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Independent Panel
Drought Program Review
Department of Agriculture and Fisheries
41 George Street
BRISBANE QLD 4000

Via email: DroughtProgramReview@qld.gov.au

Dear Mrs Wade and Mr Burke

Re: Queensland Government Drought Program Review – additional information

Following our meeting on 13 November 2018 and further to QFF's submission on 26 October 2018, additional information on the energy-water nexus and the inability to control electricity and water costs is provided. As stated in our submission, one of the underpinning factors of successful drought policy is the ability for farm businesses to be drought prepared and effectively manage through times of drought. To do this, they must be able to maximise opportunities in the 'good' years and control costs in the 'bad' years. Government policies and settings around energy and water do not enable this to happen.

The energy-water-climate nexus

While farmers are intimately familiar with the interconnectedness between energy, water, climate and food production, policy and regulatory developments continue to treat these three areas distinctly separate. This is highlighted by the often-deliberate separation of government departments and policy responsibilities. The lack of integration and coordination of policies across these areas means that farmers are continually confronted by competing and often conflicting policy objectives.

Current government policy does not provide essential and enabling services such as electricity and water at a 'fair cost' for agriculture. As trade-exposed price takers, farm businesses have virtually no ability to offset these costs. On top of this, Queensland is experiencing increasing climate variability. Consequently, the agricultural sector is vulnerable to both 'natural' risk (e.g. climate change, temperature changes, water availability) and 'man-made' risks arising from conflicting policy development that, at times, appear resistant to resolution. The energy-water-climate (and resultant food) nexus has therefore become a 'wicked problem' at multiple scales. Solving it will require enduring, coordinated and holistic policies and regulatory frameworks that transcend political election cycles and have practical, achievable long-term goals.

There are many elements and layers to the energy-water-climate(-food) nexus. Instead of devising one 'global' solution, political realities mean that a 'modular' solutions approach that can develop suitable responses to the various 'wicked problems' that arise in the nexus is more likely to deliver results for farmers.

Cost increases and perverse outcomes

In Queensland, the price of electricity over the last 10 years has increased about 10 times the rate of inflation. This critical input for intensive, semi-intensive and irrigated agricultural farm businesses has now become a major cost – in some cases up to 40 per cent in a gross margin budget. Similarly, the cost of water and the associated pumping costs are becoming cost prohibitive, as evidenced by about 300,000ML of unutilised water sitting in existing public storages, very low take-up of additional water releases and farmers reverting to lower productivity, dryland agriculture.

QFF maintains a deep concern about the implementation of current and future electricity prices. We consider that the process for electricity price reform is flawed and needs a complete review. QFF continues to question the Queensland Competition Authority (QCA) process for annual tariff setting. We believe that ongoing annual determinations will continue to undermine investment confidence within the agricultural and rural business sector.

Electricity prices in Australia are higher than overseas jurisdictions[1], disadvantaging commodity exports on the global market. As Queensland's electricity costs rise, the viability of intensive agriculture is being eroded. For example, Queensland agriculture is the second largest user of water and has the second largest number of irrigated agricultural businesses in Australia. Considering sources of agricultural water, Queensland is the largest user of groundwater and recycled/recaptured water resources. The amount of energy and, in turn, the financial cost of using these water sources is higher than utilising surface waters.

A growing number of farmers are switching to dryland farming practices as the price of electricity has already become unsustainable for many businesses. Queensland is experiencing a steady decline in the number of irrigation businesses (Table 1) as well as reducing productivity across the sector.

Table 1: Summary of Agricultural Water-Use Statistics for Queensland, Australia (Davis 2017 – data from various ABS sources)[2]

	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
Area of holding (ha)	127,550,908	135,917,925	139,932,697	129,548,236	137,239,082	139,834,696	129,667,586
Number of agricultural businesses irrigating (no.)	5,416	7,622	7,461	6,685	7,572	8,023	9,402

Queensland farmers are modifying their practices to adjust to water availability and climatic conditions as above-average temperatures and dry conditions persist, along with increasing high prices for water and the electricity to pump that water. Practice modifications include crop selection, in-crop water use and whether to plant at all.

According to the Australian Energy Regulator, there were 698 small business disconnections by Ergon Retail (regional Queensland) in 2016-17; an 82 per cent increase from 2015-16 when 384 small businesses were disconnected. Some of these disconnections were agricultural and related businesses who could not pay their electricity bill. Irrigation decisions, and therefore use of electricity, are driven primarily by the crop's water requirements and regulation governing water access (e.g. water licencing conditions which may be based on specific times of the day through to flood levels in a riverine system).

[1] CME (2012). Electricity Prices in Australia: An International Comparison. A Report to the Energy Users Association of Australia. Carbon and Energy Markets, March 2012.

[2] Davis, G. (2017). The Climate Change-Energy-Water Nexus and Its Impacts of on Australia's Farming Sector. *The Impact of Climate Changes and Environmental Pollution on Our Life: The Question of Sustainability*. Eds. Albanaser Omran.

