QUEENSLAND FARMERS' FEDERATION
Primary Producers House, Level 3, 183 North Quay, Brisbane QLD 4000
PO Box 12009 George Street, Brisbane QLD 4003
qfarmers@qff.org.au | 07 3837 4720
ABN 44 055 764 488

Submission

11 May 2018

Solar Farm Guidelines
Department of Natural Resources, Mines and Energy
PO Box 15456
CITY EAST QLD 4002

Via email: largescalesolar@dnrme.qld.gov.au

Dear Sir/Madam

Re: Submission on the 'Queensland Solar Farm Guidelines: Practical Guidance for Communities, Landowners and Project Proponents' and 'Draft Queensland Solar Farm Guidelines: Guidance for Local Governments'

The Queensland Farmers' Federation (QFF) is the united voice of intensive agriculture in Queensland. It is a federation that represents the interests of peak state and national agriculture industry organisations, which in turn collectively represent more than 13,000 primary producers across the state. QFF 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)
- Queensland Chicken Growers Association (QCGA)
- Queensland Dairyfarmers' Organisation (QDO)
- Australian Cane Farmers Association (ACFA)
- Flower Association
- Pork Queensland Inc.
- Queensland United Egg Producers (QUEP)
- Bundaberg Regional Irrigators Group (BRIG)
- Burdekin River Irrigation Area Irrigators Ltd (BRIA)
- Central Downs Irrigators Ltd (CDIL)
- Pioneer Valley Water Cooperative Ltd (PV Water)
- Queensland Chicken Meat Council (QCMC).

QFF welcomes the opportunity to provide comment on the two draft documents concerning the development of large-scale solar generating facilities - 'Queensland Solar Farm Guidelines: Practical

Guidance for Communities, Landowners and Project Proponents' and 'Draft Queensland Solar Farm Guidelines: Guidance for Local Governments'. QFF provides this submission without prejudice to any additional submission provided by our members or individual farmers.

Background

In 2016, QFF highlighted the growing coexistence considerations arising from the location of large scale (photovoltaic - PV) solar facilities on prime agriculture land to the relevant stakeholder ministers. While one minister failed to respond, the second minister advised QFF to make a detailed submission to the ***Review of the Planning Regulation, State Planning Policy and State Development Assessment Provisions*** (see https://www.qff.org.au/wp-content/uploads/2017/03/20170120-QFF-submission-to-DILGP-re-Solar-PV-WEB.pdf – dated 20 January 2017).

Following QFF's submission, the former Department of Energy and Water Supply (DEWS) kindly made funding available for the development of a guideline for large scale solar facilities in Queensland. DEWS was also instrumental engaging the former Department of Infrastructure, Local Government and Planning to develop local government-specific guidance.

In our submission of January 2017, QFF formally requested that "the State Government immediately embark on the development of a 'Large-Scale Solar State Code and Planning Guideline' to address an emerging number of issues associated with these new developments". And that "planning for all large-scale photovoltaic facilities should be made impact assessable, rather than code assessable."

It is QFF's understanding that these Guidelines are an interim measure only, given the pace of new solar developments planned across the state and previous learning from 'State Code 23: Wind Farm Development', which QFF was advised took approximately seven (7) years to develop.

It is disappointing that the solar Guidelines were not released for public and stakeholder consultation by November 2017 as originally scheduled. QFF now questions the usefulness of the guidance documents given much of the 'easy solar development' (taking advantage of existing electrical infrastructure) has already been approval, a significant proportion of which has been located on high quality agricultural land.

While QFF gratefully acknowledges the Queensland Government's efforts in the development of the Guidelines, QFF seeks the immediate commencement of a range of amendments to the planning system to develop greater protections to agricultural land as well as regulatory amendments to ensure that the existing large scale solar facilities do not pose a financial or environmental risk at the end of life.

Large-scale solar facilities are currently assessed by local government under planning schemes, and do not trigger an assessment under the *Regional Planning Interests Act 2014*, 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.

The impact of large scale solar facilities on the productivity of the underlying agricultural land is not well understood. However, the long-term nature of solar facility infrastructure, typically 30 years or more, means the land is converted to a non-agricultural use for the life of the project. Changes to the (planning) status of the agricultural land also means that it is unlikely to be restored back to agricultural land at the end of the solar facility's operational life.

