



QUEENSLAND FARMERS' FEDERATION

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Submission

14 January 2022

Department of Energy and Public Works
Queensland Government
1 William Street
BRISBANE QLD 4000

Via email: QREZ@epw.qld.gov.au

Dear Sir/Madam

Re: Delivering Queensland Renewable Energy Zones – Technical Discussion Paper

The Queensland Farmers' Federation (QFF) is the united voice of intensive and irrigated agriculture in Queensland. It is a federation that represents the interests of 21 peak national, state and regional agriculture industry organisations and engages in a broad range of economic, social, environmental and regional issues of strategic importance to the productivity, sustainability and growth of the agricultural sector. QFF's mission is to secure a strong and sustainable future for Queensland farmers by representing the common interests of our member organisations:

- CANEGROWERS
- Cotton Australia
- Growcom
- Nursery & Garden Industry Queensland (NGIQ)
- EastAUSmilk (formerly QDO)
- Australian Cane Farmers Association (ACFA)
- Turf Queensland
- Queensland United Egg Producers (QUEP)
- Queensland Chicken Meat Council (QCMC)
- Bundaberg Regional Irrigators Group (BRIG)
- Burdekin River Irrigation Area Irrigators Ltd (BRIA)
- Central Downs Irrigators Ltd (CDIL)
- Fairbairn Irrigation Network Ltd
- Mallowa Irrigation Ltd
- Pioneer Valley Water Cooperative Ltd (PV Water)
- Theodore Water Pty Ltd
- Eton Irrigation Scheme Ltd
- Pork Queensland Inc
- Tropical Carbon Farming Innovation Hub
- Queensland Oyster Growers Association (QOGA)
- Lockyer Water Users Forum (LWUF).

The united voice of intensive and irrigated agriculture



QFF welcomes the opportunity to provide comment on the Delivering Queensland Renewable Energy Zones – Technical Discussion Paper. We provide this submission without prejudice to any additional submission from our members or individual farmers.

Background

The Queensland Government has committed \$145 million to establish three Queensland Renewable Energy Zones (QREZ) in northern, central, and southern Queensland.

To deliver the first stages of QREZ investment, the Government has released the Technical Discussion Paper on QREZ design and access. The Technical Discussion Paper presents the desired QREZ model attributes (as identified by the Government) and how this model corresponds to renewable energy zones at the national and jurisdictional levels.

Land Use Planning – Current Situation

The three QREZ's cover significant agricultural regions. Recently, a significant proportion of the development of renewable energy projects in Queensland have been focused on solar. These facilities are currently assessed in Queensland under individual local planning schemes, unlike other large-scale resource and energy generation activities which are rigorously assessed at state level. Much of the siting and development of large-scale solar facilities has occurred in regional Queensland. Small local governments lack adequate resourcing for the consistent assessment and conditioning (development approvals) of these facilities, despite the considerable land-footprint and infrastructure requirements. To date, over 14,000 ha of Good Quality Agricultural Land (GQAL)¹ (including irrigated land) has been developed by large-scale solar facilities. Some of the facilities have impacted the neighbouring properties 'right to farm' and undermined the viability of regionally located agri- infrastructure.

It is worth noting that GQAL is expensive to purchase with increasing land values within the majority of grazing, horticultural, small crop and dryland farming industries², and has been selected due to its proximity to existing electricity infrastructure (sub-stations and high voltage power lines); with the additional costs of land purchase offsetting the costs of building new power-infrastructure. The land acquired for siting these solar power stations has been from the sale by willing sellers and rental offerings.

Large-scale solar facilities are currently assessed by local government under regional planning schemes, and do not trigger an assessment under the *Regional Planning Interests Act 2014 (Qld)*, even if they are in an area of regional interest, such as a Priority Agricultural Area (PAA) or a Strategic Cropping Area (SCA), because they are not resource or regulated activities. Large-scale solar facilities are also not assessed under the State's *Environmental Protection Act 1994 (Qld)*. This is contrary to other large-scale resource and energy generation activities (such as electricity generation over 10MW³) which are rigorously assessed at state level, requiring an Environmental Authority to manage on-site and off-site impacts⁴ and, in some cases, a requirement for a financial assurance; and for activities with a large land-disturbance the submission of construction and rehabilitation plans.

