

16 November 2015

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Dear Ms Homan

Public Inquiry into Electricity Prices

Thank you for the opportunity to make a submission to the Queensland Productivity Commission (QPC) Public Inquiry into Electricity Prices.

Like most regional and rural electricity users, CANEGROWERS and its members are very concerned about rapidly escalating electricity prices. Since 2007 Australia has recorded the world's highest increases in electricity prices to consumers. Given that the underlying cost of electricity generation in Australia is falling, these price increases reflect rapidly increasing charges for "poles and wires" that have occurred since the current pricing mechanism for transmission and distribution networks was introduced.

Because the electricity price framework rewards over investment in networks and discourages an efficient approach to demand management; network costs and electricity prices are spiralling ever higher as networks' strive to capture inflated revenues.

Rapidly rising electricity prices for traditional generation and distribution technologies and the growing availability and competitiveness of disruptive new electricity generating and storage technologies are combining to expose the deficiencies of the current regulatory pricing framework. Consumers and product developers are actively seeking and developing products that consume energy more efficiently. In Queensland, electricity consumption is declining and network load factors are decreasing. For existing technologies to remain competitive, the pricing structure must truly reflect the long run marginal cost (LRMC) for the provision of efficient electricity services. Surplus and obsolete capacity must be identified and eliminated from the regulated asset base (RAB) and there must be a real focus on identifying efficient costs. Under the current incentives networks have to inflate costs and poorly assessed revenue caps must be replaced with real incentives for networks to lift efficiency, drive costs lower and enhance productivity.

Network investment decisions in rural and regional Queensland are being driven by the network demands of urban and industrial users, not by the need to generate more power or the distribution needs of irrigated agriculture. Electricity prices for irrigated agriculture have spiralled

higher reflecting annual asset revaluations across the network and investment decisions made to meet the needs of urban and industrial users.

Electricity prices for irrigated agriculture across Queensland are neither cost reflective nor efficient

Conventional neo-classical economic principles suggest that competition in a properly functioning market provides the discipline on businesses to continually strive to improve their performance. By promoting innovation, productivity growth and the production of a range of services at lower cost, competition stimulates economic growth and employment opportunities. In the absence of this competition Queensland's electricity distributors have gamed the regulated electricity pricing system to maximise their revenues and the profits delivered to government. In doing so, little attention has been paid by the network companies, their owners, or the regulators, on the downstream impact of the price decisions. This is especially the case for industries in the state's traded goods sector. The international competitiveness of Queensland's irrigated agriculture sector has declined as a direct consequence.

Change is coming and the pace of change is accelerating

- Consumers are switching to more efficient appliances, replacing older "energy hungry" devices with modern "energy saving" alternatives.
- Many are switching to alternative generation technologies. Much solar PV generating capacity has been installed by consumers seeking to avoid network costs and the impact of spiralling electricity prices. Investment in battery storage technology has seen significant steps forward in battery capacity at much lower cost.

While each of these developments is important, the arrival of cost effective storage will enable consumers to store their surplus energy consumption. This will enable their further withdrawal from the network, reducing critical peak loads and adding to the growing stock of spare network capacity across Queensland.

A fundamental issue for the QPC is who should pay for the surplus network capacity?

In a rapidly changing electricity market, the value of the network is its value to electricity users not its value to the NSPs or their owners. Electricity prices must reflect this reality.

The present pricing framework places the burden on electricity users, not the network service providers (NSPs) or their owners. Unless this risk profile changes and the NSPs face the risk of their investment decisions, the electricity price "death spiral" will accelerate. Owners will be left with stranded assets and unsustainable debts, as consumers turn to alternatives.

Recommendations

CANEGROWERS recommends:

1. The removal of headroom in notified electricity prices for users on Ergon's distribution system.
2. QPC draws attention to the shortcomings in Queensland's electricity regulatory framework and recommends an approach that requires Energex and Ergon to meet binding productivity targets for the distribution and transmission of electricity.
3. Retention of a suite of tariffs suitable for agricultural irrigation.

4. The extension of transitional arrangements for agricultural irrigation tariffs until Ergon and Energex adjust and harmonise their network tariff structures and include provision for agriculture.
5. The introduction of network tariff structures that recognise agriculture's contribution to base load and off-peak power use and place the burden of increased network investment to meet critical peak demand, on those users that drive the peak.
6. Strengthen demand management structures through the introduction of worthwhile tariff differentials for peak and off-peak use.
7. Develop structures that enable all agricultural irrigation enterprises to remain on small business time-of-use tariffs.