Due to these constraints, irrigators often have limited flexibility in their electricity use and cannot respond to different electricity price signals, such as peak versus shoulder electricity rates.

In response to price increases, farming businesses have been installing energy efficiency measures and renewable energy, and in many cases simply reducing demand. Much of these cost savings have been diminished by increasing electricity costs. Reducing demand comes with high opportunity cost through reduced productivity and/or yields.

The Queensland Government recently handed down the referral notice directing the QCA to investigate prices for all bulk water supply schemes and some distribution systems operated by SunWater and Seqwater for irrigation customers. The QCA's examination will determine new prices for irrigators for the 2020-24 period. QFF's initial analysis of the bulk and distribution services provided by SunWater and Seqwater shows significant variation in cost increases for different irrigation schemes. In several schemes, irrigators will face significantly higher prices because of cost increases to maintain scheme assets, rising electricity and insurance costs, and the impacts of lower water demand forecasts.

Additionally, under the referral notice the QCA will also investigate pricing options that include essential dam safety upgrades. These upgrades include costly works to various scheme elements such as dam spillways, the installation of spillway gates, and various structural modifications such as to dam embankments. The inclusion of these upgrades in the QCA's investigations could leave irrigators to contribute towards what could be very large expenditures for dam safety infrastructure to protect downstream communities from the possibility of dam failure.

It will be government's decision whether to pass through dam safety costs, but regardless, the increased cost of water in some schemes will to add to the current challenges of water underutilisation and it raises questions about the viability of schemes that face extended years of real price increases of over $2/ML per year for fixed charges in addition to coping with high variable costs.

Many farmers are now weighing-up options to 'switch-off' efficient irrigation technologies (e.g. pressurised systems) or leave the grid by adopting advancing energy technologies. However, due to irrigation demands, through to the need for continuous power to refrigerate produce, some have already installed hybrids of renewables and new diesel generation as they transition key infrastructure off grid. While diesel presents an attractive option given its relatively low-cost and high-reliability, there is future uncertainty on how diesel may be impacted by Australia's obligation to manage carbon. This also leaves a legacy for those customers who are unable to leave the grid and may have to pay increasing costs into the future, thus compounding negative outcomes – often referred to as the network 'death spiral'.

Without deliberate action to resolve the 'water-efficiency' and 'energy intensity' trade-off currently taking place in agriculture, the likelihood of perverse and wasteful outcomes will increase. There is the perception that the cause-effect relations are complex in the energy-water-climate(-food) nexus for agriculture. This is compounded by the lack of clarity around the solutions and joined-up policies; while the magnitude of the issues at farm level escalates. Despite these problems being urgent, there is no central authority to solve them and, indeed, neither state nor federal governments assume responsibility.

Drought Policy options

The energy-water-climate(-food) nexus requires attention on multiple fronts to be effective. Where drought policy is concerned, government must ensure that it promotes water and energy efficiency for drought resilience so that farms can maintain profitability during drought and so that high electricity costs do not prevent utilisation. Investment in an energy-water nexus program to effectively deal with

these issues, and better understand the implications of not doing so, is long overdue and is critical to helping farm businesses capitalise on the 'good' years and become more drought prepared.

On top of the issues raised above, government is restructuring water and electricity charges so that they have a higher fixed portion. During times of drought, this will compound the 'fair cost' and affordability issues farmers already face. Farmers must be able to reduce fixed water and energy costs that are unavoidable or non-tradeable.

Water trading has the potential to assist (irrigation) farmers during droughts, as it gives them much greater flexibility in the way they operate their businesses and manage their risks. However, water trading in Queensland is limited and systems are not connected so government must look to at other justifiable support measures, such as waiving fixed water charges and licence fees.

For energy, drought electricity tariffs (see Appendix A) that offer needed assistance and reward energy efficiency and coordinated investment in solar and other renewables on a local/district scale (which also reduce Ergon costs and/or defer Ergon capital expenditure) are appropriate measures that can help farmers manage through drought conditions.

Yours sincerely

Travis Tobin
Chief Executive Officer

Appendix A – logic behind drought tariff options

Farmers who <u>can minimise</u> demand charges (solar/diesel pumping and reasonable on-farm water storage capacity)	
Charge	**Preferred**
Usage / volumetric	**Medium to high usage charge** - Relatively high use charge (rewards energy efficiency) enables Ergon to reduce fixed charges.
Demand / peak based	***Relatively high demand charges*** (if avoided) reduce the bill by reducing fixed (and potentially variable) charges
Fixed	**Low or very low** relative to other charges (necessary during drought when revenue and variable costs low)

Farmers who <u>cannot minimise</u> demand charges (limited solar/diesel pumping and limited or no spare on-farm water storage)	
Charge	**Preferred**
Usage / volumetric	**High usage charge** - Relatively high use charge (rewards energy efficiency) enables Ergon to lower demand and fixed charges.
Demand / peak based	***Relatively low demand charges*** (as not avoided) resulting in lower 'semi-fixed' electricity bills (and drives up usage charge)
Fixed	**Low** relative to other charges (necessary during drought when revenue and variable costs are low)