

**QUEENSLAND PRODUCTIVITY COMMISSION**

**RESPONSE TO ISSUES PAPER – ELECTRICITY PRICING IN QUEENSLAND**

**16 NOVEMBER 2015**

Queensland Farmers' Federation (QFF) is the peak body representing and uniting 15 of Queensland's rural industry organisations who work on behalf of primary producers across the state. QFF's mission is to secure a sustainable future for Queensland primary producers within a favourable social, economic and political environment by representing the common interests of its member organisations. QFF's core business centres on resource security; water resources; environment and natural resources; industry development; economics; quarantine and trade.

Our goal is to secure a sustainable and profitable future for our members, as a core growth sector of the economy. Our members include:

- CANEGROWERS,
- Cotton Australia,
- Growcom,
- Nursery and Garden Industry Queensland,
- Queensland Aquaculture Industries Federation,
- Queensland Chicken Growers Association,
- Queensland Dairyfarmers' Organisation,
- Queensland Chicken Meat Council,
- Queensland United Egg Producers,
- Flower Association of Queensland Inc.,
- Pork Queensland Inc.,
- Australian Organic
- Pioneer Valley Water Co-operative Limited,
- Central Downs Irrigators Limited, and
- Burdekin River Irrigators Area Committee

## **Introduction**

The terms of reference for the Public Inquiry into Electricity Prices has wide ranging objectives covering investigations into a competitive market, productivity growth, reliability and safety issues, environmental outcomes, fairness and equity issues, minimising impact on vulnerable customers and management of the state's finances. The Commission must also consider the whole of the electricity supply chain and broader issues such as the structure of the energy sector, national governance and market operation. The Commission has ten months to deliver a final report but must table an interim report within six months.

If the QPC is to be effective in conducting this inquiry, it was expected that the rural and regional productivity issues and impacts would be fully addressed. However, the Commission has had very little time to conduct what should have been an extensive consultation process to ensure the regional impacts of rising electricity prices on productivity in the extensive agriculture regions are fully investigated. The Final report has to address issues that are significant for regional areas of Queensland such as options to increase competition while maintaining the Uniform Tariff Policy, farming and irrigation issues and productivity in the supply chain covering generation, transmission, distribution and retail costs. It is unclear at this stage whether Commission will have the opportunity to undertake consultations particularly in the significant irrigation areas across the state.

This submission focusses mainly on reviewing the impact of current and proposed future demand tariffs on the intensive agriculture sector. It must be noted that QFF has not had the time or access to expert resources to undertake extensive analysis of the impact of existing tariffs and future tariff proposals. This is particularly the case given that the impact of these tariffs are likely to vary significantly across agriculture sectors and farming businesses with varied farm management systems. This response therefore can only provide qualitative comments.

The final section of this submission attempts to respond to some of the specific questions raised in the Issues Paper.

## **Current Tariffs**

The Queensland Farmers' Federation (QFF) collectively represents primary producers in Queensland's intensive agriculture industries which rely heavily on electricity supply to operate their farms. These industries include sugarcane, cotton, horticulture, dairy, nursery, chicken meat, flowers, eggs and pork. We also represent local irrigator groups and emerging industry groups such as organics and aquaculture. QFF engages in a range of economic, social, environmental and regional issues of strategic importance to the growth, profitability and sustainability of the sector.

Electricity prices have increased significantly since 2006 driving up the overall costs of farming in the irrigation sector across Queensland. These spiralling costs have eroded profitability of farming businesses and the competitiveness of agricultural industries in the marketplace particularly international markets. The report 'Network Pricing Trends – A Queensland Perspective – January 2015' prepared by Ernst and Young shows that from 1996-97 to 2012-13 there was a 57% increase in the average electricity price in Queensland and network costs contributed 87% of this increase. The factors Ernst and Young believe contribute to these price increases include the conflicting objectives faced by government owned corporations, record capital expenditure programs, costs of servicing a low density population and a summer peak demand and declining consumption.