Electricity Retail Price Competition

In rural and regional Queensland there is very little, if any, competition in the retail electricity market. In south-east Queensland the dynamics of competition significantly reduces this margin. In regional Queensland, with Ergon the network operator and sole retail supplier, users pay the full Queensland Competition Authority (QCA) notified price under each tariff line.

The allowed headroom included in notified prices becomes an additional charge faced by users unable to benefit from effective price competition. **Without effective competition, the allowed headroom is effectively an electricity tax on regional Queensland.**

Flawed Regulated Pricing Framework

Some of the flaws include:

- i. Rules that require the Australian Energy Regulator (AER) to accept any "reasonable" network investment proposal and where amendment is necessary to make the "minimum amendment necessary" to enable investment proposals to be approved.

Because what constitutes "reasonable" covers such a wide canvass, these rules effectively reduce the AER's role to that of a "rubber stamp" approving network investment proposals. For example, facing the threat of a challenge to the Tribunal, the AER increased the capex and opex allowance it made for Ergon and Energex between its draft and final determinations. The effect was to increase the allowed revenue cap rather than provide an incentive to drive network the network's economic efficiency.

- ii. Rules that guarantee network service providers an inflated rate of return on their investments in the name of "competitive neutrality".

Although able to borrow at favourable rates through the Queensland Treasury Corporation, Ergon and Energex are able to price their network investments on the basis of a weighted average cost of capital (WACC) that reflects the cost of borrowings, notional tax status and investment risks they would face if operating in a competitive market. As state owned natural monopolies, they do not face competition from the private sector in the provision of network services. In these circumstances, application of competitive neutrality principles adds costs without delivering additional benefits.

- iii. Rules reward inefficiency, rather than drive productivity improvements.

Current network charges reflect the behaviour of a monopoly supplier manipulating the regulatory framework within which it operates. Network efficiencies are lower and costs

higher than a well-regulated system designed to mirror the service standards, cost structures and price level a competitive market would deliver.

The regulatory framework must require Energex and Ergon to meet binding productivity targets for the distribution and transmission of electricity.

The combined effect of this regulatory failure is inefficiency in service delivery, high operating costs, over investment in infrastructure and, through higher prices, a series of very significant transfer payments from electricity users to Government.

The regulatory framework as applied to Queensland's electricity sector has failed the state economy. The benefits do not outweigh the additional costs.

Prices are reflective of regulated revenue caps, not the true costs of efficient service delivery.

Uniform Tariff Policy and “Obsolete Tariffs”

The N + R cost build up framework, combined with the government's uniform state tariff policy, introduces another flaw into the regulatory pricing framework and highlights the need for greater coordination between Energex and Ergon in the development of their network tariff schedules. The Energex network tariff structure used by the QCA in its 2012-13 price determination does not include agricultural irrigation tariffs. Without a network tariff to base its price determination on, QCA ruled the irrigation tariffs obsolete.

From a user's perspective, agricultural irrigation tariffs are not obsolete. These tariffs are popular amongst irrigators and are widely used. Their deemed obsolescence reflects a failure of the regulatory framework, not a lack of commercial value in the agricultural irrigation tariff.

Transitional arrangements

Recent recognition of the need to retain transitional arrangements for so called obsolete tariffs is welcome.

Electricity for agricultural irrigation water use provides both base load and off-peak network use. It does not contribute to the network's critical peak load. CANEGROWERS is working closely with Ergon to have this recognised in its network tariff schedules and overcome this failure of the regulatory framework, to prevent further erosion of the international competitiveness of export oriented industries, such as the sugarcane industry.

The Energy Consumers Australia funded project is directed at understanding the different needs and loads imposed on the extensive but low cost sections of Ergon's network by irrigators, compared with the costs of Ergon supplying its and urban and industrial users. This information will:

- Support the modernisation of Ergon's network tariff structure.
- Identify irrigators as a separate customer class.
- Establish the long run marginal costs irrigators impose on the network.
- Enable the development of cost reflective tariffs for irrigation use.

Time-of-Use (TOU) pricing

CANEGROWERS strongly advocates tariff structures that recognise primary producer usage patterns (base load and during off-peak periods; principally for crop irrigation) and the important role that worthwhile tariff differentials for peak and off-peak use, have in network demand management. It is important that regulated prices take account of the impact that time-of-use tariffs might have on network demand management. Properly differentiating between core network use (base load and off peak such as agriculture) and critical peak use (a major driver of network investment) will deliver a more efficient pricing structure and boost the profitability and viability of irrigated agriculture across Queensland.

