that operate elsewhere in the NEM. Although this gap narrowed in 2012/13, it has widened again since then. While Ergon's network tariffs are not relevant in the calculation of the prices paid by irrigators in Queensland, they are relevant to the calculation of the CSO.

[2] If their tariff was calculated on the basis of Ergon's network charges rather than Energex's network charges.

Figure 8. Average network prices paid by irrigators in Queensland compared to prices paid in other parts of Australia (cents per kWh)



3 Critique of QCA's conclusions in relation to Canegrowers' proposals

Canegrowers supplied data to us for the average consumption, number and average bill of irrigators in South, Central and North tariff zones of the Eastern Region, for 2012/13. This was data that Ergon had previously supplied to Canegrowers. From these data we calculated that in 2012/13, irrigators in Queensland purchased 336 GWh from Ergon and paid $69.5m (excluding GST) to Ergon. The tariffs were 10% higher in 2013/14 than in 2012/13 and so assuming their consumption was unchanged in 2013/14, in 2013/14 irrigators would have paid $76.5m in 2013/14.

We estimate based on peak and off-peak consumption data, that irrigators on Tariffs 62, 65 and 66 paid Ergon an average price for network services of 11.7 cents per kWh. This network price is based on Energex's 8800 network tariff. This average network price – even though based on Energex's 8800 tariff is still 41% higher than Ergon's average regulated price as determined by the AER.

Canegrowers has made various proposals on changes to tariffs for irrigators in Queensland. The QCA has rejected Canegrower's proposals and concluded that in 2013/14, irrigators on Tariffs 62, 65 and 66 (would be) receiving subsidies worth more than $32million. This section examines this.

Using these data we calculated the "subsidy" as a result of irrigators paying Energex rather than Ergon network tariffs, was around half the amount that the QCA had calculated. This set off a process of interaction with the QCA during which the following became evident:

1. The data that Ergon had initially supplied to Canegrowers had inadvertently included GST and had excluded revenue associated with fixed charges on Tariff 66.
2. Fourteen percent of irrigation sales on Tariff 62, 65 and 66 is for electricity sold in Ergon's Western Zone.
3. The QCA told us that the average Ergon network charge including sales on Tariff 66 and taking account of sales in Ergon's western zones was 21.4 cents per kWh.

Once adjusting for this, our estimate of the "subsidy" was $38m, compared to QCA's revised estimate of around $35m. The relatively small difference can be explained by various factors whose complexity and relative insignificance does not merit discussion. We conclude that the QCA's estimate of the "subsidy" as they have defined it, seems reasonable.

However, the information discovered through this analysis raises many significant concerns.

1. The AER's regulatory control for Ergon anticipates an average sales price for network services in 2013/14 of 8.3 cents per kWh. Yet Ergon would be charging irrigators an average price of 21.4 cents per kWh if they were paying Ergon's

network tariffs. Irrigators consume on average 18.2 MWh per year, compared to average sales per customer on Ergon's network of 15.5 MWh per year. In other words, Ergon's irrigation customers are larger than Ergon's average customers but are paying around 2.5 three times Ergon's average price. On what basis therefore, can it be argued that Ergon's tariffs would be cost-reflective?

2. Irrigators in Ergon's Western Zone would be paying an average price for network services of 44.7 cents per kWh if they were paying Ergon's network tariff, while those in the east would be paying 17.2 cents per kWh in 2013/14. As shown in Figure 8, Ergon's Eastern zone prices are higher than irrigators elsewhere in the NEM are paying. Its Western Zone prices are therefore much higher than elsewhere in the NEM. While it may certainly be the case that the Western zone is sparsely populated, this is also true for other parts of Australia served by the networks show in Figure 8. How can it be, again, that Ergon's tariffs are so much higher?

Bringing these observations together with the evidence in the previous section of excessive costs and asset values, and incentives under the UTP for Ergon to inflate network prices, we do not believe that Ergon's SAC <100 MWh network tariff is "cost reflective" and hence that the difference relative to Energex's 8800 network tariffs, which irrigators currently pay, might reasonably be called a "subsidy".

4 Comment on Canegrowers' tariff proposals

We have been asked to comment on Canegrower's tariff proposals to QCA. Canegrowers proposed to QCA that their electricity tariffs be reduced significantly. Underpinning Canegrowers' proposals is analysis of the price elasticity of demand. This analysis concluded that if prices were reduced, consumption would increase so that Ergon would not receive less income from the food and fibre customers to whom the reduced tariff would apply.

QCA has rejected Canegrowers' proposals on the basis that Canegrowers' price elasticity estimates are wrong and irrigators are already being subsidised. On the second of these, we disagree based on the analysis presented in earlier sections and extended in the concluding section. On the first, we cannot comment on the detail of the price elasticity calculations. Such analyses are always speculative. But this does not mean that Canegrowers' estimates are wrong: actual revenue may well increase significantly if prices reduce significantly. It would be surprising if this were not the case.

The substantial issue raised by Canegrowers' proposals is valid: electricity prices are too high and demand will decline unless this is changed. This is an issue for irrigators, many households and industrial energy users in Queensland. A loss of demand for grid-supplied electricity is a loss of utility to electricity users. This translates into an economic loss for the Queensland economy as electricity users either stop getting the benefit of their electricity consumption or if as a result of excessive charges they invest in their own production sources to meet the demand that would otherwise be supplied by the grid. Over time this can result in the worst of all worlds: an economically stranded grid-based electricity system, unmet consumer demand and possibly also large amounts of distributed generation much of which would not be needed if the grid-supplied electricity was more competitive.

It might also be argued that reducing prices will stimulate demand in a way that induces additional network investment and therefore that charging less than it costs, will result in inefficient expansion of network capacity. But there seems to be significant excess capacity in Ergon's electrical system[3].

[3] For example, the utilisation of Queensland's network has declined over the last decade as capacity has expanded has increased far faster than demand. For example Ergon's Regulatory Information Notice data shows an average network utilization of just 43% in 2013. While this is an aggregate average, and local conditions also matter, since irrigator demand has been declining for several years it seems reasonable to suggest that there is likely to be significant localized network capacity surpluses in the feeders and shared network serving irrigators.

5 Analysis of tariff issues affecting sugar millers

Our brief for this assignment includes an analysis of the network tariffs that Queensland's sugar millers are currently paying, and how these will change when sugar millers are required to take up Ergon's Tariff 48.

To do the calculation, the Australian Sugar Milling Council obtained relevant consumption and demand data for 15 sites from its members and provided that data, anonymously, to us. These sites import around 33.4 GWh in total or 2.2 GWh on average per year and export around 567 GWh. Their non-simultaneous peak demand is around 45 MW from June to November and drops to around half that in the remaining months.

We estimate the average network charge that these millers are currently paying on Tariff 22 (large). Ergon was not able to nominate a network tariff to be used as the basis of the calculation of the network element of Tariff 22 (large). So, we have had no option but to use Energex's 8800 peak/off-peak tariff which is used in the calculation of the network tariff for small users on Tariff 22. Using the 8800 tariff, we calculate the network element of Tariff 22 (large) is on average 12.4 cents per kWh. The highest network price paid at a site is 12.9 cents/kWh and the lowest is 11.8 cents/kWh.

If these millers were to be purchasing electricity on Ergon's Tariff 48 (which is what we understand is intended to be the case after a transition period) the relevant network tariff becomes Ergon's EDHT1 tariff. We calculate that with this network tariff the average network price for millers will rise to 29.3 cents per kWh. The lowest network price at a site will be 17.5 cents/kWh and the highest 51 cents / kWh.

A pairwise comparison of the two tariffs for all 15 sites in total, distinguishing the payments on their various charges for network services, is shown in Table 1 below.

Table 1. Network tariff charges on current and future tariffs.

	Tariff 22 (network)	Tariff 48 (network)
Fixed	$ 4,407	$ 1,966,193
Demand	0	$ 7,057,305
Consumption	$ 4,127,546	$ 342,601
TOTAL	$ 4,131,953	$ 9,366,099

The average annual consumption by millers is 2,200 MWh or 142 times higher than Ergon's average customer. Yet the average price paid by millers for network services – 12.4 cents per kWh is 48% higher than Ergon's current average price. The transition to Tariff 48 would make the average price paid by millers for network services 3.5 times higher than Ergon's current average price.