QFF understands that the development of a 'Large-Scale Photovoltaic Facility State Code' will require an amendment to the State Development Assessment Provisions (SDAP) so that it applies to a material change of use for a new or expanding PV solar facility. QFF notes that precedent for such an amendment

has been set by the 'Wind State Code'[1], and that the potential off-site environmental and social impacts or land disturbance from a wind farm is considerably less than that from a large-scale solar facility. QFF strongly advocates that a 'Solar Code' is required to protect individuals, businesses, communities and the environment from adverse impacts as a result of the construction, operation and decommissioning of large-scale PV solar developments.

Large-scale PV solar facilities should be appropriately located, sited, designed, constructed, operated and decommissioned at their end-of-life (EoL) to ensure:

- risks to human health, wellbeing and quality of life are minimised by ensuring acceptable levels of amenity and associated emissions at sensitive land uses;
- development avoids, or minimises and mitigates, adverse impacts on the natural environment (fauna and flora) and associated ecological processes;
- development which avoids negative or long-term impacts on state interests such as the maintenance of sufficient areas of Good Quality Agricultural Land (GQAL)[2] and the potential impacts from the reduction of GQAL that may impact the viability of agricultural industries, agricultural processors and/or water supply schemes;
- development does not unreasonably impact on the character, scenic amenity and landscape values of the locality;
- the safe and efficient operation of local transport networks and road infrastructure;
- the safety, operational integrity and efficiency of air services and aircraft operations including crop spraying activities;
- provision of a sound methodology to address a range of documented impacts from large-scale PV farms;
- includes a model for fair and reasonable compensation for adjacent landowners and businesses where impacts result from the development;
- minimum standards for community consultation including minimum timeframes and a mechanism for appeal by directly impacted stakeholders;
- communities are protected from the associated decommissioning and remediation costs from EoL facilities, which could be up to 30 years from commission;
- minimum standards associated with the construction, maintenance (including weed spraying) and decommissioning at the end of their operational life, and to a reasonable extent, the site should be returned to its former state.

The 'Solar Code' must also provide additional supporting information and actions to assist applicants in demonstrating compliance with the performance outcomes or acceptable results of the code, as in the case of the existing 'Wind State Code'. It must also include the detailed methodology for some technical assessments that may be required.

In QFF's submission to the ***Review of the Planning Regulation, State Planning Policy and State Development Assessment Provisions*** we also noted an opportunity to create a new Environmentally Relevant Activity (ERA) for large-scale PV solar facilities (>20 ha or 5MW) within the Environment Protection Regulation 2008. QFF considers that this approach is appropriate given s.19 of the *Environmental Protection Act 1994*, where an ERA may be prescribed:
(1) A regulation may prescribe an activity as an environmentally relevant activity if the Governor in Council is satisfied-
(a) A contaminant will or may be released into the environment when the activity is carried out; and
(b) The release of the contaminant will or may cause environmental harm.

[1] Queensland Government (2017). State Code 23: Wind Farm Development. https://www.dilgp.qld.gov.au/resources/guideline/planning/wind-farm-state-code-planning-guideline.pdf
[2] GOAL includes PAA, SCA, SCL, IAA and ALC Class A & B agricultural land.

Contamination of the environment is a release of a contaminant which includes but is not limited to energy, noise, heat, and radiomagnetic contamination or a combination of these contaminants (see Section 10 and 11, *Environmental Protection Act 1994*).

Creating a new ERA for large-scale solar developments would permit the development to be assessed by the State Government and other concurrence agencies, including the Department of Agriculture and Fisheries. State interests such as rail, timber, agricultural land, irrigated agricultural land is not being considered. Presently there is no trigger for these state agencies to be notified unless there is native vegetation for example on the land etc. The Department of Environmental and Science (DES) could then manage the off-site environmental impacts through the conditions of an Environmental Authority, including but not limited to, EoL guarantees such as a Financial Assurance (FA) and a land restoration plan.

This would also align the licencing and FAs for new energy generating capacity with existing resource and other energy developments. Financial assurance and residual risk payments are security deposits held by the administering authority to ensure compliance with environmental authority (EA) conditions. Projects captured under relevant ERAs pay financial assurance to cover the likely costs of:

- preventing or minimising environmental harm, and/or
- rehabilitating or restoring the environment after the ERA has ceased.

This would also control the risk of abandonment from historical sites which may not be included under the new Federal Product Stewardship Scheme.

