



QUEENSLAND FARMERS' FEDERATION

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Submission

17 June 2019

Department of State Development, Manufacturing, Infrastructure and Planning
1 William Street
BRISBANE QLD 4000

Via email: ResourceRecovery@dsmip.qld.gov.au

Dear Sir/Madam

Re: Queensland Resource Recovery Industries – Draft 10 Year Roadmap and Action Plan

The Queensland Farmers' Federation (QFF) is the united voice of intensive, semi-intensive and irrigated 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 farmers 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)
- Flowers Australia
- Pork Queensland Inc.
- 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)
- Pioneer Valley Water Cooperative Ltd (PV Water)
- Theodore Water Pty Ltd.

QFF welcomes the opportunity to provide comment on the Queensland Resource Recovery Industries – Draft 10 Year Roadmap and Action Plan. We provide this submission without prejudice to any additional submission from our members or individual farmers.

The united voice of intensive agriculture



Background

Queensland's agricultural sector is under increasing pressure to provide food to growing populations as well as 'feeding' new fibre, fuel and foliage markets. The sector is currently facing major challenges including climatic factors, soil degradation and increasing social scrutiny. Despite these challenges, the sector has enviable growth opportunities. It is also seeing diversification across commodities, a move to higher-value products and technological innovation to meet demand for bioproducts and biofuels.

Queensland's 24,200 farm businesses provide environmental services and land stewardship to around 84 per cent of the state's land area. Our farmers produce the highest quality food, fibre and foliage and account for approximately 24 per cent of Australia's overall production value. Over the past five years, the sector has been worth \$17.5 to \$20 billion annually to the Queensland economy, accounting for about 17 per cent of state's total exports and employing over 300,000 Queenslanders across the whole food supply chain. The strength of the domestic marketplace and particularly the growing export markets is supported by the 'safe, clean and green' character of Queensland's primary produce.

Queensland's agricultural sector has an established history of managing its waste streams effectively, ranging from innovative value-add products on-farm to combat food waste, organics and nutrient recycling, and bioenergy production. The return of valuable nutrients back to soil as part of a holistic and effective resource management strategy is essential. For example, Queensland's farmers divert their organics resources to composting, direct land application and energy generation.

Farm production systems are carefully controlled operations that have been primed to deliver products in line with contract requirements and consumer expectations. However, situations where unavoidable on-farm food/produce waste do occur. Queensland farmers are leading the sector by driving supply chain innovation to find a market for these 'waste' products and, by doing so, creating significant value-add opportunities. These farmers are using produce normally rejected by consumer standards to create products that reimagine and work within the model of current consumer demand and will easily adapt to future digital (such as on-line grocery sales) and consumer trends including new ways of purchasing food.

Many farmers and agricultural processors have a long history of using organic waste streams such as straw and trash by incorporating it into their soils to enhance soil carbon or for bioenergy production. However, there are new 'biofuture' opportunities arising for the sector to value add to resource streams and agricultural by-products to realise bio-economy efficiencies and maximise financial returns. Research and governments are driving changes to policy and funding arrangements to maximise these opportunities which strive to move organic residuals and agricultural by-products up the value chain.

QFF acknowledges the support to date to document and map agricultural (wastes) resources through the Australian Government funded 'Australian Biomass for Bioenergy Assessment' (ABBA), which seeks to catalyse investment in the renewable energy sector by providing detailed information about biomass resources across Australia. This information aims to assist project developers make decisions for new bioenergy projects and provide linkages between potential biomass feedstocks - through the supply chain - to end users. The ABBA dataset for Queensland includes information on the location, volumes and availability of biomass, and publishes them on the Australian Renewable Energy Mapping Infrastructure (AREMI) platform¹. ABBA is managed by AgriFutures Australia with funding support from the Australian Renewable Energy Agency (ARENA).

In Queensland, data has been mapped and made available on the sugar industry, forestry, intensive animal industries, cotton, crops and horticulture (see Department of Agriculture's Web Based Agricultural Land Information (WALI) system)².

¹ See www.nationalmap.gov.au/renewables

² See <https://www.daf.qld.gov.au/environment/ag-land-audit/web-mapping-tool>

QFF is disappointed that agriculturally-derived resources (referred to as wastes in the draft Plan) are only referred to on three occasions, and every time, the narrative is poor and misinformed. Queensland's agricultural sector is the best-placed sector with substantial competitive advantages to further resource recovery, subject to the right policy settings. However, it appears that the agricultural sector has been broadly disregarded in the development of this draft Plan.