¹ Good quality agricultural land (GQAL) in Queensland includes PAA, SCA, SCL, IAA and ALC Class A & B agricultural land

² Valuer-General's 2019 Property Market Movement Report. State Valuation Service, Department of Natural Resources Mines and Energy. <https://www.dnrme.qld.gov.au/media/documents/titles-and-valuations/valuations/valuer-generals-property-market-movement-report/2019-property-market-movement-report.pdf>. Accessed 10 March 2019.

³ For example, under the *Environmental Protection Regulation 2008 (Qld)*, Electricity Generation of 10MW or over requires an Environmental Authority – Environmentally Relevant Activity 14 (ERA 14).

⁴ Environmentally Relevant Activity (ERA14) under the *Environmental Protection Regulation 2008 (Qld)*, specifies ERA14 as "Electricity generation (the relevant activity) consists of generating electricity by using fuel at a rated capacity of 10MW electrical or more".

Many of existing and proposed solar PV developments cover significant land area ranging from 350 ha up to a proposed development in excess of 1,200 ha, noting the assumptions that:

- 1 MW solar PV power plant should require about 1 ha plus room for support services. Therefore, 1 MW of solar PV power plant will be about 1.6 ha in total area⁵;
- the PV technology also impacts land requirements with solar tracking technology – 1 MW of thin film solar plant will require about 30 percent more area than a similar power plant with crystalline solar modules; and
- approximately one (1) m² of land produces 200 W of electricity, depending on the location, efficiency and other environmental conditions^{6,7}.

To date, the current large-scale solar installations across Queensland have utilised 1.5-2.5 hectares per MW of installed capacity (depending on cell and tracking technology), not including the land required for substations, inverters, batteries, easements and communication towers.

Queensland's agricultural sector has been a strong advocate for increasing the amount of energy generated from renewable and low carbon technologies to reduce greenhouse gas emissions, reduce climate change impacts and stimulate investment in new jobs and businesses, particularly for regional areas. Many agricultural businesses have adopted on-farm solar technologies amongst other renewable energy technologies to combat rising demand-based electricity prices. There are significant opportunities for the co-location of various renewable energy systems across Queensland's agricultural regions.

Current Planning Framework for Renewables

Good quality agricultural land (GQAL) in Queensland includes a Priority Agricultural Area (PAA), Strategic Cropping Area (SCA), Strategic Cropping Land (SCL), Important Agricultural Areas (IAA) and Agricultural Land Class (ALC) A and B agricultural land⁸. The various classifications of agricultural land are identified across numerous items of regulation (Table 3) which have progressed as competing land-uses have evolved. The current structure of agricultural land classifications is complicated and dictated by the competing land use as opposed to a consistent characteristic of the value or type of agricultural land.

Due to the incremental nature of policy development and issue resolution within the Queensland Government, the Queensland policy framework for the protection of agricultural land for productive purposes currently consists of three separate approaches to this issue:

⁵ See <http://www.solar mango.com/scp/area-required-for-solar-pv-power-plants/>. Accessed 10 January 2018.

⁶ Nathan, S. Lewis (2010). Powering the planet. California Institute of Technology. Available at: <http://www.nsl.caltech.edu/media/energy:energy6.pdf> Accessed 1 January 2019.

⁷ Mark, Z. Jacobson, Mark, A. Delucchi (2011). Providing all global energy with wind, water, and solar power, Part I: technologies, energy resources, quantities and areas of infrastructure, and materials. *Energy Policy* 39:1154–69.