Time of use pricing is essential for demand management if lowest generation and transmission costs are to be achieved. Appropriate metering is already in place for existing agricultural irrigation tariffs. The original design of irrigation tariffs was to maximise use of off-peak power and in this respect the tariffs were ahead of their time. They can't be regarded as obsolete, as network demand management is more important today than it was when the irrigation tariffs were first established.

Establishing a worthwhile price difference between peak and off-peak use would recognise the import role demand management plays in an efficient electricity market. Irrigation pumps provide both base load and off-peak network use. They do not contribute to the network's critical peak load.

In pursuit of productivity

In the highly competitive world sugar market, prices are not determined on a regulated cost reflective basis. Cane growers and the sugar millers they supply do not have an ability to pass cost increases onto final consumers. Unless offsetting productivity gains can be achieved, all input price increases flow directly out of the growers' bottom line, reducing income and profitability throughout the industry. This exacerbates the combined effect of the commodity price downturn and currency appreciation on producer incomes.

To enable the sugarcane industry to compete internationally it is important that regulated prices are set at the level which would result from the forces of a competitive market. Such a price outcome would be consistent with the Australian Government's agricultural policy and the Queensland Government's long term vision of doubling food production by 2040.

Current network charges, reflecting the behaviour of a monopoly supplier manipulating the regulatory framework within which it operates, are far higher than the prices a competitive market would deliver.

A revised regulatory framework that requires greater coordination between Energex and Ergon in the development of their network tariff schedules and both demand and supply factors to be considered in the electricity price determination process will contribute to more efficient price outcomes.

In its final determinations for both Ergon and Energex the AER has approved: excessive rates of return allowances reflected in weighted average cost of capital (WACC) calculations that have enabled both Ergon and Energex to earn unwarranted supernormal profits; augmentation-capex allowances based on flawed over-forecasts of network load growth; allowance for replacement-capex that have seen the average age of network assets fall sharply in recent years; and opex

allowances that are well above prudent and efficient levels that firms operating on the private sector would expend.

Flawed application of Regulated Framework

The key components of the regulated framework employed by AER are straight-forward. Total allowed revenues include an allowance for a regulated return on capital (weighted average cost of capital x size of the regulated asset base adjusted for capex, inflation and depreciation) + opex + depreciation + tax allowance + incentive payments. Not only do AER's guidelines for application of each of these components contain scope for interpretation, they provide opportunity for departure. In making their inflated regulatory proposals, Ergon and Energex have taken full advantage of the flexibilities. In allowing for these excesses to continue, the AER's determination will not result in the significant price reductions that would otherwise logically flow for the 2015-20 price period from:

- The significantly low cost of capital associated with a sharply lower interest rate environment.
- A downturn in electricity demand and consumption stemming from previously high electricity prices, new energy saving technologies and emerging disruptive supply alternatives.
- Less onerous network security and reliability standards.
- Excess system capacity.
- Reforms driven by the Queensland Government to take costs out of the State's electricity distribution networks.

Ergon and Energex's gaming of the regulatory processes continued between the draft and final determinations, with both companies arguing for higher revenue caps.

Weighted Average Cost of Capital WACC

Along with the size of the regulated asset base (RAB), the WACC is one of the most significant drivers of allowed network revenues. In the previous regulatory period, the AER's methodology enabled Ergon and Energex to earn an actual return on equity at a level close to four times the level the AER "allowed" for in its return on equity calculation.

The excesses that the flawed AER methodology has generated have resulted in Ergon and Energex being amongst the most profitable businesses in Australia. Earning supernormal profits, their returns well exceed those achieved by the top 50 companies listed on the Australian Stock Exchange. These returns have been generated despite Ergon and Energex being widely recognised as the least efficient network distributors in the national electricity market (NEM).

The AER trimmed the WACC claimed by both Ergon and Energex. However it did not go far enough.

1. There are grounds to reduce the risk free rate.
 - Recent decisions by the Reserve Bank of Australia (RBA) mean the current level of and long term outlook for interest rates are both lower than when the AER's draft determination was made. RBA data shows that Australia's cash rate is 2 % and the

spread between the cash rate and the ten year bond rate is 50 basis points, 5 points lower than the AER estimate. The spread between the cash rate and the five year bond rate is narrower. Given the AER's determination is for a five year period, there is a strong case of the lower rate to be used in the AER's calculation of the risk free rate.

2. Market risk premium

- At its core, a market risk premium is the variance between the predictable return on a market portfolio and the risk-free rate. Operating in a regulated price environment, Ergon and Energex are network businesses that face very low market risks. To the extent that market risks arise, the regulated pricing framework passes these risks to consumers not to the network owners. Yet in this environment AER has chosen to apply a risk premium at the upper end of accepted market ranges in its WACC calculation. A direct consequence of the AER's decision is to increase the network price. This increases the incentive for electricity users to seek other energy sources and innovative ways to minimise their exposure to these excessive network prices. Perversely, this decision increases the short term profitability both Ergon and Energex, while increasing their exposure to the longer term threats of disruptive technologies.