It is not clear why millers are currently paying 48% more for network services than Ergon's current average energy user considering that they consume 142 times more per year. Needless to say, it even less clear why Ergon is proposing that they should pay 3.5 times Ergon's current average network charge.

We suggest that the current average network price paid by millers – 12.4 cents per kWh – is likely to be higher (very much higher in some cases) than energy users consuming around 2.2 GWh per annum elsewhere in the NEM would be paying.

At the retail level (i.e. network plus non-network charges) the relative change between Tariff 22 and Tariff 48 is shown in Table 2 below.

Table 2. Retail tariff charges on current and future tariffs.

	Tariff 22 (retail)	Tariff 48 (retail)
Fixed	$ 8,815	$ 2,490,511
Demand	0	$ 7,857,545
Consumption	$ 10,049,540	$ 3,685,920
TOTAL	$ 10,058,355	$ 14,033,976

The relative change in charges at the retail level (from Tariff 22 to Tariff 48) is less severe than the change in network charges. However the average retail price paid by millers seems to be extraordinary. On the current Tariff 22 (large) millers are paying an average (retail) price of 30.3 cents/kWh. On Tariff 48 this will rise to 43.5 cents/kWh (with the lowest site at 25 cents/kWh and the highest site at 68 cents /kWh). By comparison, large electricity users in Victoria are currently paying around 13 cents per kWh.

Other particularly remarkable futures of the network tariff underlying Tariff 48 include that it does not provide any time-of-use differentiation and a significant proportion of the charge is fixed. It is difficult to imagine a tariff design that could be less "cost reflective" in terms of structure or level.

6 Conclusions

Value of "subsidies" to irrigators

Since Ergon revised the data that it had previously provided to Canegrowers, we agree with QCA's estimate of "subsidies" received by irrigators, as the QCA has defined this.

The AER's regulatory control for Ergon anticipates an average sales price for network services in 2013/14 of 8.3 cents per kWh. Irrigators are paying, based on Energex's 8800 tariff, average prices of 11.7 cents/kWh. And Ergon would be charging irrigators an average price of 21.4 cents per kWh if they were paying Ergon's network tariffs. Irrigators consume on average 18.2 MWh per year, compared to average sales per customer on Ergon's network of 15.5 MWh per year. In other words, Ergon's irrigation customers are larger than Ergon's average customers but are paying 41% more for network services than Ergon's average network price and would be paying around 2.5 times Ergon's average price for network services if they were paying on Ergon's network tariffs.

Irrigators in Ergon's Western zone would be paying an average price for network services of 44.7 cents per kWh if they were paying Ergon's network tariff, while those in the east would be paying 17.2 cents per kWh in 2013/14. As shown in Figure 8, Ergon's Eastern zone prices are higher than irrigators elsewhere in the NEM are paying. Its Western Zone prices are therefore much higher than elsewhere in the NEM. While it may certainly be the case that the Western zone is sparsely populated, this is also true for other parts of Australia served by the networks show in Figure 8. How can it be, again, that Ergon's tariffs are so much higher?

Bringing these observations together with the evidence of excessive costs and asset values, and incentives under the UTP for Ergon to inflate network prices, we do not believe that Ergon's SAC <100 MWh network tariff is "cost reflective" and hence that the difference relative to Energex's 8800 network tariffs, which irrigators currently pay, might reasonably be called a "subsidy".

Sugar cane miller tariffs

The average annual consumption by millers is 2,200 MWh or 142 times higher than Ergon's average customer. Yet the average price paid by millers for network services – 12.4 cents per kWh is 48% higher than Ergon's current average price. The transition to Tariff 48 would make the average price paid by millers for network services 3.5 times higher than Ergon's current average price.

It is not clear why millers are paying 48% more than Ergon's current average energy user considering that they consume 142 times more per year. Needless to say it is even less clear why Ergon is proposing that they should pay 3.5 times Ergon's current average price.

The network tariff underlying Tariff 48 has very high fixed charges and no time of use differentiation. This has been described by the QCA and Ergon as a cost reflective tariff. We think it is difficult to imagine a tariff design that could be less cost reflective.

Two aspects seem particularly disturbing: the lack of time of use or seasonal differentiation in demand or energy charges; and the very large increase in fixed charges. The large increase in fixed charges is highly regressive and reflects Ergon's desire to recover sunk costs through fixed charges. There is absolutely no support for such an approach in the economic theory under-pinning the design of economically efficient tariffs[4]. This approach risks stranding the investments that customers have made. Sugar millers are in their rights on the basis of their own welfare and on the basis of sensible economic policy to strenuously oppose the current proposals.

Community Service Obligation

It might be argued that the Community Service Obligation – the payment by the Queensland Government to Ergon in pursuit of the Government's Uniform Tariff Policy - justifies the description of the shortfall for irrigators (whatever the exact calculation may be) as a subsidy, from the Government to Queensland's rural electricity users. We do not think that this is a reasonable description of the CSO. The CSO is, in effect, a payment by the Government to itself albeit via the circuitous route of a payment to a corporation that the Government wholly owns, which improves the profits of that corporation which the Government then collects.

If Ergon did not receive any CSO payment and its network tariffs (used in regulated retail tariffs) were mainly based on Energex's (as now), Ergon would still be more profitable per connection than, for example, the privately owned distribution network service providers in Britain. As a rate of return on equity, without a CSO the rate of return on Ergon would not be high, though it would improve significantly after setting aside its asset revaluation reserve – which accounts for most of Ergon's equity but which does not represent retained profits or subscribed capital. Further improvements in returns should be possible by addressing what seem to be very high costs and low efficiency.

Canegrowers' proposals for tariff reductions

We were asked to opine on Canegrowers' proposal that its tariffs be significantly reduced. While we cannot comment on the magnitude of the reduction or the price elasticity studies supporting their proposal, their proposal for reduced rates in each exchange for higher consumption is well-founded economically. Electricity network charges in Queensland are too high and many electricity users are seeking ways to

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[4] In this regard we refer to the seminal texts: Hotelling, H. (1938). "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates." Econometrica **6**(3): 242-269.; Coase, R. H. (1946). "The Marginal Cost Controversy." Economica **13**(51): 169-182, Houthakker, H. S. (1951). "Electricity Tariffs in Theory and Practice." The Economic Journal **61**(241): 1-25, Boiteux, M. (1960). "Peak-Load Pricing." The Journal of Business **33**(2): 157-179, Williamson, O. E. (1966). "Peak-Load Pricing and Optimal Capacity under Indivisibility Constraints." The American Economic Review **56**(4): 810-827, Turvey, R. (1968). "Peak-Load Pricing." Journal of Political Economy **76**(1): 101-113, Littlechild, S. C. (1975). "Two-Part Tariffs and Consumption Externalities." The Bell Journal of Economics **6**(2): 661-670, Joskow, P. L. (1976). "Contributions to the Theory of Marginal Cost Pricing." Ibid. **7**(1): 197-206.

reduce consumption or produce themselves to meet their own demand. Canegrowers' proposal is one way to attempt to deal with the problem of stranded network assets.

However the concerns that Canegrowers have raised apply also to other electricity users served by Ergon, including sugar millers as covered in this report. Indeed the concerns also apply to households: Ergon's network tariffs for households are far higher than any other network service provider and their fixed charges as a proportion of the total bill is again much higher than any other distribution network service provider in Australia or New Zealand, Britain and Demark[5].

[5] Mountain, B. R. (2014). Network tariffs applicable to households in Australia: empirical evidence. Prepared for Uniting Care Australia. *(forthcoming)*

7 Recommendations

Problems with Ergon's asset valuation, the design of its network tariffs, the Government's tariff equalisation policy and the design and conduct of economic regulation underlie the tariff issues discussed in this report. These problems are deep-seated and will not be resolved easily. The scope of this report does not extend to making detailed recommendations, but we suggest a few issues that Canegrowers and ASMC might consider in shaping their future activities in this area.

Accountability

There seems to be a culture of blame shifting between the QCA, Queensland Government, the AER, the AEMC and consumers. It would be helpful to bring this to an end. The Queensland Government owns Ergon and determines the Uniform Tariff Policy and its implementation. While the AER has an important role in setting Ergon's maximum allowable regulated revenues, the Government is at liberty to instruct Ergon to recover less than the AER determines.