General feedback

1. Terminology: 'Solar Farm'

The term 'solar farm' should not be used for solar energy facilities. QFF has expressed this request numerous times verbally and in written feedback to the Queensland Government on an earlier draft of the guidelines on 22 January 2018. The term 'solar energy facility' or 'renewable energy facility' is preferred. The term 'farm' is defined in the Macquarie Dictionary as:

- 'tract of land devoted to agriculture'
- a farmhouse.
- a tract of land or water devoted to some other industry, especially the raising of livestock, fish, etc.: *a chicken farm*; *an oyster farm.*

While the term 'wind farm' has gained some currency, QFF believes that the use of the term 'farm' in association with energy facilities leads to confusion in the community and that it is important to differentiate between the use of land for producing food and the use of land for producing energy from renewable sources.

The definition of 'farm' by the solar guidelines is also inconsistent with that contained within the SPP.

2. Stakeholder confusion regarding the relationship of the two documents

There appears to be stakeholder confusion (as demonstrated at several public consultation events) of the roles and relationship between the two guideline documents.

While QFF has been supportive of the development of the two separate guideline documents given their different purpose/role and different target audience, they must align in their terminology, planning outline and other regulatory discussions. Currently, the documents are inconsistent, and this is adding confusion to broader stakeholders as to their purpose and audience.

As previously highlighted to DNRME, both documents also require a clear statement of their role and scope. In the introduction, there is no guidance as to the type of solar facility this guideline applies to (e.g. size (MW), location, roof-top, industrial, commercial, household, PV or solar thermal, solar concentrator, solar evacuated tubes etc.). In earlier briefing documents, the type of solar facility, (size and technology) was defined. It is QFF's understanding that both guideline documents only apply to large-scale (over 5MW) PV solar technology.

It was not QFF's expectation that the guidelines would apply to commercial-scale activities (those under 1MW) for example or have adequate consideration of the issues concerning solar-thermal technology applications.

3. *Increased Focus on Agricultural Land Considerations*

Whilst QFF is eager for the document not to focus unduly on agriculture, there is no mention of agricultural infrastructure (e.g. agri-processors or irrigation or bulk water infrastructure). Large-scale PV solar facilities must not impact the viability or efficiency of existing infrastructure, particularly government infrastructure, such as the bulk water and irrigation water systems that have been built by taxpayer funds. Protection of these assets is outlined clearly in the Queensland Bulk Water Opportunities Statement[3].

Despite QFF raising concern about the inadequate reference to the protection of agriculture land and agricultural assets in an earlier draft of the guidelines on 22 January 2018, the term agriculture only appears three times in the 'Queensland Solar Farm Guidelines: Practical Guidance for Communities, Landowners and Project Proponents' and five times in the 'Draft Queensland Solar Farm Guidelines: Guidance for Local Governments'.

4. Land Use Planning Hierarchy

It is essential that both guideless clearly articulate a requirement to avoid good quality agricultural land where ever possible. To this end, QFF supports a land-use hierarchy for all non-agricultural land use development proposals where proponents must demonstrate that other non-agricultural sites have been considered.

Impacts on other agricultural land and agri-processing developments in the local must also be considered. Any loss of agricultural land (IAA; Class A and Class B agricultural land; PAA; SCL) for these developments should be avoided; including the direct loss of agricultural land, and land lost through the secondary impacts from the development on adjacent land.

Large-scale PV solar developments should only be approved on agricultural land if there are no alternative suitable locations on non-agricultural land and there is a clear over-riding need for the development in the proposed location. The loss of agricultural land or resulting loss of productivity or commodity adaptation because of impacts from large-scale PV solar facilities, can also impact the viability of agri-processing facilities (e.g. animal processors, cotton gins and sugar mills), the efficient utilisation of assets, and ultimately the agricultural profitability of a region. Such facilities can also impact ongoing investment decisions and investment certainty; and investment security where land prices may be reassessed.

GQAL includes PAA, SCA, SCL, IAA and ALC Class A & B agricultural land. QFF considers that the current structure of agricultural land classifications needs to be addressed to reduce confusion and realise

[3] Queensland Government (2017). Queensland Bulk Water Opportunities Statement. https://www.dnrme.qld.gov.au/land-water/initiatives/bulk-water-statement

better planning outcomes. Potential High Value Agricultural Land should also be protected where possible. Please see Attachment A for QFF's suggested planning framework.