3. Cost of debt

- The risk premium allowed on debt is similarly at the top end of market expectations. As identified by the Consumer Challenge Panel, the debt risk premium is two and a half times higher than the debt margin provided by IPART and, incredibly, more than four times the level provided for by networks operating in the United Kingdom. This impact is exacerbated by applying a BBB+ credit rating to both Ergon and Energex. With both businesses operating in a low risk domestic market, it is difficult to understand why the assumed credit rating applied should be lower than the long term credit rating (A) Standard and Poor's currently applies to QSL, the Queensland industry owned sugar marketing company.

4. Regulated Asset Base (RAB)

- The flawed regulatory pricing framework provides limited scope for the AER to reduce the size of the highly inflated regulatory asset bases claimed by Ergon and Energex. Ergon's RAB per customer is the highest in the NEM. With little opportunity to directly limit the size of the RAB, it is important that the AER takes every available opportunity to minimise the consumer impact of guaranteed returns on past inefficient network investments by lowering the WACC.
- With incentives operating in the opposite direction, there are few disciplines on Ergon and Energex to impair their assets.

Demand forecasts

CANEGROWERS continues to express concern about the level of demand forecasts proposed by both Ergon and Energex. We remain concerned that the likely impact of new technologies has been underestimated. Forecasts both at an overall level, regionally and during peak periods, need

to be reviewed in light of implied future network prices and to better reflect the likely disruptive impact of new technologies in a rapidly changing market.

Consumers are continuing to bear the now embedded costs, both capex and opex, of previous forecasting errors. With networks profiting from investments arising from their poor investment decisions and consumers bearing the full risk of those poor decisions, a new approach to forecasting and risk sharing is needed. The simplest solution would be to write down the value of the underlying asset base by an amount equivalent to the size of the over-forecast error made at the commencement of the previous period. Requiring the network owners to bear the risk of their past mistakes would result in more prudent and realistic forecasts of network estimates and ease the network price pressures faced by consumers. Such an approach, combined with the application of a “Used and Useful”, to existing assets would be a step toward optimisation of the RAB in a rapidly changing market.

Conclusion

In simple terms, Australia’s regulated pricing framework should not enable businesses to earn super-normal profits. Network pricing decisions go far beyond their impact on the distribution network suppliers; they impact on the profitability and international competitiveness of businesses that rely on their services. CANEGROWERS calls on the QPC to take account of the issues identified in this submission and the implications of unsustainably high electricity prices on the international competitiveness of Australia’s export industries when making its recommendations. A more rigorous approach to network pricing will encourage more prudent and efficient capex, greater network operating efficiency and enhance the international competitiveness of Australia’s export and import competing industries.

Yours sincerely



Dan Galligan
Chief Executive



QPC ELECTRICITY SUBMISSION ATTACHMENT

The cost implications for sugarcane

Table 1 below reflects the results of a case study from the Tablelands assuming a 60ha farm using a 55kW motor pumping 5 ML/day to a pivot irrigator applying 9.8 ML/ha resulting in yield of 135 t/ha based on plant crop and 3 ratoons. It must be born in mind that pivot irrigation is efficient and the average district yield is in the region of 105t/ha with 6ML/ha of irrigation. This demonstrates that the 135t/ha is possible through being able to apply the additional irrigation. The increase in electricity price is reducing the amount of water applied to contain the cost and hence the yield.

The following are critical issues.

- Electricity has increased from 10% of the variable costs / tonne cane to 15% over a five year period. Overall 54% of the increase in variable costs from 2009/10 to 2014/15 are due to electricity. This is a major obstacle to achieving optimal yield potential.
- Electricity cost per tonne cane has increased by 77% while other variable costs have increased by 6% between 2009/10 and 2014/15.
- The profitability of sugarcane has declined over this period with the Gross Margin Ratio going from 58% to 27%. This clearly demonstrates the reduced ability of cane farming to afford the electricity price rises.