The farming enterprises significantly impacted by the rapid price increases include:

- Farming systems that require flood irrigation to grow crops such as cotton and sugar cane during the summer months. Most irrigation areas have flood irrigation systems but these systems are particularly important in the Dry Tropics, Pioneer Valley, Central Highlands, Tablelands and the South West. River flows or releases to irrigation channel systems dictate the timing for pumping to operate flood systems. Water harvesting operations mainly for cotton farming rely on continuous pumping from significant river flow events over extended weeks to fill large on farm storages capable of supplying water for two seasons for flood irrigation. The protection offered by the retention of transitional tariffs has allowed farms operating flood irrigation systems to continue operating.
- Large farming operations and irrigation schemes that use in excess of 100MW and have significant peak demand patterns, face excessive price increases when they are required to shift from transitional to regulated tariffs.
- Investigations into the implementation of energy efficiency measures on farms and within irrigation schemes have identified that energy efficiency gains cannot be fully realised due to constraints on delivering pumped supply to crops eg significant upgrade of irrigation systems may be required to deliver the full benefits of new pumps with variable speed technology, major augmentation of irrigation channel systems and balancing storage capacity similarly may be required to deliver improvements to pumping efficiency in the schemes.
- Irrigation areas have varied operational arrangements that may involve significant pumping infrastructure to move water from a storage or river and the overland to farming areas eg costs of re-pumping water is high in the Pioneer Valley near Mackay.

- Electricity costs are higher in some irrigation areas because of the need to pump from deep groundwater sources (such as in the Locker Valley).
- Investment in low pressure irrigation systems is an important water use efficiency measure which can also generate productivity gains. Low pressure systems are also important for the agriculture regions in Northern Queensland in reducing off farm run off that may impact on rising water tables and water quality in coastal streams. These systems are more energy intensive and farmers have raised concerns about the escalating costs of running these systems.
- Farming systems that involve significant on farm storage and processing facilities (eg cold rooms, packing sheds, dairies, cooling for livestock, lighting) have faced significant cost increases due to rising electricity costs.

### **Recommendation**

*Investigations be undertaken to identify the farming operations that face significant impacts from current regulated tariffs and to examine what measures may be required to help them manage the impact of high electricity costs now and into the future.*

### **Demand tariffs**

#### Ergon and Energex Proposals

Both Ergon Energy and Energex propose to introduce optional demand based tariffs over the next two years. Ergon is offering small to medium agricultural businesses (Standard Asset Customers – Small that consume less than 100MW per year) a new seasonal time of use (ToU) demand tariff approved by the Australian Energy Regulator (AER). This tariff includes a peak demand charge on electricity usage between 10am and 8pm each weekday for the three summer months December to February, an off peak demand charge for usage during the remaining nine months and an energy charge throughout the year. Large customers (Standard Asset Customers – Large that consume between 4GWh and 100MW per year) will pay a peak demand charge, an energy charge (c/kWh) in the non-summer months and a fixed charge (\$/day) all year. Customers will have to activate specific metering and billing arrangements to access the optional tariffs.

The demand tariff rates are assessed for each of the three Ergon supply zones (East, West and Mt Isa). The peak and off peak demand rates and fixed tariff rates are substantially more for the West Zone which includes the irrigation areas around Emerald, Central Downs area west of Dalby, around St George and parts of the Mareeba Shire and Tablelands Regional Council area.

Energex proposes to introduce demand tariffs on a voluntary basis from 2017-18 for business customers. The components of the proposed tariff for small to medium businesses includes:

- Daily fixed charge (\$/day) for the use of the network (part of existing tariffs)
- Volume charge (c/kWh) for electricity consumed (part of existing tariffs)
- Demand charge (\$/kW/month) to be applied either to the average of the top four daily maximum demands or the single maximum demand (measured at half hourly intervals) between 9am and 9pm on week days and a similar charge applied to off peak demand in excess of peak demand.

Energex will give large businesses the option of a time of use demand tariff from 1<sup>st</sup> July 2018 which includes a peak demand charge between 7am and 9pm and an excess demand charge in the off peak

only if demand exceeds that recorded in peak periods. Energex is delaying the introduction of this tariff in recognition that large business customers have invested in power factor correction to allow for the introduction of kVA based charges from July this year. However, they indicate that monthly demand charges (kVA) will continue to be adjusted to bring these charges into alignment with long run marginal costs.

### Impacts of Demand Tariffs

QFF's submissions on tariff proposals by Ergon and Energex highlighted that the introduction of these tariffs will add significantly to the challenges that rising electricity prices pose for farming enterprises. Comments provided in regard to impacts were as follows:

- a. Energy use to pump water to meet the requirements of crops during the peak demand day time period in the hot summer months is high in all the irrigation areas across the state. The intensive agriculture industries will have difficulties managing water use to avoid incurring significant peak demand charges by both networks covering a significant part of day time.
- b. Peak charges levied by Ergon during the three summer months will impact heavily particularly on customers growing product under flood irrigation.
- c. Many farmers have few options available to reduce their peak demand use during Energex's proposed daily peak period which applies all year in the south east.
- d. Peak charges will impact heavily on irrigation supply schemes that face significant demands for supply during the summer growing period. These cost increases will be passed onto their farmer customers. Peak charges are also likely to increase costs of supplying different parts of schemes which will raise equity concerns in regard to the assessment of water prices.
- e. Dairy farms and nurseries will face difficulties managing demand during their peak morning and afternoon energy use periods. Animal husbandry requirements dictate the morning and afternoon timing for milking so the options to manage demand involve investment in energy efficiency measures at the dairy. Nurseries also rely on irrigation to maintain plants during hot days and to water regularly each early morning and late afternoon to gain efficiencies in the water use.
- f. Introduction of very high peak demand charges for the western zone will have significant added impact on the large irrigation areas located in this zone around Goondiwindi and Emerald and in the Balonne Shire, Western Downs Regional Council, Tableland Regional Council and the Mareeba Shire areas.
- g. Peak charges will increase the impact of electricity costs for irrigation areas where water must be pumped twice or more to deliver supply to farms eg Mackay area.
- h. Farming operations that rely heavily on summer based crops are unlikely to gain adequate benefits from use of off peak tariffs during nine month period of the Ergon demand tariff

Tariff reform opens a number of risks and costs for farming enterprises including:

- Greater uncertainty based on the expectation that networks will continue to change tariff structure due to changing demand patterns
- Costs of metering upgrades and billing changes
- Costs to address local capacity constraints in rural areas
- Changes of policies governing tariff reforms eg policies relating to the introduction of retail competition in rural and regional Queensland, application of Community Service Obligation arrangements and assessment of long run marginal costs
- Costs to replace existing assets well before it is necessary
- Costs to introduce other efficiencies on farm to maximise the gains that can be made through energy efficiency measures (eg investments to improve water use efficiency).

- High costs of energy efficiency measures relative to the benefits that can be derived
- Industry specific investment constraints eg low returns for industry products
- Lower productivity resulting from the impacts of rising electricity costs eg reduced productivity resulting from farmers relying more on rainfall than irrigation for crops.
- Risks of investing in off grid solutions

Overall, these risks and costs give rise to a growing concern that farmers will have to make premature or poor investment decisions to accommodate the implementation of regulated demand based tariffs from 2020.

### Understanding how these tariffs can be implemented

An extended time period for the evaluation of demand tariffs is warranted to provide farmers the time they will need to make changes and investments required to adopt new tariff structures. Detailed investigations are needed to determine the likely impacts of the introduction of demand charges on different farming systems and irrigation supply systems. In particular adequate trials need to be undertaken of the tariff proposals across selected demand profiles for the intensive agriculture sector. Investigations can then focus on identifying and costing measures to mitigate the significant impacts and whether it will be feasible for farmers to make proposed investments.

At this stage QFF member industries do not have adequate interval load data across their sectors to provide a detailed response to the tariff proposals put forward in the network tariff consultation papers. The offer of optional tariffs provides an opportunity to assess the impacts of demand tariffs. However, the impact of these tariffs are likely to vary significantly across agriculture sectors and farming businesses which employ varied farm management systems. In the absence of a structured process to encourage take up of the optional tariffs for the purpose of impact assessment there is a significant risk of a low participation rate over the trial period particularly for those customers that face impacts from the demand tariffs.

It is expected that some farmers will face significant costs from the implementation of these tariffs and have limited opportunities to reduce costs by changing demand patterns or investing in energy use efficiencies. Trial work needs to identify these potential impacts and investigations need to be undertaken at the policy level regarding support measures for enterprises to reduce the impact of the introduction of demand tariffs over an extended period beyond 2020.

### **Recommendation**

**QFF and the networks develop programs to conduct of tariff trial investigations for selected industries and farming systems. It will be important also to develop tariff calculators that will allow rural customers to assess the implications of demand tariffs.**

To summarise, QFF cannot provide analysis of the likely impacts of proposed demand charges. Farmers have a limited understanding of these charges and there will be some confusion about the charges given the different proposals being put forward by the two networks. Both the networks and retailers also have little understanding of the issues the farming sector will face with the implementation of demand tariffs. The valued time over the next two years to trial the tariffs will be wasted unless the networks and the agriculture industry can work together to investigate the impact of the optional tariffs across particularly those farming systems likely to be most impacted.

## Response to Other Questions raised in the Issues Paper

QFF would like the opportunity to respond to all the relevant issues raised by the QPC. However, there has been insufficient time and information available to QFF to make substantive comment on many questions. We would like the opportunity to respond on those where we can provide constructive input at a later time.