While the Government can rightly be held accountable for the outcomes Ergon delivers, it should be recognised that within the Government there are likely to be differences of opinion on some issues for example between the Treasury and the Energy ministries. Canegrowers and the ASMC should seek to ensure that their concerns capture the attention of the most senior levels of Government, where such internal conflicts can be resolved.

Consumer engagement

It is clear that Canegrowers has made extraordinary effort to engage with Ergon, the QCA and Government over a long period of time. However its concerns seem have drawn defensive responses from the industry and at times also from the QCA. A mentality described by the metaphor "the hospitals would work much better if it was not for the patients" seems to, at times, characterise Ergon's attitude to its customers.

Resource constraints have limited the ability of electricity consumers to participate effectively in regulatory debates. In desperation, quite understandably, some consumers have focussed on short-term wins. Greater organisation and professionalisation of energy consumer advocacy will offer bigger and more enduring improvements.

A Queensland Electricity Consumer Committee representing a diverse range of electricity consumers, and focussed primarily on Ergon's electricity network tariffs, at least initially, may help to deliver the necessary organisation. While establishing such a broad-based committee will consume time and resources, it has the potential to significantly improve the ability of electricity consumers to advocate their interests. The Government might be asked to fund technical and other support to ensure that the Committee is resourced to participate effectively.

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carbon + energy markets

Rising electricity prices in Queensland: Evidence and Reasons for Action

A report to CANEGROWERS

May 2013

EXECUTIVE SUMMARY

CANEGROWERS represents around 80% of Queensland's sugarcane growers. Its members export around 80% of their production. Their businesses are in jeopardy as a result of declining sugar prices, the relatively high Australian dollar and rising input costs, of which the increase in the price of electricity has been the most significant.

CANEGROWERS has asked us to provide evidence of rising electricity prices, to explain why this has happened and to advise what the Queensland Government might be reasonably asked to do about it. This report has been written pursuant to those instructions.

Data from the Australian Bureau of Statistics shows that electricity prices paid by households increased by more than 60% (constant currency) between 2008 and 2012. Comparable index data is not available for irrigators, but irrigator tariffs have increased by 90% (nominal) between 2008 and 2014 including the most recent increase recommended by the Queensland Competition Authority from 1 July 2013.

The main reason for retail price increases has been increases in Energex, Ergon and Powerlink's charges. These are Queensland's network service providers (NSPs) which for the sake of brevity we generally refer to by this acronym in the rest of this report.

Environmental charges have also become significant in recent years and are expected to grow further over the next few years.

Rising NSP charges have resulted in sharply higher pecuniary benefits for the Queensland Government. The total benefit increased from $632m in 2007/8 to $1,380m in 2011/12. The net benefit (after-tax profits plus debt fees plus income tax equivalents less Community Service Obligation payments) grew from $46m in 2007/8 to $970m in 2011/12, a compound annual growth rate of 114% per year.

We also examined a measure of the rate of return: the quotient of the total pecuniary benefit (before subtracting CSO payments) divided by the total equity for all NSPs. This rose from 10% in 2007/8 to 16% in 2011/12. At face value this rate of return on equity is not excessive. However, this result is distorted by routine asset revaluations (which increase equity and hence reduce the rate of return on equity).

For example between 2007/8 and 2011/12, Energex revalued its assets upwards by $847m. On the revalued assets, its return on equity increased from 8% in 2007/8 to 15% in 2011/12. However excluding the effect of the asset revaluations, the return on equity increased almost three-fold from 8% in 2007/8 to 21% in 2011/12.

These data show that the large increase in NSP charges between 2007/8 and 2011/12 has delivered a large increase in pecuniary benefits to the Queensland Government.

High profits do not reflect efficient operation: the charges for distribution network services in Queensland, per connection served, compare unfavourably with those in New South Wales, Tasmania, South Australia and Victoria. They are now significantly higher, and have risen at a much faster rate, since 2007 than has occurred in these other states.

The main reason for the rising distribution NSP charges is the increase in the return on assets. This reflects the rapid expansion of the regulated asset base, as a result of substantially higher capital expenditure. In this respect the size of the regulated asset base per connection in Queensland is now far higher than in these other states (about 250% higher than in Victoria in 2014, compared to 60% higher in 2001).

There have been numerous reviews to understand why NSP expenditure – particularly by state-government owned NSPs - has increased as it has. These have all concluded that exogenous factors (ageing assets, rising peak demand, higher network planning standards) do not adequately explain outcomes. Instead they point to failures in the design and conduct of regulation.

In Queensland in particular, the Independent Review Panel has suggested that significant efficiency improvements by Queensland's NSPs ($5bn by 2019/20) can be achieved.

Following the reviews, some changes have been made to the design of regulation (giving the AER greater discretion) and changes are under-way to give consumers a stronger voice in regulatory reviews. It is premature to judge the impact of these changes, but even at best their impact will only be felt in the long term. In addition, the more challenging recommendations from the Productivity Commission, the Limited Merits Review and the Costello Audit Report have yet to be embraced by state governments. As such, the job is far from done.

We have suggested four reasons why it would be reasonable to request the Queensland Government's shareholding ministers to instruct the directors of its NSPs to reduce their regulated revenues. This is an administratively straight-forward matter, and it would not require a change to the National Electricity Law or National Electricity Rules or consent from the AER or QCA.

The administrative mechanisms to achieve price reductions to short order therefore exist. The bigger challenge for the Queensland Government will be to accept lower profits, income tax equivalents and possibly also competitive neutrality fees that will result from lower income (unless offset by even greater reductions in NSP expenditure). The rest of this summary sets out four reasons that justify action that will deliver this.

Reason 1: The Government's receipt of income tax and competitive neutrality fees

The Australian regulatory regime assumes that all NSPs are privately owned. The regime is based largely on a design introduced in Britain in the 1980s when the British Government privatised its NSPs. The British government introduced this regime to protect consumers from the newly privatised NSPs, and also to protect shareholders from expropriation through political opportunism.

However, the state governments in Queensland, New South Wales and Tasmania have chosen to continue to own their NSPs. The decision to apply, ipso facto, a regulatory regime designed for privately owned NSPs, to government-owned NSPs is misguided. While a strong case can be made for independent economic regulation to protect private investors from appropriation associated with political opportunism, the same argument is irrelevant if the government is the owner: in what sense can it be meaningful to protect a government-owned NSP from appropriation by the government that already owns it?

The implication of adopting this approach is that the calculation of regulated prices ignores the income (from debt fees and income tax equivalents) that NSPs provide their government owners. These debt fees and income taxes are a "free kick" to the state governments that have chosen to continue to own their networks, at consumers' expense.

The Queensland Government has in the past rejected arguments that electricity price regulation should recognise ownership. If the Government chose to revise its position on this, it would mean reducing the Weighted Average Cost of Capital to reflect lower government debt costs and it would also mean sacrificing the allowance for income taxes that is included in the AER's calculation of regulated prices/revenues. This could result in a significant permanent reduction in allowed revenues and hence prices (in the order of 10-20%).

Reason 2: Excessive network investment

In the last five year regulatory control period, Queensland's NSPs incurred capital expenditure of $11.6bn (2012$), and for the regulatory control period under way the AER has set prices on the assumption that they will incur capital expenditure of $14bn (2012$).

It is now clear that demand growth has fallen well short of the ambitious expenditure projections that underlie a large part of the expansion of the regulated asset that has occurred. For example in the period from 2007 to 2012, the average NEM demand declined by 18 MWs per year. Over this period the annual peak demand has grown at a trend rate of just 50 MW per year, and the peak demand in 2012 (an exceptionally hot summer) was lower than the peak demand in 2009.

In addition to over-estimating demand growth, Queensland's NSPs have had to meet more stringent network planning standards, the need for which has never been clear. As a result of these two factors, there is likely to be substantial excess, under-utilised, network capacity in Queensland. Under the current regulatory regime the costs of this (depreciation plus return) are nonetheless recovered from users in regulated charges.