Table 1. Tablelands Case Study

Year	Sugar Price (\$/tonne)	Gross Value of Cane (\$/t)	TVC for irrigated sugarcane (\$/tonne)	Gross Margin Ratio (%)	GM Ratio as % of TVC	Electricity Cost (Tariff 66)		
						(\$/tonne)	(\$/ML)	% of TVC
2009/10	580	52.78	22.06	58.2	139.2	2.16	29.74	9.8
2010/11	526	47.92	22.75	52.5	110.6	2.69	37.05	11.8
2011/12	553	50.35	23.56	53.2	113.7	2.87	39.5	12.2
2012/13	451	41.17	23.85	42.1	72.6	3.16	43.45	13.2
2013/14	399	36.49	24.42	33.1	49.4	3.47	47.79	14.2
2014/15	402	36.76	25.15	31.6	46.2	3.82	52.57	15.2
2015/16	385	35.23	25.53	27.5	38.0	3.82	52.57	15.0

Gross margin ratio is a profitability **ratio** that indicates the economic performance of an enterprise. A target ratio of 40% has been established for the sugar industry (Hanlon D, Rigney J, Garrad S & McMahon G 2003 - Proc. ASSCT, Vol 25)



Irrigator load profiles

- Irrigators make full use of off peak hours. They only go into peak times when there are insufficient off peak hours to complete the irrigation task.
- based on Ergon data 80% of irrigators use a TOU tariff (T62 & T65) and 20% of irrigators require a 24 hr tariff
- individual irrigator load profiles are flat and therefore easier to service
- n-1 reliability standards are not driven by irrigators' demands. Irrigation is not required every day. In exchange for lower pricing irrigators do have capacity to stand down at critical peaks.

Tariff design

- CANEGROWERS is working with Ergon towards the development of a suite of network tariffs that are complimentary for both irrigators and Ergon.
- The new network tariffs would enable continuation of the retail tariffs (T62, T65 and T66), but would be updated to replicate irrigation methods.
- For example:
 - Base Load Irrigation Tariffs (for all-day irrigation, mainly furrow – set to 20 to 50% of N).
 - Off-peak irrigation tariffs (for overhead trickle and winch irrigation) – include a worthwhile incentive for off-peak use by reducing the N-component (N set to zero) to encourage use in low network usage periods.
 - Weekend tariffs – set to an equivalent to off-peak rates to encourage weekend use.
- According to Ergon its network constraints are limited to a few hours of critical peak load demands in a few days of summer.
- The majority of irrigation is undertaken during off peak periods. Irrigation does not contribute to Ergon's critical peak load problem.
- Irrigation tariffs were originally designed to encourage off peak use. QCA declared irrigation tariffs as obsolete and transitional simply because there is no underlying tariff. However irrigation tariffs structured using Time of Use principles were well ahead of their time because they clearly signalled the difference in cost between peak and off-peak.
- Irrigation represents less than 3% of Ergon consumption. Therefore in achieving the best possible rates for irrigators the network can cope without imposing demand charges. Irrigation consumption has not been responsible for the need to expand network capacity in recent years due to forecast peak demand which has not materialised.

Efficiency measures

Without doubt, advances in technology have improved the energy use efficiency across the economy, irrigation motors and pumps are no exception.



There are more than 18,000 irrigator NMI's. To date there have been 34 audits in Ergon's on farm Energy Savers program, 14 of these were on cane farms.

Some on farm savings have been identified, but it is too early to confirm the magnitude and extent of the savings. A more pressing problem is the over capitalisation of Ergon's network. Consumers are paying very dearly for past demand forecasting errors. The average utilisation of the Ergon network is now just 37%.

Demand growth has fallen well short of expectations because of the energy use efficiency initiatives taken by consumers and because high prices have encouraged alternative generation sources such as solar.

With a guaranteed revenue cap, these demand shortfalls are hastening the adverse price spiral. The guaranteed revenue cap for networks must be removed and price be truly cost reflective if system wide energy efficiency is to be a priority and the Queensland's total productivity lifted.

Conclusions

Electricity prices may have stabilised. However prices have stabilised at unsustainable levels and everything that can be done should be done to remove inefficient costs and practices in the electricity supply chain.

Productivity gains of more than 20% in sugarcane crop yields are possible if the cost of electricity allows optimal application of water.

To achieve all of this it is essential that the right tariffs be made available. A TOU tariff and a baseload tariff

The Australian Sugarcane Industry

- World's third largest exporter of sugar (80% of Australian sugar is exported).
- \$2 billion value to the Queensland economy (to the annual Gross State Product).
- Second largest agricultural commodity in Queensland.
- 15,600 jobs directly, and 70,200 indirectly, accounting for 15% of employees in coastal Queensland.
- \$7 billion in land and \$4 billion in infrastructure assets controlled by the industry.



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CANEGROWERS is the peak representative body for Australian sugarcane growers. Representing some 80% of growers, CANEGROWERS ensures growers needs are represented at the highest possible level of industry and government decision making. For more information visit www.canegrowers.com.au