### Section 2 – Productivity in the Electricity Supply Chain

2.1 Are there changes to the structure of the electricity supply chain and its regulation that might improve the efficient delivery of a reliable supply of electricity to customers?

*Implementation of tariffs to recover the high costs of supplying electricity in dispersed rural and regional areas of Queensland are expected to drive consumers to invest in off grid solutions. The demand tariffs in particular will force consumers off the grid during peak summer periods. These areas are unlikely to benefit from significant competition in the retail market for some considerable period of time. There is a significant risk that the impact of demand tariffs even reduced by the application of regional subsidies could promote poor investment decisions by consumers to reduce grid dependency. Investigation of the opportunities to improve both demand and supply management in regional and subregional areas could inform decision making in regard to augmentation of energy supply and the use of energy.*

2.2 What are the key areas for productivity improvement across the electricity sector, and how could these influence Queensland's overall economic productivity?

*Planning for end use energy efficiency measures in the agriculture sector in Queensland is at a very early stage of development. The emphasis at national and state levels has been on policy reform to drive implementation of cost reflective pricing and increased competition. There is a real risk that the introduction of energy productivity measures will come far too late to help farming enterprises manage for the impact of rising electricity prices.*

Questions 2.3 to 2.5 and 2.6 to 2.8 - *Insufficient time and information available to QFF to make substantive comment on these questions in this submission.*

2.9 What is the best way to recover the network costs associated with demand from electricity customers more efficiently and equitably?

*QFF continues to question the assessments of prudence and efficiency of network costs. At best the regulatory process attempts to stage cost reduction in the hope that development of competitive markets will eventually deliver cost efficient outcomes. QFF understands the principles for demand based pricing but it is unlikely that these charges can be implemented in rural areas without government intervention to mitigate negative impacts.*

2.10 How should volume risk be shared between NSPs and electricity consumers?

*QFF expects that the further introduction of pricing reforms will continue to drive down demand in rural and regional areas. Under a price cap consumers will bear the costs of falling demand. It is unclear what the implications of this will be in rural and regional areas.*

*2.11 to 2.28 - Insufficient time and information available to QFF to make substantive comment on these questions in this submission.*

### Section 3 Deregulation in South East Queensland

*3.1 to 3.10 - Insufficient time and information available to QFF to make substantive comment on these issues in this submission. Comments provided earlier in regard to the implementation of demand tariffs need to be considered in regard to these questions*

### Section 4 Regional Queensland

4.1 What objective(s) should the UTP be designed to achieve and how effective is the current UTP at achieving the objective(s)?

4.2 Could the UTP be targeted more effectively to better achieve these objectives?

4.3 Can stakeholders point to examples of how the UTP has delivered benefits to their region in terms of economic growth and development?

*QFF has had insufficient time to address these questions in detail. QFF believes that detailed investigation of the impact of rising electricity prices and trials for the introduction of demand tariffs will identify the need for continued subsidy to avoid significant adverse outcomes.*

*4.4 to 4.13 - Insufficient time and information available to QFF to make substantive comment on these questions in this submission.*

4.14 What is the most efficient approach to setting Notified Prices in regional Queensland that will support a UTP and why?

4.15 What are the benefits and impacts of using Ergon Energy's network charges and tariff structures to form the basis of regulated prices in regional Queensland?

Any review of the options for setting notified prices while maintaining the Uniform Tariff Policy needs to be addressed transparently including analysis of the impacts of different benchmarks including those listed in the Issues Paper. QCA's recommendation to use Ergon Energy's network charges and tariff structures as a basis for regulated prices in regional Queensland also warrants investigation.

4.16 What percentage of input costs do electricity prices represent for different types of customers on transitional tariffs, and how do total input costs compare with revenues?

4.17 What approaches should be considered to help customers on transitional tariffs?

*Comment in this submission in regard to current and demand based tariffs address these questions in part.*

4.18 What are stakeholders' views on the effectiveness of energy efficiency and demand management measures in helping alleviate electricity bills for customers on transitional or obsolete tariffs, and are there other options that should be considered?

*Audits and other investigations to provide information in regard to this question are underway but it is far too early to provide an adequate response. It would appear that energy efficiency and demand management measures are unlikely to be very effective in alleviating electricity bills for those farming systems that are significantly impacted by current tariffs and demand tariffs*

4.19 to 4.23 - *No comment at this stage on these questions which are directed at Local Government. The comment earlier regarding investigation of the opportunities to improve both demand and supply management in regional and subregional areas should take into account the needs of local communities.*

#### Section 5 Customer Participation and Support in the Electricity Market

5.1 What are the barriers to improving consumer participation in the electricity market?

5.2 What are the benefits to the productivity of the electricity market and broader supply chain in increasing customer participation, and how can these benefits be measured?