This approach differs to that common in North America where a test of whether an asset is "used and useful" is undertaken before including that asset in the regulated asset base. Where assets are not found to be used or useful they may be permanently written down, or may be placed in an escrow account from which the utility obtains no financial return until the assets are found to be used and useful and hence taken out of the escrow account and put back into the regulated asset base.

Arguments can be made on the grounds of fairness and efficiency, that the Queensland Government (through its equity in its NSPs) should bear the cost of assets that are not used and useful:

- The fairness argument is that users have no control over regulated charges, whereas the Queensland Government, as owner of its NSPs does. Users did not play a part in over-estimating demand – to the contrary they warned against this in their submissions to regulatory decisions. On grounds of fairness therefore, the Queensland Government, not users, should bear the costs of regulatory and utility failures.

- The economic argument is that the Queensland Government, through its diversified income and broad spread of assets, is better able to bear (excess) sunk costs than energy users. This argument seems to have particular weight in the context in which electricity prices have risen to such a level that energy users are considering highly inefficient technology substitution (for example diesel rather than electric pumps in irrigation).

Reason 3: Lower expenditure during the current regulatory period

We understand that the Queensland Government has been putting considerable pressure on its NSPs to reduce their expenditure. As a result we understand that they are all likely to spend substantially less than the AER had assumed in its calculation of allowed revenues for the five-year regulatory controls currently under way. A part of the benefit of this will be reflected in lower prices when the AER sets allowed revenues/prices in the next five-year regulatory control period.

However the existing regulatory allowance was too generous partly because of flaws in the regulatory design (which the AER said had caused it to make decisions that were too generous to the NSP) and partly because the NSPs over-stated their efficient expenditure needs. Energy users made these arguments in

their submissions to the AER. The issue, therefore, is that the regulatory allowances (and the expenditure assumptions underlying them) are excessive and so this should be addressed now, not when the next set of five year regulatory decisions are due to be made.

This argument is persuasive in view of the recognition by all parties (the AER, the Queensland Government, the Independent Review Panel, the NSPs and users) that the existing price/revenue controls are excessively generous to the NSPs. By implication the gains (in the form of higher profits) that the Queensland Government will derive from the reduction in expenditure of its NSPs during the current regulatory period, should be passed through to users in the form of lower prices during the current regulatory control period. This argument would seem to have particular weight, having regard to the evidence of the extraordinary growth in the pecuniary benefits that the Queensland Government has derived from its NSPs over the last six years.

Reason 4: Asset stranding

A successful regulatory regime should protect consumers from the exercise of monopoly power, provide incentives for efficiency and provide reasonable certainty to investors that they will recover their investments. The current regulatory regime has failed at the first two and instead, as the data shows, has provided a financial bonanza for the NSPs' owner.

As a result, electricity prices have risen to the level that energy users of all types seem to be seeking opportunities to substitute electricity for other fuels (photovoltaics in the case of households, diesel, gas and coal in industry and agriculture). The trend rate of contraction of electricity consumption in Queensland since 2007 seems to provide evidence of this.

Where consumers are unable to substitute electricity for other fuels, there seems to be some evidence of inefficient reductions in consumption, and record rates of residential user disconnection. In the case of trade-exposed cane growers, rising electricity prices has had a leveraged impact on farm profitability. We understand that electricity prices are resulting in significantly lower irrigation and hence farm yield. The reduction in production has a multiplier effect in sensitive regional economies. Effectively, rising electricity prices seems to be stranding the electrical infrastructure that energy users have invested in, and is resulting in welfare-reducing demand reductions. This is likely to undermine the Queensland Government's Four Pillars economic policy.

In addition, demand reduction will increasingly jeopardise the viability of existing electrical infrastructure. Using contemporary estimates for the long term own-price elasticity of demand (-0.5% to -0.7%) (see Fan and Hyndman (2011)), the 60% (constant currency) increase in electricity prices over the last 6 years can be expected to result in long term demand reductions of 30% to 42%, from what it otherwise would be.

Bringing this evidence together, action by the Queensland Government to reduce electricity prices will not only reduce the extent of energy users' asset stranding, and welfare-reducing demand reductions, but will also reduce the extent of stranded NSP assets.

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Glossary

AER	Australian Energy Regulator
AEMC	Australian Energy Markets Commission
NEM	National Electricity Market
NSP	Network Service Providers
QCA	Queensland Competition Authority
SCER	Standing Council on Energy and Resources

Table of Figures

1 Introduction

CANEGROWERS Australia represents around 80% of Queensland's sugarcane growers. Its members export around 80% of their production. Their businesses are in jeopardy as a result of declining sugar prices, the relatively high Australian dollar and rising input costs, of which the increase in the price of electricity has been the most significant.

To address electricity price challenges, CANEGROWERS has called on the Government of Queensland to change arrangements for the payment of the Community Service Obligation in order to facilitate retail competition in Ergon's area of supply; to change the structure of tariffs affecting its members and to limit future price increases to increases in the Consumer Price Index.

As part of its advocacy program on electricity prices, Canegrowers has asked us to provide evidence of rising electricity prices, to explain why this has happened and to suggest what the Queensland Government might do to address the problem. This report has been written pursuant to those instructions.

Rising electricity networks charges have been the main reason for rising retail electricity prices in Queensland. Hence the main focus in this report is on the electricity networks owned by the Queensland Government. This includes Powerlink (the transmission network service provider), Energex and Ergon (the two distribution network service providers). Addressing network pricing problems is substantially within the Queensland Government's grasp and its action in this area has the potential to bring significant price relief to CANEGROWERS' members, and to other energy users.

The report is set out as follows: Section 2 establishes evidence on prices, profits, costs and assets and the reason for the changes in these. Section 3 examines reasons for action by the Queensland Government in the short term. It starts with a brief overview of changes currently being considered or implemented across the National Electricity Market (NEM). It then suggests specific actions that the Queensland Government, as owner of its networks, might take to address the challenges.

2 Evidence

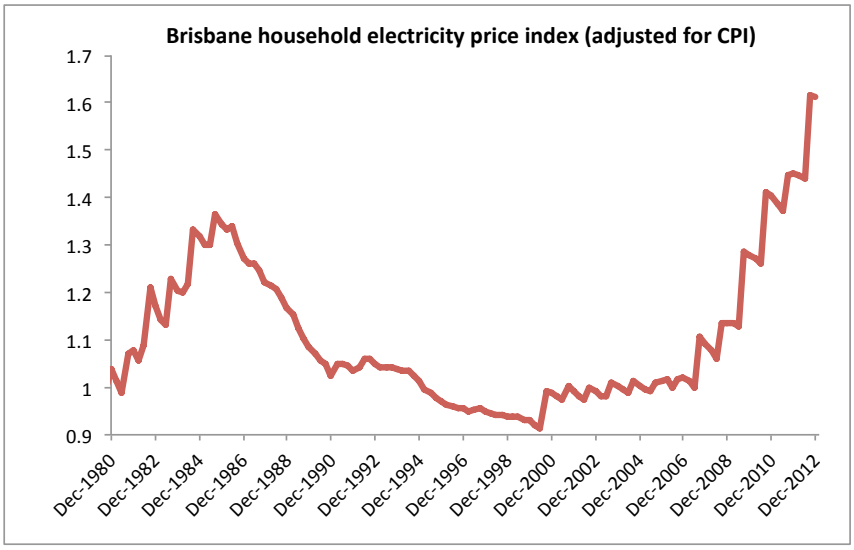
The purpose of this section is to provide a broad span of factual evidence on electricity price increases, its impact on cane growers and the extent to which the Queensland Government has derived pecuniary benefits as a result of price increases. The section then examines the regulated revenues, expenditures and assets of the network service providers. The last section reviews the reasons for price increases by the network service providers.

2.1 Electricity price increases

2.1.1 Overview

Various factors have accounted for the increase in electricity prices over the period from 2007/8 to 2012 during which prices escalated significantly, as shown in Figure 1 below.