5. Cumulative and ancillary infrastructure

Queensland has over 1.2GW of committed large-scale solar PV projects underway with a broader 'project pipeline', including an additional 7,350 MW. Whilst not all the projects in the pipeline will make it to construction, Queensland is set to become the solar capital of Australia.

Certainly, there is a very large amount of transmission capacity available in Queensland for non-synchronous generation as shown by the latest Powerlink report (see p.5 of the Generation Capacity Guide available at: https://www.powerlink.com.au/About_Powerlink/Publications/Transmission_Annual_Planning_Reports/Transmission_Annual_Planning_Report_2017.aspx).

As a low-end estimate, Powerlink suggests around 10,350 MW of available capacity. This compares to approximately 7,500 MW of capacity needed to reach a 50% renewable energy target. However, there may be situations where generators of all types face localised constraints, due to the load in the area, generation profile and other issues. But Powerlink, Energex and Ergon will aim to minimise these through a rigorous connection process.

Infrastructure to service PV facilities, such as the transmission lines, may need to cross land held by different owners. This can present a challenge to the existing land owners from mandatory easements amongst other issues. Location selection and the design of the facility must minimise these associated impacts. These issues have not been addressed in either guideline and present a long-term risk to the future use of agricultural land.

For smaller projects, installed high voltage assets are unlikely to be decommissioned, even after the removal of a solar facility at EoL. Indeed, the owners of such assets have indicated that they will be seeking alternative developments into the future to guarantee utilisations of these infrastructure investments.

6. Infrastructure Designation

For high voltage infrastructure for larger projects, such as the proposed Kidston project, Infrastructure Designation (ID) is a planning process under Chapter 2, Part 5 of the *Planning Act 2016* that provides infrastructure entities a streamlined, considered whole-of-government response on a request for community-supporting infrastructure. An ID means that a development becomes accepted development under the *Planning Act 2016*.

Three statutory instruments support the ID functions, namely:

- *Planning Act 2016*, which includes provisions for making, amending, extending or repealing IDs
- Planning Regulation 2017, which identifies the types of infrastructure that may be designated
- Minister's Guidelines and Rules (MGR), which includes processes for making or amending both ministerial (Chapter 7) designations.

The MGR specifies the need for an infrastructure entity to prepare an environmental assessment report (EAR) in support of an application making or amending a ministerial designation. The EAR process set out in the MGR allows for consultation by the infrastructure entity and for state interest review (if required).

For the EAR process, the 'environment' is defined in Section 8 of the *Environmental Protection Act 1994* and includes:

(a) ecosystems and their constituent parts, including people and communities; and
(b) all natural and physical resources; and
(c) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and
(d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c).

The detail in which the EAR addresses matters will be scalable depending on the project's potential impacts on each environmental value. When determining the scale of an impact, the intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offset provisions will be considered. For all the relevant matters, the EAR must identify and describe the environmental values that must be protected. However, these protections and considerations are not adequate to protect agricultural land or the consideration of agricultural values.

7. Data

QFF notes the issues concerning land-use data across the state. QFF notes the 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 was also evidenced by QFF requests during the vegetation management debate. The lack of a consistent time scale for the regional assessments means that there could have been considerable land use change in certain areas since the assessment, particularly since 2015. For example, it is likely that none of the recent rush to solar is captured.

To ensure future food security and ensure compliance against the protection of agricultural land from non-agricultural developments, it is suggested that the Administering Authority for planning (Department of State Development, Infrastructure and Planning) 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 the actual development footprint is accurately captured.

Specific Feedback

Draft Queensland solar farm guidelines: Guidance for local governments

S1.2 Purpose of the guideline p.4
The guideline should be a comprehensive guide to the technical and legal aspects of establishing a solar energy facility. The last paragraph of this section, in addition to a reference to the SPP state interest guidance material for energy and water supply, should also refer to the SPP state interest guidance material for agriculture, biodiversity and other relevant policy matters.

S3.2.4 Categories of assessment p.9
The guideline states that "if a category of assessment is not prescribed or if a renewable energy facility is an undefined use … the planning scheme may default to accepted development and could proceed without requiring a development application, unless the planning scheme states otherwise."