*There has been significant engagement with customer representative bodies in the implementation of regulatory pricing. Annual QCA determinations involve a two stage process and the AER determination involved a similar process with stakeholders receiving some support from an expert panel. Both networks undertook extensive consultation for the AER determination and consultation for reviews of tariff structure are ongoing.*

*The significant barrier to effective consultation is a failure to adequately build the capacity of the consumer sector to respond to proposed changes. Governments could have played a key role in this activity but design and implementation of the regulatory system took precedence. Once implementation of this framework began, state agencies had to give priority to measures for the implementation of the regulation and the mitigation of broad scale impacts.*

*Despite the significant commitment peak groups such as QFF have made to the consultation process on regulatory pricing issues, the agriculture industries have a limited capacity to engage in an effective consultation on productivity and broader supply chain issues. Much more effort is needed to ensure that farmers are better informed about energy reforms and can be engaged in improving productivity and supply chain improvements.*

5.3 What is the existing level of consumer knowledge and understanding of new electricity sector business models, products and services, and technologies?

5.4 How will future developments, including changes in technology and the growth of new markets and business models, influence consumers' participation in electricity markets?

*There is some understanding of electricity reforms among leading farmers and their representative bodies. However, as outlined in this submission there will be significant caution about early adoption of opportunities arising from the reforms due to the significant risks and uncertainties involved in the implementation of tariff reforms*

5.5 What are the key information gaps in consumer knowledge and understanding of electricity markets?

5.6 What have industry or consumer groups done to address existing information and behavioural barriers, and how effective have these strategies been?

*Farmers as a whole do not understand the thrust of electricity reforms other than the significant increases in their bills over the last 6 years. Industry groups have had to focus on addressing the impacts of electricity prices in response to QCA and AER processes. QFF has made an effort with Ergon to initiate energy audits to gain some appreciation of what energy efficiency measures could be implemented for irrigation and other farming activities such as heating and cooling and packing. It will take some time for these investigations to yield tangible results.*

5.7 What are the potential benefits and risks in the transition to cost-reflective pricing, in terms of electricity prices and supply chain productivity?

5.8 In what ways could customers be better supported and equipped to understand and accept more cost-reflective tariff structures?

*The earlier section of this submission deals with the impacts of cost reflective prices and the risks to productivity given uncertainty with the implementation of pricing reforms. It will be difficult for farmers to accept the price reforms without evidence that they can adjust to current prices or future demand tariffs.*

5.9 What barriers and costs does a voluntary uptake of advanced metering present for the rate at which cost-reflective tariffs are able to be adopted?

*Comments have been provided previously in the submission in the likely lack of interest in voluntary demand-based network tariffs.*

5.10 to 5.12 - *No comment re questions for vulnerable consumers*

5.13 In what ways do the benefits of energy efficiency and demand management programs help consumers offset price risks?

5.14 What types of incentives would be the most effective in balancing benefits and costs to achieve better outcomes in terms of electricity pricing and supply chain productivity?

5.15 What are the benefits and risks in the Queensland Government providing incentives for households, businesses and industries to become more energy efficient or manage their peak levels of demand, including implementing energy efficiency standards for sectors within its jurisdictional authority?

5.16 What barriers and costs does a voluntary uptake of advanced metering present for energy efficiency and demand management tools?

*These are important questions but QFF needs more time to frame a specific response. Brief comments are as follows:*

*Question 5.13 - the following principles should apply:*

- *Tariff structures should reward customers that make efficiency and demand improvements. High fixed charges do not incentivise such behaviours*
- *Structural tariff stability will enable businesses and consumers to invest with certainty*

*Question 5.14 - incentives could include:*

- *Tariffs that genuinely reward customers and reduce their impact on the grid eg bills are reduced for low-consuming, low-demand business. This could include a site that generates power but does not export. A company that reduces its consumption by 20% should expect to see a similar percentage reduction in their bill.*
- *Networks could declare Local Demand Management Areas (constraint areas) where local groups could collaborate to alleviate pressure on the network through 'demand-sharing' or imposed demand charges.*

*Question 5.15 – Setting energy efficiency standards for certain equipment should encourage continuous improvement in technology. Setting energy efficiency standards for certain sectors is significantly more complex and may only be suitable where there is sufficient data to be able to accurately benchmark and account for fluctuations in production; and where the tariff structures allow efficiencies to be reflected through energy cost savings.*

*5.17 to 5.24 - No comment re questions for vulnerable customers and concession customers*