Figure 1. Electricity price increases to households in Brisbane



Source: CME analysis, ABS data

The relative significance of different factors will vary for different types of customers depending on their usage pattern and their size. There is a reasonable level of transparency of the factors that affect household energy users. The main factors are as follows:

- **Environmental charges:** The AEMC's analysis (Australian Energy Markets Commission 2011) showed that in the period to 2011/12, environmental charges had a small impact on electricity bills (0.91 c / kWh on an average Queensland household price of 22 c/kWh). Environmental charges are likely to increase significantly in the next few years partly as a result of the expanded Large Scale Renewable Energy Target, large volume of credit creation from the Small Scale Renewable Energy Scheme and the Queensland Government's Solar Bonus

Scheme. The emission reduction scheme (colloquially known as the carbon tax) has so far also raised average household prices by around 2.4 c / kWh in 2012/13.

- **Generation charges:** These charges have been stable and average wholesale prices in the Queensland region of the National Electricity Market have declined over the period from 2008 to 2012.
- **Network charges:** Almost all of the increase in retail electricity prices in the period from 2007 to 2012 has been due to rising network charges.

Reliable indices for electricity prices paid by non-residential energy users are not available, however the impacts of different elements (network, generation, retail and environmental) will be broadly similar except for the very largest users for whom network charges are a relatively smaller part of their bills.

2.1.2 Irrigation electricity tariff increases

For irrigators, the explanation for rising electricity prices is likely to broadly match those for households. It should also be made clear that Queensland's experience with rising retail prices and network cost underlying those has not been unique in Australia. In New South Wales and Tasmania retail electricity prices rose by similar amounts (more in NSW and less in TAS) for the same main reason of rapidly rising network charges.

The gazetted tariffs 64, 65, 66 and 68 are specific to irrigators, while tariffs 62, 63 and 67 apply also to farm use, of which irrigation may be a part. Tariffs 63 and 64 have been obsolete since 1995 and thus restricted to customers on those tariffs at that time. There are understood to only be a few customers on Tariffs 63 and 64, and these tariffs will no longer apply from 1 July 2014. Tariffs 62 and 65, which are similar to Tariffs 63 and 64, were declared obsolete in 2012/13 but will be retained for seven more years. Tariff 66 has also been made obsolete but will also be retained for seven more years.

We do not have data on the number of cane growers on the various tariffs, but we understand that Tariff 62 accounts for around 60% of sugarcane irrigation users for travelling irrigators. Table 1 below shows how the various parameters on Tariff 62 have changed. It shows that all parameters have increased by 90% (except the off-peak charge which increased by 88%). This is a broadly consistent increase (after adjusting for inflation) to price rises experienced by households, as show in the ABS data in Figure 1.

Table 1. The terms of Tariff 62 from 2008 to 2014

Tariff 62	Service charge ($/month)	Energy charge < 10 kWh per month in peak (c/kWh)	Energy charge > 10 kWh per month, in peak (c/kWh)	Off-peak (c/kWh)
2008	$10.32	20.11	17	7
2009	$10.88	21.19	17.9	7.49
2010	$12.59	24.52	20.73	8.67
2011	$14.26	27.78	23.49	9.82
2012	$15.20	29.61	25.04	10.47
2013	$16.71	32.57	27.54	11.52
2014	$19.64	38.27	32.36	13.13
Percentage change 2008 to 2014	**90%**	**90%**	**90%**	**88%**

All irrigators on the remaining irrigation tariffs are being encouraged to shift to Tariff 22 (and will be forced to do so over the next seven years). The future increases in the now obsolete irrigation tariffs and in Tariff 22 are not known, but if an irrigator on Tariff 62 was moved to Tariff 22, the change in tariff parameters will be as shown in Table 2. The QCA's calculation (shown in Figure 6.14 of the QCA Draft Decision) shows that around 4 in 10 customers on Tariff 62 can expect prices to decrease when they shift to Tariff 22, while 6 in 10 can expected prices to increase.

Table 2. Difference between Tariff 62 and 22

Tariff 22	$42.00	38.03	38.03	13.39
Percentage change from Tariff 62	**114%**	**-1%**	**18%**	**2%**

2.1.3 Impact of electricity price increases on cane growers

In their submission to QCA on its Draft Decision on 2013/14 electricity prices, CANEGROWERS analysed the effect of the proposed 17.5% increase in electricity prices (from 2012/13 to 2013/14) on "farm business income" – a measure of pre-tax net profit. This showed that the impact of this price rise would reduce farm business income by 26% in Burdekin. This is despite electricity being a relatively small proportion of farm costs (5.3% in Burdekin). The main reason for the significant impact is that around 80% of sugarcane production is exported and hence priced in international markets. Thus Queensland cane growers have no or limited ability to recover rising input costs through higher prices.

We understand that the impact is likely to be reduced production and potential mill closures, which may in turn lead to industry restructuring, at a time where the Queensland Government is seeking to double agricultural production

We understand, anecdotally, that some cane growers are considering converting their irrigation power supplies to diesel engines in order to reduce their exposure to

electricity. It seems that rising electricity prices have started to strand cane growers' investment in electrical devices.

In response to rising electricity prices, CANEGROWERS has proposed a number of changes to tariffs including:

- removing the return on capital for investments made on reliability, security and peak infrastructure from network charges;
- recognising the benefits provided to NSPs by irrigation's base load and off-peak load profile and developing a price differential accordingly
- removing the cost of the 44c/kWh Solar Bonus Scheme from network charges for irrigators

.

CANEGROWERS has also noted that the water tariffs that its members pay for irrigated water takes account of renewals expenditure and maintenance and operating costs, but does not include a rate of return on the underlying asset. CANEGROWERS has sought similar treatment of underlying assets in the pricing of electricity for irrigation purposes.

2.2 Queensland Government's pecuniary benefits from its NSPs

Rising electricity price have delivered rising electricity revenues to Queensland's NSPs. In the next sub-section we examine the extent to which rising revenues are explained by rising costs. In this subsection we examine the extent to which rising network revenues have led to rising profits. These profits are attributable to the Queensland Government as sole owner of its network businesses.

The Queensland Government derives (pecuniary) benefits from its ownership of its network business:

- From its claim on the net profits of the businesses (whether paid out in dividends or retained in the reserves of the businesses);
- On the income tax equivalents on those net profits – which under the Constitution of Australia accrue to state government from the corporatised businesses that the states own (the Constitution prevents the Commonwealth from taxing state governments);
- From fees on the debt that the Queensland Treasury provides to the NSPs.

All three of these represent a financial return to the Queensland Government. In its submissions to regulatory reviews, the Queensland Government has suggested that debt fees (known as "competitive neutrality fees") and income tax equivalents should not be counted as part of the return from its network businesses. In other words, when working out what the regulated prices should be, the regulator is encouraged to imagine that the state government does not receive this income. The regulatory arrangements reflect this assumption.

We have obtained data from the published financial accounts of Energex, Ergon and Powerlink from 2007/8 to 2011/12 to assess how the pecuniary benefits appropriated by the Queensland Government have varied over the period that electricity prices have increased.[1] Figure 2 charts the evolution of net profits after tax, debt fees (competitive neutrality fees) and income tax equivalents.

[1] It should be noted that separate financial accounts for Ergon's retail and distribution business are not published and our data unavoidably uses the aggregate of both. However, this is likely to understate the profits and profitability of NSPs in Queensland since Ergon's retail business is not profitable, as evidenced by the need for around $450m per year of CSO payments. The results are also affected to a minor extent by profits from unregulated businesses, but these are insignificantly small.