This is of serious concern to the farming community as it represents the case for most planning schemes in existence until they are amended and means that solar energy facilities in many areas will escape community or council scrutiny. QFF strongly recommends that the State Government amend the Planning Regulation 2017 to ensure that all significant solar energy facilities are subject to adequate

assessment, if necessary by the state, until such time that planning schemes are amended to include appropriate definitions and assessment categories.

S3.2.4 Categories of assessment p.9
The text stating that "impact assessment may be applied in areas where a local government prefers an increased level of assessment" should include the example of area of high quality agricultural land where the proposed use is contrary to the intent of the zone.

S3.3.1 Addressing competing land uses p.10
The discussion in this subsection is under the major heading of 'Drafting assessment benchmarks' but refers primarily to considerations that are more relevant to the strategic framework of a planning scheme. It is recommended that the material in the Example: 'Agriculture' should be moved to a discussion under 3.2.3 Strategic framework. The discussion in S3.3.1 should focus on ensuring that the assessment benchmarks are consistent with and achieve the outcomes set out in the strategic framework.

S5 Supporting information p.17
The guideline should provide local governments with examples of key provisions as a guide to acceptable planning scheme provisions. It is recommended that the guideline include an example of model planning scheme provisions based on those included in the Central Highlands Regional Council planning scheme.

Draft Queensland solar farm guidelines: Practical guidance for communities, landowners and project proponents

S2.0 Planning and approvals pp.14-15
The 'Development assessment' section should be broadened to include 'Strategic planning' provisions. Alternatively, there should be a new section titled 'Strategic planning' that clearly describes the key state planning instruments under the Queensland *Planning Act 2016* that set out the planning intent for the state and regional areas and their key provisions affecting solar energy facilities. These include the State Planning Policy with emphasis on the key provisions protecting agricultural land and biodiversity, Regional Plans and local planning schemes.

S3.0 Stages of development - Site Selection p.19
Stage one: site selection provides only general information on technical considerations. This section should be rewritten to provide a comprehensive listing of land constraints on the location of solar energy facilities. These should include Agricultural Land Class A & Class B, Important Agricultural Areas, Strategic Cropping Areas and Priority Agricultural Areas.

S3.0 Stages of development - End of life management p.30
Stage six: end of life management needs to include a section on arrangements to ensure that proponents or the subsequent owners of solar energy facilities complete the decommissioning of the facility and return the site to its previous use, particularly in the case of agricultural land. This should include FA arrangements sufficient to undertake the required decommissioning and rehabilitation.

Further Suggestions

Specific consultation with Adjacent Landowners, Agri-processors and Agricultural Associations

QFF suggests that adjacent landowners, owners of agri-processing infrastructure, irrigation infrastructure, industry associations and other farming groups are a specific 'interested party' where

solar development occurs on agricultural land. There have already been a number of negative, unintended consequences which have occurred where large-scale PV solar facilities have been approved on agricultural land. Examples include, the loss of efficiency for both irrigation channels and agricultural processing, impacting both public and private investment and in a worse-case scenario threatening regional, sustainable long-term employment and local farming continuance.

Product Stewardship

The development of a product stewardship scheme for PV systems and large storage batteries were listed separately by the Federal Government for consideration under the *Product Stewardship Act 2011* in June 2016–17. Listing provides a signal to the market of the Federal Government's interest in evaluating the rationale and feasibility of some form of stewardship for PV systems and/or energy storage batteries under the Act for the next financial year.

There has been significant growth in the installation of solar systems in Australia since 2010, and as of June 2016 there are over 1.57 million, mostly domestic, solar PV installations. This number will rise as large-scale facilities reach investment decision driven by ambitious targets, such as the 50% renewable energy target for Queensland.

The EoL of the PV system components ranges from between 10-30 years, suggesting all of the Australian states and territories will have a significant volume of EoL equipment requiring processing or disposal between 2020-30. The supply company and/or installer (if identifiable) may not still be in business after 30 years and this trend has been seen across the domestic installation market.

Some work has been undertaken to develop a responsible stewardship approach to support new PV systems and/or batteries across the whole life cycle, but it is still in development. Influencing the design and manufacturing of new technology is challenging, and because of the manufacturing structure of the solar industry, Australia must consider harmonising its policies with international approaches.