Summary

QFF is supportive of the need for, and development of a strategic level Road Map and Action Plan for the Resource Recovery Industries. Noting low business confidence in Queensland and further to Australia, and projected economic slowdown of around 70 per cent of the global economy³. This is of particular concern when 70 per cent of Australian Directors believe that there is a risk adverse culture on Australian boards with a focus on compliance over performance being a primary driver; and 40 per cent expecting further constraints on credit availability for working capital, investment and asset purchases⁴ as confidence in the medium to long-term health of global economies falls.

The Suncorp-CCIQ Pulse Business Confidence Survey for the March quarter 2019⁵ shows that *“sentiment across Queensland's small and medium sized businesses reflects a mood of frustration around political and financial considerations weighing on the Queensland economy. Despite a slight moderation to increases in labour and operating costs, more businesses indicated that sales and revenues had decreased during the quarter. Small businesses over the state reported a further deterioration in profitability, with over half of Queensland's businesses revealing that their profitability had decreased over the March quarter. Moreover, the proportion of businesses reporting a decline in employment levels increased over the March quarter, as did the proportion indicating their intention to invest in new capital expenditures.*

Business sentiment surrounding the outlook for the Queensland economy has also remained largely unmoved over the quarter. Over two in five respondents are expecting weaker economic conditions in the state economy over the next twelve months, which is a weaker outlook than it was a year ago with sentiment relatively consistent between Regional Queensland and SEQ. Dissatisfaction with state and local government inaction toward driving economic activity as well as the proliferation of red and green tape has been a key thematic throughout the responses received in the March quarter.

The cost of insurance was also identified as a significant barrier to growth for Regional Queensland with energy costs, standard of infrastructure, direct wages and retention of staff as areas of concern. SEQ business owners cited red tape, business taxes and government charges and direct wages as impediments to expansion”.

The opportunities for maximising business efficiencies and offering funding opportunities for new enterprise outlined in the draft Plan are welcomed by QFF. However, there are significant omissions in the draft Plan; most notably the lack of innovation, the lack of investment certainty and policy objectives, and the apparent lack of knowledge of the Resource Recovery sector. The document is also disconnected from other government initiatives, policy development and regulatory reform around the Resource Recovery industry being driven by the Department of Environment and Science, and the renewable energy plan from the Department of Natural Resources, Mines and Energy.

A Resource Recovery Industries Plan cannot be formulated in isolation. The omission of these initiatives from the draft Plan only seeks to highlight policy disconnect from Government which erodes the confidence of industry to invest in critically required infrastructure or commit to contracts.

³ International Monetary Fund. Forecasts for World Growth 2019.

⁴ AICD Director Sentiment Index 1H 2019. www.aicd.com.au/dsil2019

⁵ Suncorp Group CCIQ Pulse Survey of Business Conditions. March Quarter 2019. <http://info.cciq.com.au/rs/449-JDY-728/images/PulseReport-Mar2019-3.pdf>

QFF notes a number of issues, such as regulatory red-tape, which is seriously impeding the development of vibrant Resource Recovery Industries across Queensland (as also noted by the CCIQ Pulse Survey⁵). In the most-part, these issues need to be dealt with on an as-required basis with the draft Plan setting the higher-level objectives and actions. Presently, the draft Plan does not provide the overview or vision required.

Examples of Impediments to Resource Recovery Industries

There are a number of specific issues which are impeding the participation of Queensland's agricultural sector in meaningfully participating in the Resource Recovery (bio)economy.

Planning

The co-location of production, processing and energy facilities on farm is becoming more difficult under Local Government planning regimes. For example, there is a growing trend in the Queensland fruit and vegetable industry for the construction of large packing sheds that are shared by several local producers located on one of the farms. However, as these structures increase in size, there is increasing difficulty in finding suitable locations that meet both practical on-farm objectives and local and state government planning requirements. They may exceed maximum floor area dimensions for farm sheds in local planning schemes or may need to be located on Class A or Class B agricultural land due to the absence of alternative locations.

The approval of on-farm infrastructure is already an issue for the pineapple industry in Queensland, but all perishable production is affected where these facilities must be located close to the production area. An example of this issue involved a group of 12 growers on the Sunshine Coast who were looking to build a large packing shed for collective use rather than each having individual small packing sheds. When they approached the Sunshine Coast Regional Council, they were advised that the development would not be approved as the preferred site is on agricultural land Class A and Class B and the large size of the shed would preclude this development even though it is an essential component of the local pineapple industry. In this case, the alternative to one 2,000m² packing shed servicing all 12 growers would be up to 12 separate sheds each of 399m²: a total footprint of 4,788m² compared to 2,000m².