Figure 2. Pecuniary benefits collected by the Queensland Government from its electricity network service providers

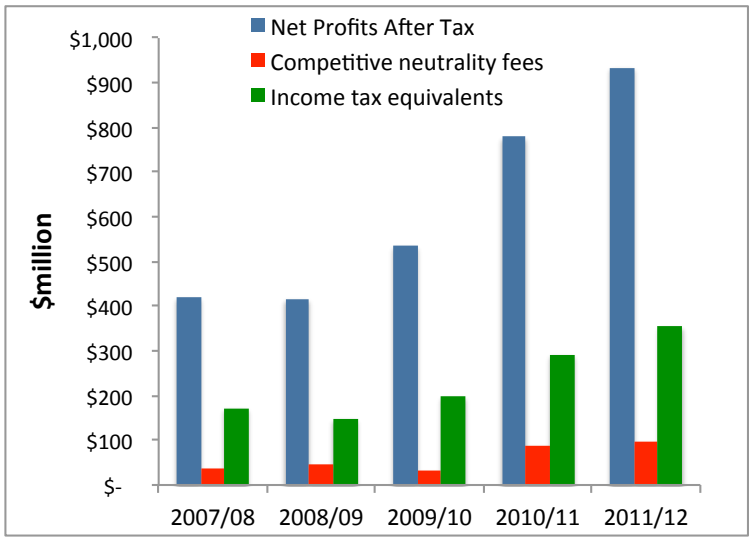
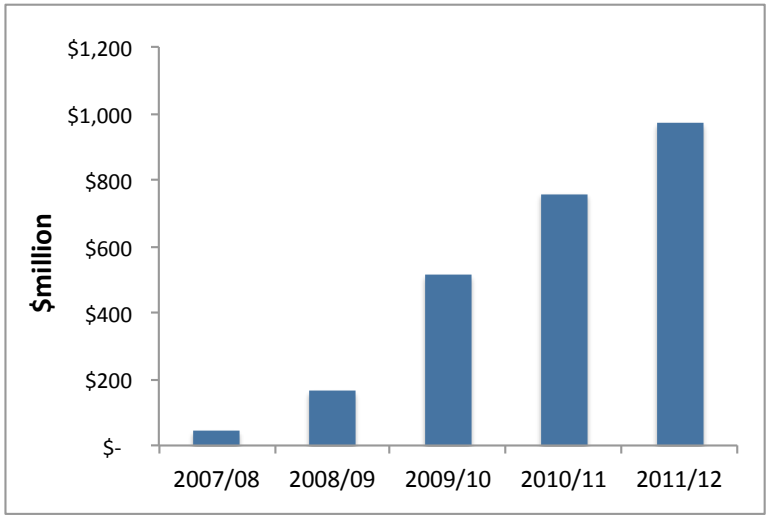


Figure 1 is a measure of the Queensland Government's gross pecuniary receipts from its NSPs. The compound annual growth rate of the gross pecuniary benefit has been 22% per annum from 2007/8 to 2011/12.

It would be misleading not to also count the Community Service Obligation (CSO) payments that the Queensland Government pays to Ergon in order to deliver the Government's Uniform Tariff Policy. The main purpose of these payments is to offset Ergon's higher network charges in rural Queensland. The Queensland Government's net receipts should deduct its CSO payments. The net pecuniary benefit to the Queensland Government from its NSPs (total pecuniary benefit less CSO) is shown in Figure 3.

Figure 3. Total pecuniary benefit less Community Service Obligation payments



Source: Company annual finance statements, CME analysis

Figure 3 shows the net benefit growing from $46m in 2007/8 to $970m in 2011/12, a compound annual growth rate of 114% per year.

We also examined a measure of the rate of return, as the quotient of the gross pecuniary benefit (i.e. before subtracting CSO payments) divided by the total equity for all NSPs. This rose from 10% in 2007/8 to 16% in 2012/13. At face value this rate of return on equity is not excessive. However, this result is distorted by routine asset revaluations (which increase equity and hence reduce the rate of return on equity).

For example between 2007/8 and 2011/12, Energex revalued its assets upwards by $847m. On the revalued assets, its return on equity increased from 8% in 2007/8 to 15% in 2011/12. However, if these asset revaluations are excluded from the calculation, Energex's return on equity actually increased almost three-fold from 8% in 2007/8 to 21% in 2011/12.

These data show that the large increase in retail electricity prices between 2007/8 and 2011/12 has delivered an even larger increase in pecuniary benefits to the Queensland Government.

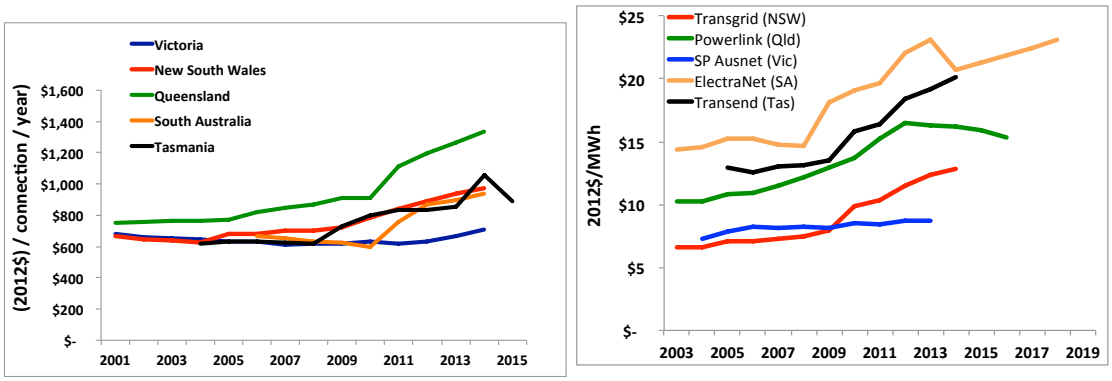
2.3 Energex, Ergon and Powerlink revenues and regulated assets

The previous sub-sections have charted price and profit changes. To what extent is this reflected in the regulated revenues of the NSPs, and in their regulated asset bases, the return on which is the largest element of regulated revenues?

2.3.1 Energex, Ergon and Energex regulated revenues

Figure 4 shows the change in regulated revenues for Queensland's distribution NSPs, per connection (in the left hand chart) and the chart next to it shows the regulated revenues for Queensland's transmission NSP. The left hand chart shows that per connection Queensland's distributors charged more than other distributors in the NEM in 2007/8 but that this gap has since widened. The right hand chart shows that prices charged by the Queensland transmission NSP have risen significantly, although are now moderating. They remain substantially above the charges for the NSPs in Victoria and New South Wales which have comparable through-put.

Figure 4. Regulated revenue per connection for Queensland's distribution NSPs (LHS) and regulated revenue per connection for Queensland's transmission NSP

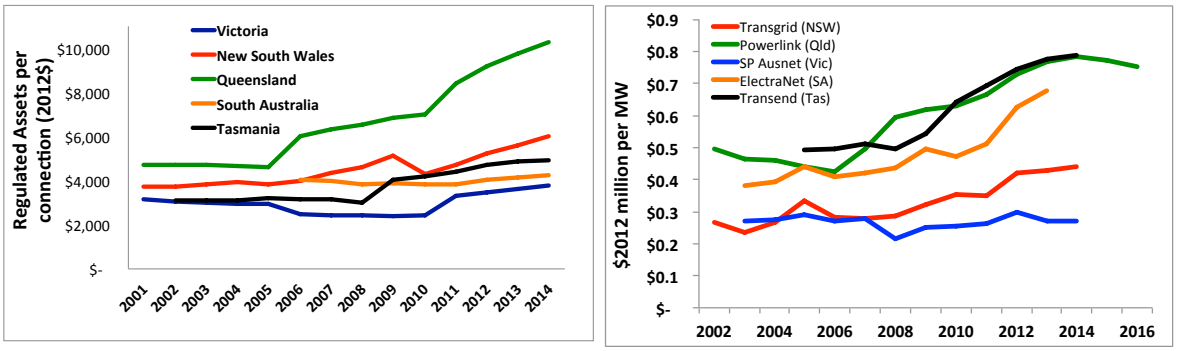


Source: AER and jurisdictional regulator price and revenue control decisions. CME analysis.

2.3.2 Energex, Ergon and Powerlink regulated asset base

Figure 5 below shows the regulated asset base of the Queensland distribution NSPs per connection (left hand chart) and transmission NSP per MW (right hand chart). The charts show, that the Queensland NSPs have the highest (distribution) or near the highest (transmission) level of investment per connection or MW of peak demand served. Since the regulated return on assets is a function of the size of the regulated asset base, this explains why regulated revenues per connection or MWh are relatively higher in Queensland than elsewhere in the NEM.

Figure 5. Regulated asset base per connection for Queensland distribution NSPs (left hand chart) and per MW of demand for Queensland transmission NSP (right hand chart)



Source: AER and jurisdictional regulator price and revenue control decisions. CME analysis.

2.4 Why have network charges increased ?

Network prices in Queensland (as in New South Wales and Tasmania and to a lesser extent South Australia) have risen significantly because the regulated return on assets has risen. This return has risen largely because the regulated asset base has expanded. The regulated asset base expanded largely because of significantly higher capital expenditure. This raises the question: was the capital expenditure necessary? If it was necessary then the price increases that have been seen, other factors besides, are unavoidable and energy users would not have reason to complain.