The Australian solar industry is highly fragmented and still maturing. Integrating responsible management at EoL for high-value resource recovery is an important way of strengthening the emergent markets for renewable energy systems. Presently however, the majority of PV systems and components are imported, making product stewardship difficult to implement with high volumes of orphan products. Product stewardship is also unlikely to retrospectively apply to existing facilities and some previous product stewardships schemes have taken up to 10 years to fully develop and implement.

There is a growing number of inverters and batteries requiring EoL treatment which is expensive, and the costs associated with this will rise significantly into the future given the hazardous nature of their components, likely future disposal bans and rising disposal and treatment costs. Incorrect disposal will have significant environmental impacts.

During 2016, the former Queensland Department of Environment and Heritage Protection provided funding to the Institute for Sustainable Futures to undertake workshop and preparatory background research into establishing a product stewardship scheme for PV systems. The final report is available and highlights other jurisdictions which have implemented product stewardship tools[4].

One example is California, which like Queensland, has high solar PV penetration. California introduced the *California Photovoltaic Panel Collection and Recycling Act (2014)* under the Hazardous Waste Control Law. The Act requires all PV manufacturers, individually, collectively, or in collaboration with PV

[4] Institute of Sustainable Futures. (2016) PV Systems Stewardship. Report commissioned by the Queensland Department of Environment and Heritage Protection.

vendors, establish a PV waste collection and recycling program with targets specified within the Act. The Act promotes transparency and information sharing and manufacturers are legally required to publicly report: the number of panels collected, the amount of hazardous materials per panel, provide an evaluation of program effectiveness, and report costs and revenue associated with the programs. PV manufacturers are charged annual and deposit fees by the Department of Toxic Substances Control which is responsible for approval and oversight of all PV waste management programs. These fees contribute to the Photovoltaic Panel Collection Administration Fund which ensures that the cost burden associated with the administration of the scheme is not passed onto tax payers or the state.

Queensland's *Waste Reduction and Recycling Act 2011* (WRR Act) provides a legislative framework for implementing state-based Product Stewardship (PS) programs and defines the interrelationship of these if adopted without compromising or duplicating current deferral approaches.

QFF recommends that DES, the Administering Authority for the WRR Act, take immediate action to introduce a PS scheme for PV cells.

Land and Soil Rehabilitation

As a rule, the current PV installations require a minimum of 1.5-2.5 hectares per MW of installed capacity (depending on technology), not including the land required for substations, inverters, batteries and communication towers. Across Queensland, the land acquired for siting these solar power stations has been evenly mixed between sold and rental offerings by willing sellers.

Of the 1.2GW of PV capacity currently planned for Queensland, approximately 40% (based on Queensland Government data provided to QFF in May 2017) is located on good quality, highly productive agricultural land. Considering the land requirement per MW, this equates to a considerable, and likely permanent, loss of some of the best agricultural land in the state. Queensland's prime agricultural land is limited in supply, and once lost, cannot be replaced.

Recent media reports surrounding the application of a 397,000 panel solar farm on 200ha in Bathurst, NSW has included statements from local agronomists that solar farms create dead zones for agricultural land.

"Where the solar panels block UV light, this disrupts soil microbiology. When carbon is *stripped from the aggregates by the soil biology the aggregates become compressed and the soil then becomes hard and compacted. Where stock such as sheep or cattle are permitted to graze on nutritionally poor plants they do not receive the adequate levels of minerals to meet their daily requirements therefore they have to graze more of the plants per square meter. This leads to the land being less productive because it can only sustain a smaller number of stock per acre due to the lack of nutrition in the plants. Another negative factor that affects plants that are nutritionally poor is that they are far more susceptible to insect and disease attack and there is also a high potential for weeds to take hold around the panels who prefer a tight compacted soil and will thrive in an environment where the pasture is not as dense and healthy".*

Other concerns have included the long-term impact of weed suppression practices for those facilities with no grazing and the increased run-off associated with large areas of bare earth.

As these facilities end their 20-30 year life cycle, some may be returned to the latest renewable technology, but in cases where the land was rented and perhaps, due to future food security concerns, many of these facilities will likely require substantial rehabilitation. This will include removal of the aggregate footings, recycling of the steel framing and the panels (including the critical materials); and a restoration plan for the degraded soils to bring them back to some level of production. This is where high-performance organic products will have a critical role – to undo decades of soil degradation.