⁸ The ALC classification system for agriculture is based on a hierarchy that applies across the state. It ranges from Class A land (arable crop land) through to Class D (land that is unsuitable for agriculture). Class A = Crop land - Land that is suitable for current and potential crops with limitations to production which range from none to moderate levels. Class B = Limited crop land - Land that is marginal for current and potential crops due to severe limitations; and suitable for pastures. Engineering and/or agronomic improvements may be required before the land is considered suitable for cropping. Class C = Pasture land - Land that is suitable only for improved or native pastures due to limitations which preclude continuous cultivation for crop production; but some areas may tolerate a short period of ground disturbance for pasture establishment. Class D = Non-agricultural land - Land not suitable for agricultural uses due to extreme limitations. This may be undisturbed land with significant habitat, conservation and/or catchment values or land that may be unsuitable because of very steep slopes, shallow soils, rock outcrop or poor drainage. Class A land was always considered good quality agricultural land but Classes B and C lands might also be considered good quality agricultural land dependent on the local circumstances and prevailing agricultural industries

Table 3: Protection from development as defined in the various Acts (Queensland)

Regulatory Tool	<i>Planning Act 2016</i>	mining and petroleum activities (i)	mining and petroleum activities (ii)
Protected Land Classification	Important Agricultural Land; ALC Class A and B.	Strategic Cropping Area (SCA)	Priority Agricultural Area (PAA) and Priority Agricultural Land Uses (PALU)
Development Affected	Includes urban, rural-residential, industrial, commercial, extractive industry (sand, gravel, rock extraction).	Mining and petroleum extraction activities	Mining and petroleum extraction activities
Legislation and Policy	<i>Planning Act 2016, Planning Regulation 2017, State Planning Policy, Local Planning Schemes</i>	<i>Regional Planning Interests Act 2014, Regional Planning Interests Regulation 2014.</i>	<i>Regional Planning Interests Act 2014, Regional Planning Interests Regulation 2014</i>
Assessment Agency	Local Governments, State Government (Department of State Development Manufacturing, Infrastructure and Planning has a 'call-in' power)	State Government (Department of Natural Resources, Mines and Energy - DNRME)	State Government (Department of Agriculture and Fisheries; or DNRME if the PAA includes a regionally significant water source)
Industry Input	Comment on draft planning schemes, objection to certain development applications.	Proponent must take all reasonable steps to consult and negotiate with the owner about the expected impact of carrying out the activity on each priority agricultural land use. The owner does not have a veto over the activity.	Proponent must take all reasonable steps to consult and negotiate with the owner about the expected impact of carrying out the activity on each priority agricultural land use. The owner does not have a veto over the activity

The discrepant nature of the planning regime for the protection of agricultural land from non-agricultural uses (including renewables) in Queensland needs to be addressed to reduce confusion and realise better planning outcomes so that both existing and potential high value agricultural land can be protected where possible regardless of (non-agricultural) development type.

Large-scale solar facilities for example, are currently assessed by local government under planning schemes, and do not trigger an assessment under the *Regional Planning Interests Act 2014 (Qld)*, even if they are in an area of regional interest such as a Priority Agricultural Area (PAA) or a Strategic Cropping

Area (SCA), because they are not classed as resource or regulated activities. The former *Strategic Cropping Land Act (Qld)* would have protected valuable ALC Class A land and SCL designated land and would have required mitigation measures. The current planning scheme fails to offer any protections for prime agricultural land.

The Queensland Government also established the 'State Planning Policy (SPP): State Interest Guide' to define the specific matters of state interest in land use planning and development with the State's interest in agriculture being defined as⁹:

"Planning protects the resources on which agriculture depends and supports the long-term viability and growth of the agricultural sector".

The purpose of the Guide is to inform the drafting of local government planning schemes so that they appropriately integrate the SPP state interest—agriculture. The Guide's suggestions apply equally to the drafting of new planning schemes and the amendment of existing planning schemes and elaborates on the key role local government planning schemes can play in supporting the long-term viability of agriculture. There are several policies within the SPP including:

- Considering the strategic economic significance of important agricultural areas by promoting and optimising agricultural development opportunities and enabling increased agricultural production in these areas.
- Protecting Agricultural Land Classification (ALC) Class A and Class B land for sustainable agricultural use by: (a) avoiding fragmentation of ALC Class A or Class B land into lot sizes inconsistent with the current or potential use of the land for agriculture; (b) avoiding locating non-agricultural development on or adjacent to ALC Class A or Class B land; and (c) maintaining or enhancing land condition and the biophysical resources underpinning ALC Class A or Class B land.
- Facilitate the growth in agricultural production and a strong agriculture industry:
 - Considering the value and suitability of land for current or potential agricultural uses when making land use decisions.
 - Considering the planning needs of hard to locate intensive agricultural land uses, such as intensive animal industries and intensive horticulture.
 - Locating new development (such as sensitive land uses or land uses that have biosecurity risks for agriculture) in areas that minimise the potential for conflict with existing agricultural uses through the provision of adequate separation areas or other measures.
 - Facilitating opportunities for mutually beneficial co-existence with development that is complementary to agriculture and other non-agricultural uses that do not diminish productivity.

The State Planning Policy¹⁰ also requires planning schemes to protect Class A and B (good quality) agricultural land from fragmentation and development that will have an irreversible impact on the land, and the SPP is required to be reflected in local government planning schemes. The SPP does not prioritise one state interest over another, leaving it up to local governments to resolve land use conflicts and determine the appropriate land uses within each local government area.

There are issues concerning land-use data across Queensland which are impacting the overall understanding of the importance of agricultural land and its rate of loss. There are particular difficulties associated with capturing accurate data concerning the loss of agricultural land (across categories) in a timely and consistent manner. The inadequate land use data and the lack of a consistent time scale for the regional assessments means that there could have been considerable land use change in certain

⁹ Queensland Government (2016). State Planning Policy – State interest guide Agriculture. April 2016. <https://www.dlgrma.qld.gov.au/resources/guideline/spp/spp-guideline-agriculture.pdf> Accessed 26 December 2018.

¹⁰ Queensland Government (2017). State Planning Policy. July 2017. <https://dilgpprd.blob.core.windows.net/general/spp-july-2017.pdf>

areas since the assessment, particularly since 2015. For example, it is unlikely that the recent uptake of large-scale solar is captured.

To ensure future food security and ensure the protection of agricultural land from non-agricultural developments, it is suggested that the Administering Authority for planning (Department of State Development, Infrastructure, Local Government and Planning, DSDILGP) make regulatory provision for the annual reporting from local government as to all approved development. This data must be compiled at least annually and made available to all government departments to ensure that the SPP is effective and to identify any land use trends. It is essential that actual development footprint is accurately captured.

The large-scale solar industry could learn from the coexistence measures designed and implemented by the coal-seam gas industry. Existing tools, which may be particularly relevant include rehabilitation plans, which includes the removal of infrastructure at end of life. This is critical to both land which has been purchased or rented. There is concern that land-owners who have rented land for large-scale solar development may not have clearly articulated contracts covering end of life issues.

QFF notes that this is not a renewable energy-agricultural conflict. Agriculture and solar can, and do co-exist at various levels and, indeed, the agricultural sector is one of the renewable energies (specifically solar) sectors largest advocates and investors¹¹, recognising the need to decarbonise electricity generation. It is disingenuous for this issue to be represented as anything other than a conflict over the application and upholding of the intent of State Planning Policy. As such, a new land use planning policy and process must be considered for QREZs as a matter of urgency.

Land Use Planning – Requirements for A New Framework

QFF suggests the following areas for consideration regarding QREZ land use planning objectives:

1. Is the land PAA, IAA, SCA etc. If so, should the project be declined? It would be sufficient to define Class A and B land (ALC) as land for exclusion from RE and ERF projects unless there are no alternative sites (see below).
2. Can the RE project be carried out on other land that is not of state or regional planning significance, including, for example, land elsewhere on the property, on an adjacent property or at another nearby location? This is an important planning principle that should be applied to all proposals for incompatible development on agricultural land. Full principle is 'Development should not occur on agricultural land unless there are no alternative sites available on non-agricultural land and there is a clear overriding community need for the development in the proposed location.'
3. Will the RE project constrain, restrict, or prevent the ongoing conduct on the property of a high value agriculture use? If so, what will be the:
 - changes to the conduct of the farming system/operation. For example, can existing farm equipment (e.g., a harvester) continue to be used to undertake cropping? If not, what is the impact of replacing or retrofitting equipment to undertake the cropping post impact? Were changes such as the method used to undertake the cropping considered? For example, notwithstanding that the proposed footprint what is the impact to the current farming system? In a controlled traffic farming system this may include changes to management zones, operating width, field layout, tillage systems and GPS guidance equipment. Will the RE Project limit the landowner's ability to adopt new management practices (e.g., lateral move irrigation) or respond to market changes such as commodity prices by using the land for a different crop?
 - changes to yield quantity or quality. For example, is there likely to be a reduction in yield quantity because of, for example, increased competition by vegetation and weeds for soil