Over the last four years there has been debate over outcomes delivered by the regulation of monopoly network service providers. The NSPs have long contended that the higher capital expenditure was needed to meet rising demand, asset ageing and catering for historic under-spending. The Australian Energy Regulator (AER) initially supported this. Energy users disagreed with this forcefully in their submissions to the AER's NSP regulatory decisions.

Mountain and Littlechild (2010) suggested that flaws in the design and conduct of regulation, and the impact of government ownership (and consequential conflicts of interest) rather than exogenous factors (demand growth, asset ageing, historic underspending) seem to have been the main reasons for rising prices. This initial research was followed by more detailed research commissioned by the Energy Users Association of Australia ((Mountain and Littlechild 2010; Mountain 2011; Mountain 2012). This evidence was contested by the Energy Networks Association (see (Energy

Networks Association 2012)) who concluded on the advice of their consultants, NERA, that there was no significant flaw in the conduct and design of regulation and that the analysis in Mountain and Littlechild (2010) and Mountain (2011) was flawed.

These contrasting views were assessed by the Productivity Commission, the Australian Energy Markets Commission, the Limited Merits Review and in Queensland by the Independent Review Panel. All of these institutions and reviews have accepted the main conclusions in Mountain and Littlechild (2010) and Mountain (2011) (see (Productivity Commission 2012a), (Australian Energy Market Commission 2012), (Independent Review Panel 2012; Yarrow, Egan et al. 2012). Subsequent research by the Grattan Institute (Wood 2012) confirmed and extended the earlier findings.

The main contentions of the impact of conflicts of interests of state governments, and flaws in the design and conduct of regulation also found wider support by leading Australian commentators and researchers including Professors Garnaut, King and Parry. In this sense, some of the more controversial issues in the debate seem to be largely settled, and consequently discussion (and action) has moved to find ways to address the problems, discussed in the next section.

In Queensland in particular, the Independent Review Panel has suggested that significant efficiency improvements by Queensland's NSPs ($5bn by 2019/20) can be achieved. We understand that significant effort is being made by the Queensland NSPs to deliver efficiency improvements.

3 Reasons for action

This subsection considers possible solutions to the problem of Queensland electricity prices. It has two main sub-sections.

The first sub-section briefly summarises NEM-wide changes that are currently being considered and in some areas, implemented. Numerous reviews of electricity prices took place during 2012 and it might be suggested that the job is done and that users should now wait for changes to be implemented, to deliver price relief. Is this right?

The second sub-section presents reasons that justify action that the Queensland Government might consider to address rising prices, with specific regard to reductions in the regulated revenues of its network service providers. We emphasise that this is just part of the electricity price challenge. Other issues, for example retail competition, environmental charges and network planning standards also merit detailed examination and action

3.1 NEM-wide changes currently being considered

3.1.1 Summary of the changes

Changes to the National Electricity Rules and National Gas Rules

At the end of 2011, the AER proposed a number of changes to the National Electricity Rules and National Gas Rules. The broad thrust of these changes is to give the AER greater discretion to set the regulated revenues and prices of NSPs. The changes sought to address criticisms that the AER made, that the Rules resulted in a high level of prescription that had constrained the AER's ability to exercise discretion, and thus had caused it to determine regulated revenues that were higher than they should have been. The Australian Energy Markets Commission broadly acceded to the AER's request and made a number of changes to the Rules along the lines that the AER suggested.

Development of regulatory guidelines

One of the outcomes from the changes to the Rules, is the requirement that the AER produce guidelines on how it intends to regulate NSPs. Pursuant to this, at the end of 2012, the AER announced a program of consultation that will result in guidelines that will explain how it intends to set the allowed rates of return, the regulatory incentives to promote efficient spending, how it will set expenditure allowances and how it intends to involve consumers in regulatory processes.

Development of a Consumer Challenge Panel

The AER has said that it intends to form a Consumer Challenge Panel to act as a "critical friend" of its work. The CCP will consist of individuals who are meant to be expert in their fields rather than representative of stakeholder organisations. The CCP

members will be involved in regulatory determinations and will report, confidentially, to the AER on their findings.

Changes to the arrangements for review of the merits of AER decisions

In 2012, the Standing Council on Energy and Resources created a Panel, lead by Professor George Yarrow, to advise on the arrangements for the review of the merits of decisions by the AER. These merits reviews, conducted by the Australian Competition Tribunal, had attracted strong criticism for the impact they had had on raising electricity prices and that energy consumers had been unable to advocate effectively in these quasi-judicial merits review processes.

The Panel's report was highly critical of many aspects of the economic regulation of networks and made strident recommendations on changes to the arrangements for the review of the merits of AER decisions.

The Standing Council on Energy and Resources is currently consulting on changes to possibly implement the Panel's recommendations.

Creation of a national energy consumer advocacy body

In late 2012 SCER appointed a two-person panel to advise on the creation of a national energy consumer advocacy body. This new body is meant to provide strategic and technical expertise, representing the interests of energy users, in regulatory and other decisions affecting energy users. The two-person panel has completed its work, and at the time of writing an announcement on the creation of a national advocacy body is awaited.

Productivity Commission review of regulatory frameworks

In early 2011, the Federal Treasurer asked the Productivity Commission to review the regulatory frameworks and the arrangements for interconnection between regions of the NEM. The Productivity Commission delivered its Draft Report in October 2012 and its Final Report was delivered to the Government on 9 April 2013. At the time of writing it is yet to be publicly released.

The Productivity Commission's Draft Report was highly critical of many issues. It recommended many fundamental changes.

3.1.2 Has the job been done?

It is premature to make a definitive assessment of the changes under way or what might occur following the Productivity Commission's report or the governments' decisions on the recommendations of the Limited Merits Review. However we would not hesitate to suggest that the job is far from done. The changes to the Rules, the AER's guidelines, the creation of the CCP and a national energy consumer advocacy body have the potential to put downward pressure on electricity prices in future. But this is far from certain.

In Queensland, in addition to the various NEM-wide reviews, the Costello Audit Report suggested that the Queensland Government should seek to more clearly differentiate the roles of regulator, owner and policy maker.

The Queensland Government is, we understand, considering the more far-reaching recommended changes that have the potential to significantly reduce prices. It is changes in these areas that have most potential to create serious pressure for long term sustained efficiency improvements.

3.2 Reasons that justify Government action in the short term

The focus in this last sub-section is on actions that the Queensland Government can take to reduce electricity prices by reducing the revenue recovered by its NSPs.

The AER sets the maximum income that Powerlink and Ergon are allowed to recover during five year regulatory controls. For Energex, the AER sets the maximum weighted average price it can charge, also in five year controls.

The NSPs are able to recover lower revenues than the AER has set, if they choose to. None of the NSPs have ever chosen to recover less than the maximum allowed, although the Queensland Government has instructed its NSPs not to recover additional revenues that it could have recovered following a successful appeal against an AER decision in the Australian Competition Tribunal.

The Queensland Government, through its two shareholding ministers in each NSP is able to instruct the NSPs' Directors to reduce revenues. This is an administratively straight-forward matter, and it would not require a change to the Law or Rules or consent from the AER or QCA.

The administrative mechanisms to achieve price reductions to short order therefore exist. The bigger challenge for the Queensland Government will be to accept lower profits, income tax equivalents and possibly competitive neutrality fees that will result from lower income (unless offset by even greater reductions in NSP expenditure).

A decision to reduce the regulated revenue recovered by Queensland's NSPs should be motivated by reasonable argument that this would be fair and economically efficient. In the rest of this section we set out four reasons that we consider meets this criterion.

3.2.1 Reason 1: The Government's receipt of income tax and competitive neutrality fees

The previous section explained that the Australian regulatory regime assumes that all the NSPs are privately owned. The regulatory regime used in Australia is based largely on a design introduced in Britain in the 1980s at the time that the British Government privatised its NSPs. The British government introduced this regime to protect

consumers from the newly privatised NSPs, and also to provide confidence to investors that their investments would be secure against opportunistic political intervention.