QFF proposes a longitudinal study to quantify the impacts on soil flora and fauna and soil microbiology of high quality agricultural land impacted by large-scale solar PV facilities. Using these results to identify the impacts and develop practical rehabilitation plans which restore the land back to the highest agricultural use possible.

QFF seeks financial support to develop the project plan and commence monitoring and reporting. QFF will disseminate the research findings to minimise negative impacts to agricultural land and maximise rehabilitation opportunities.

Specific Agricultural Issues

The large-scale solar industry could learn from the coexistence measures implemented by the coal-seam gas industry. Reference in the guidelines should be made to significant issues including but not limited to biosecurity plans, run-off management, water catchment impacts, fencing, spray drift of chemicals, ground/soil erosion and management, conduct on-site (such as closing gates, keeping to designated road ways) etc. This is critical to both land which has been purchased and rented land. QFF is concerned that land-owners who have rented land for development may not have clearly articulated contracts covering many of these issues.

If there are any queries regarding this submission, please do not hesitate to contact Dr Georgina Davis at georgina@qff.org.au.

Yours sincerely

Travis Tobin
Chief Executive Officer

QFF Proposed Planning Framework for Agricultural Land

Purpose:

To prepare recommendations to government regarding an improved and simplified framework for the protection of agricultural land from development that would remove land from production or diminish the ability to use agricultural land for production.

The Problem:

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

1. Protection from development defined in the *Planning Act 2016*.

Protected land - Important Agricultural Land; Class A Agricultural Land and Class B Agricultural Land.

Development affected – Includes urban, rural-residential, industrial, commercial, extractive industry (sand, gravel, rock extraction).

Legislation and policy – *Planning Act 2016, Planning Regulation 2017*, State Planning Policy, Local Planning Schemes.

Assessment agency – Local Governments, State Government (DILGP) call-in power.

Industry input – Comment on draft planning schemes, objection to certain development applications.

2. Protection from mining and petroleum activities (i)

Protected land – Strategic Cropping Area (SCA)

Development affected – Mining and petroleum extraction activities

Legislation and policy – *Regional Planning Interests Act 2014, Regional Planning Interests Regulation 2014*.

Decision maker – State Government (DNRM)

Industry input – 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.

3. Protection from mining and petroleum activities (ii)

Protected land – Priority Agricultural Area (PAA) and Priority Agricultural Land Uses (PALU)

Development affected – Mining and petroleum extraction activities

Legislation and policy – *Regional Planning Interests Act 2014, Regional Planning Interests Regulation 2014*.

Decision maker – State Government (DAF or DNRM if the PAA includes a regionally significant water source).

Industry input – 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.

Proposed solution

QFF believes that this framework can be simplified by the development of a single classification of agricultural land to be protected from development and implemented through existing legislation appropriate to the relevant type of development.

1. A single classification of land to be protected should take the best elements of the current classification systems and should include the following elements:
   a. A broadscale classification and mapping of agricultural land suitable for strategic planning at the state, regional and local scale.
   b. A set of biophysical criteria that allows the verification of the land classification at the property scale.
   c. The current or recent use of the land should not be a criterion.

2. The process for the assessment of the proposed development affecting agricultural land should be consistent regardless of the type of development.

   Decision outcomes should

   - seek to avoid the loss of agricultural land
   - minimise the impact on agricultural land
   - include options for requiring the mitigation of the impact of development if impacts cannot be avoided.

   a. **Urban and related development** defined under the *Planning Regulation 2017* should be assessed under the *Planning Act 2016* and policies regarding the protection of agricultural land should be included in the State Planning Policy including a set of assessment benchmarks.

      All development affecting agricultural land under the single classification (see above) should be impact assessable, allowing public input into the assessment process.

   b. **Resource activities and other development** defined as Environmentally Relevant Activities (excluding agricultural ERAs and Intensive Animal Industries) should be assessed under the *Environment Protection Act 1994* through the process of Environment Impact Statements set out in Chapter 3 of the EP Act.

      The environmental values of agricultural land consistent with the criteria for agricultural land (see above) should be defined and included as environmentally sensitive areas in the *Environment Planning Regulation 2008.*

   c. **Resource activities that are approved on areas of regional interest** under the *Regional Planning Interests Act 2014* must negotiate with landholders to reach agreement on the design, location and scale of the proposed resource operations. Areas mapped as agricultural land under the single classification (see above) should be defined as 'areas of regional interest' to replace the current PAA and PALU classification.