¹¹ Georgina Davis. Farmers Continue to Embrace Solar. Sustainability Matters. April/May 2019. In press.

nutrients or waterlogging resulting from changes to the direction of a run to accommodate an RE Project?

- changes to the asset base. For example, is there likely to be a reduction in the market value of the property? This may influence the landowner's ability to leverage funds to invest in new capital or implement new best management practices such as water-use efficiencies. Is the utility of critical infrastructure (e.g., machinery shed, grain storage silo) retained? Who has the public liability for the RE Project?

4. Will the RE project have any impact on the land owned by a person other than the applicant? If not, the applicant should demonstrate how these impacts will be avoided, minimised, or mitigated.

5. Will the RE project result in widespread or irreversible impacts on the future use of an area in the region for high valued agricultural land uses? The applicant should provide evidence to show that the productive capacity of the region does not experience negative widespread or irreversible impacts.

QFF supports a single planning framework as the best approach and believes that it is possible to include large-scale renewable energy developments into the scope of the *Regional Planning Interests Act 2014*.

With regards to the specific QREZ consultation questions in Section 3.2 (page 13):

4. Do you agree with this approach to planning declared REZ within the broader QREZ regions? Why or why not?

A: No. The paper does not provide any detail of the proposed planning approach. There needs to be a detailed planning process developed that includes clear criteria on areas that are excluded from and those included in the planning process.

5. Should Powerlink be the designated planning body to undertake analysis regarding development of declared REZ? Why or why not?

A: No. The designated planning body should be independent of the interests of the energy industry. The State should avoid creating a new planning body and a new planning process that would duplicate existing processes.

6. If a separate entity were to be appointed the designated planning body, is a new or existing entity more appropriate?

A: The establishment of an independent planning body within DSDILGP to undertake state level planning to address strategic development matters is suggested.

QREZ – Consideration of all Renewable Energy Generation

The three QREZ's seemingly favour transmission network opportunities for large scale solar. Queensland has abundant opportunity for renewable gas supply and distribution, as well as the manufacture and utilisation of renewable solid and liquid fuels. There must not be an undue focus to QREZ's or particularly technology types at the exclusion or loss of other renewable energy opportunities.

QFF asks the Queensland Government to provide greater consideration of bioenergy beyond the QREZ's by acknowledging and supporting the added benefits to land management, reef runoff, and a reduction in agricultural emissions in the context of meeting the State's carbon emission 2030 and 2050 targets; and by assisting QFF to remove the current regulatory and policy barriers to bioenergy technologies (for example, please refer to <https://www.qff.org.au/wp-content/uploads/2017/04/20190826-Submission-to-DES-re-Energy-from-Waste-Discussion-Paper-WEB.pdf>).



The agricultural sector (including agri-processors) are significant stakeholders in the energy from waste, bioenergy and renewable energy sector. There are proven as well as new opportunities arising for the sector to value-add to resource streams and agricultural by-products to realise bio-economy efficiencies and maximise financial returns. One option is the feed-in of renewable gases into the existing gas pipelines. This opportunity is not considered in the QREZ's.

Research and international governments are driving changes to policy and funding arrangements to maximise bioenergy opportunities which move organic residuals and agricultural by-products up the value chain; essentially valorising by-products and waste streams. Queensland must recognise the bioenergy potential and maintain pace with other jurisdictions if our sector is to remain competitive, sustainable and productive.

If there are any queries regarding this submission, please do not hesitate to contact qfarmers@qff.org.au

Yours sincerely

Dr Georgina Davis
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