However, the state governments in Queensland, New South Wales and Tasmania have chosen to continue to own their NSPs. The decision to apply, *ipso facto*, a regulatory regime designed for privately owned NSPs, to government-owned NSPs, is misguided. While a strong case can be made for independent economic regulation to protect private investors from expropriation through political opportunism, the same argument has no meaning if the government owns the NSPs: in what sense can it be meaningful to protect a government-owned NSP from expropriation by the government that already owns it?

The outworking of this misguided approach is that the regulatory rules (and their application) looks past the fact that the state governments also derive significant income from debt fees and income tax equivalents provided by their NSPs. Since the regulation assumes that the NSPs are privatised (and hence equity holders do not accrue income taxes or debt fees), the receipt of these debt fees and income taxes is a substantial "free kick" to the state governments that have chosen to continue to own their networks.

Whether or not it is defensible to treat government-owned NSPs as if they are privately owned has been publicly debated following a proposal to change this through changes to part of the National Electricity Rules. This proposal was brought by the Energy Users Rule Change Committee (whose membership included Amcor, Australian Paper, Coles/Wesfarmers, Westfield, Woolworths, Simplot and Rio Tinto). The Australian Energy Market Commission rejected their proposal, and the Queensland Government supported this rejection.

Rather than rehearse the arguments here, readers are pointed to the argument for the proposal (Energy Users Rule Change Committee 2011) and (Energy users Rule Change Committee 2012) and (Energy Users Association of Australia 2012), and the AEMC's argument against the proposal (Australian Energy Market Commission 2012a) and (Australian Energy Market Commission 2012) and (Australian Energy Markets Commission 2012b) (these are all available on the AEMC's website). A submission to the Productivity Commission by AMP Capital (AMP Capital 2012) also clearly sets out the arguments against the assumption that government-owned NSPs are privately owned (this is available from the Productivity Commission's website).

State governments' persistence with the assumption that government-owned NSPs should be regulated as if they are privately-owned reflects an understandable desire not to lose significant income. However, the argument against this on grounds of economic efficiency (reducing incentives to over-capitalise) are persuasive and supported by the evidence.

If the Queensland Government chose to revise its position on this, it would mean reducing the Weighted Average Cost of Capital to reflect lower debt costs (excluding the Competitive Neutrality fee) and it would also mean sacrificing the allowance for income taxes that is included in the AER's calculation of regulated prices/revenues.

This could result in a significant permanent reduction in allowed revenues and hence prices (in the order of 10-20% depending how the calculations are done).

3.2.2 Reason 2: Excessive network investment

The previous section showed that the regulated asset base of all Queensland's NSPs has expanded significantly. In the last five year regulatory control period they incurred capital expenditure of $11.6bn (2012$). For the regulatory control period under way the AER has set prices on the assumption that they will incur capital expenditures of $14bn (2012$).

It is now clear that the expansion of the regulated asset base has been based on assumptions of far higher demand growth than has occurred. This is documented in Mountain (2012) in the case of transmission. In fact, demand growth in Queensland over the period that regulated assets (and prices) have risen so strongly, has been weak. For example in the period from 2007 to 2012, the average NEM demand in the Queensland region declined by 18 MWs per year. Over this period the annual peak demand has grown at a trend rate of just 50 MW per year, and the peak demand in 2012 (an exceptionally hot summer) was lower than the peak demand in 2009.

In addition to over-estimating demand growth, Queensland's NSPs have had to meet more stringent network planning standards. The need for such higher standards has not been clear (as set out in Mountain (2011)).

As a result of these two factors, there is likely to be substantial excess, under-utilised, network capacity in Queensland. Under the current regulatory regime the costs of this (depreciation plus return) are nonetheless recovered from users in regulated charges.

This approach contrasts to that used in North America where a test of whether an asset is "used and useful" is undertaken before including that asset in the regulated asset base. Where assets are not found to be used or useful they may be permanently written down, or may be placed in a form of escrow account from which the utility obtains no financial return until the assets are found to be used and useful and thus taken out of the escrow account and put back into the regulated asset base.

In January this year, the Standing Council on Energy and Resources (SCER) asked the AEMC to investigate the extent to which demand had been over-estimated and the impact of this on regulated charges. We understand that the AEMC has reported back to SCER on this, although at the time of writing this is not in the public domain.

Arguments can be made on the grounds of fairness and efficiency, that the Queensland Government (through its equity in its NSPs) should bear the cost of assets that are not used and useful.

The fairness argument is that users have no control over regulated charges, whereas the Queensland Government, as owner of its NSPs does. Users did not play a part in over-estimating demand – to the contrary they warned against this in their submission to the

AER in its regulatory decisions. On grounds of fairness therefore, the Queensland Government, not users, should bear the costs of regulatory and utility failures.

The economic argument is that the Queensland Government, through its diversified income and broad spread of assets, is better able to bear deadweight losses than energy users. This argument seems to have particular weight in the context in which electricity prices have risen to such a level that energy users are considering highly inefficient substitution (diesel rather than electric pumps in irrigation) and welfare-reducing demand is likely to be occurring.

3.2.3 Reason 3: Lower expenditure during the current regulatory period

We understand that the Queensland Government has been putting considerable pressure on its NSPs to reduce expenditure. As a result we understand that they are all likely to spend substantially less than the AER had assumed in its calculation of allowed revenues. A part of the benefit of this will be reflected in lower prices when the AER sets allowed revenues/prices in the next five year regulatory control period. In some ways, this is what the regulatory design was intended to deliver – incentives to reduce expenditure, which would deliver higher profits during the regulatory control period, and lower prices to consumers in the subsequent regulatory period.

However the argument is that the regulatory allowance was too generous partly because of flaws in the regulatory design (which the AER said had caused it to make decisions that were too generous to the NSP) and partly because the NSPs over-stated their efficient expenditure needs. Again, energy users made these arguments in their submissions. The issue, therefore, is that the regulatory allowances and the expenditure assumptions underlying them) are excessive and so this should be addressed now, not when the next set of five year regulatory decisions are due to be made.

This argument should be persuasive in view of the recognition by all parties (the AER, the Queensland Government, the Independent Review Panel, the NSPs and users) that the existing regulatory controls are excessively generous to the NSPs. By implication the gains (in the form of higher profits) that the Queensland Government will derive from the reduction in expenditure of its NSPs, should instead be passed through to consumers in the form of lower prices during the current regulatory control period. This argument would seem to have particular weight, having regard to the evidence (in the previous section) of the extraordinary growth in the pecuniary benefits that the Queensland Government has derived from its NSPs over the last six years.

3.2.4 Reason 4: Asset stranding

A successful regulatory regime should protect consumers from the exercise of monopoly power, provide incentives for efficiency and provide reasonable certainty to investors that they will recover necessary investments plus a reasonable return. The current regulatory regime has failed at the first two and instead, as the data shows, has provided a financial bonanza for NSPs' owners.

As a result, electricity prices have risen to the level that consumers of all types seem to be seeking opportunities to substitute electricity for other fuels (photovoltaics in the case of households, diesel, gas and coal in industry and agriculture). The trend rate of contraction of electricity consumption in Queensland since 2007 seems to provide evidence of this.

Where consumers are unable to substitute electricity for other fuels, there seems to be some evidence of inefficient reductions in consumption, and record rates of residential user disconnection. In the case of trade-exposed cane growers, CANEGROWERS' analysis shows that rising electricity prices has had a leveraged impact on farm profitability. We understand that electricity prices are resulting in significantly lower irrigation and hence farm yield. The reduction in production has a multiplier effect in sensitive regional economies. Effectively, rising electricity prices seems to be stranding the electrical infrastructure that energy users have invested in, and is resulting in welfare-reducing demand reductions. This is likely to undermine the Queensland Government's Four Pillars economic policy.

In addition, demand reduction will increasingly jeopardise the viability of existing electrical infrastructure. Using contemporary estimates for the long term own-price elasticity of demand (-0.5% to -0.7%) (see Fan and Hyndman (2011)), the 60% (constant currency) increase in electricity prices over the last 5 years can be expected to result in long term demand reductions of 30% to 42%, from what they otherwise would be.

Bringing this evidence together, action by the Queensland Government to reduce electricity prices will not only reduce the extent of energy users' asset stranding, and welfare-reducing demand reductions, but will also reduce the extent of stranded NSP assets.

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