To highlight another example, a significant horticultural producer and processor recently wanted to create an agri-precinct including the co-location of a bioenergy facility but has been refused by their local council.

QFF is currently undertaking a review of local council planning codes to identify those codes which prohibit on-farm composting, those which require a Development Approval and those which do not. The project is as a result of the identification of significant differences on the planning schemes and instruments across Queensland.

The inconsistency of planning instruments and lack of 'planning' transparency across Local Government Areas presents a considerable barrier to business and a barrier to realising 'products being processed and utilised closer to the point of generation' and where 'regional hubs and precincts can provide economies of scale' (an aim of the draft Plan).

Duplicate Regulation

Currently, Queensland has just 14 AD facilities registered with the regulator (Petroleum and Gas Inspectorate, Department of Natural Resources Mines and Energy who regulate the *Petroleum and Gas (Production and Safety) Act 2004* and subordinate regulation). This is despite Queensland's unique position as a substantial agricultural producer and, also given at face value, policy support under the 'Biofutures' agenda at state level and the Food Waste Strategy at federal level, amongst other policy portfolios.

The Queensland Government has failed to recognise the potentially significant contribution of AD in achieving the desired outcomes of so many policy agendas; not least, managing greenhouse gas emissions, increasing renewable energy generation, diverting organic waste streams from landfill and moving organic resources towards a more circular economy approach.

On a small scale, the agricultural sector and food and beverage producers have recognised the substantial opportunities to reduce emissions by recycling methane-producing wastes such as manures and food processing wastes; and the ability of AD to offset high peak electricity prices or negate obligations under the Safeguard Mechanism. However, these incentives are insufficient on their own to stimulate Queensland's AD sector and are now being eroded by excessive state-based regulation.

In November 2018, changes to Queensland's Environmental Protection Regulation 2008 (EP Reg) introduced a licence requirement for AD under a revised Environmentally Relevant Activity (53 – Organic Material Processing). The EP Reg is administered by the Department of Environment and Science. The revised ERA (and licence requirement) rightly excludes on-farm AD and AD plants associated with wastewater treatment and meat processing; however, farms seeking to utilise AD will need economies of scale which may require 'importation' of other organic wastes – this would immediately trigger the requirement for an ERA.

Food and beverage manufacturers and other sectors with AD plants accepting more than 200t of organic material annually, also now need an Environmental Authority with an associated annual fee of \$4,337.60 (correct up until 1 July 2019). This is not including the application fee and associated costs of making the application or meeting any requirements imposed by the conditions of the Environmental Authority. This is also in addition to current regulation and fees imposed onto AD facilities by the Department of Natural Resources, Mines and Energy. How the increased regulation, administrative burden and annual government charges impact the existing 14 AD facilities or future investment plans for other facilities in Queensland remains to be seen, but it will more that negate any current savings from electricity costs and possibly heat.

QFF wants to see clear objectives pertaining to the role of food waste collections and the management of other high-greenhouse gas emitting organic waste streams. There also needs to be recognition of biogas (biomethane etc.) as a 'low regret option' for decarbonising the gas grid and potentially stimulating a supply market, be it small, to compete with CSG. If this would stimulate lower gas domestic prices is open for debate and would be dependent on the level of supply which, in the first instance, is likely to be limited to being site specific. Many countries do export gas from ADs into their national gas grid and utilise the heat generated to fuel industrial processes or transfer heat energy to cooling.

To build investor confidence in the AD industry, and that of the required organic supply chain in Queensland, we need the Queensland Government to recognise the contribution of organics and the bioenergy sectors (including biomass, biogas, biofuels and bioliquids) to the renewable energy agenda and our 2030 targets. Renewable energy should not be just about solar and wind.

We need to start to critically explore how current business models compare between the waste management, agricultural and wastewater sectors and where can we find synergies or make the necessary amendments. We also need regulation appropriate for innovations in microbiological process and AD technologies which does not impede the sector. We need to continue to provide research and investment into the biofutures agenda to value-add to these processes; for example, to determine if non-biomethane end points deliver more value from current or future AD assets in Queensland.

Excessive Regulation

For the past 3 years, QFF has advocated for the removal of organic resources from the Regulated Waste Schedule (Schedule 7 or the EP Reg) including but not limited to:

- Animal effluents and residues, including abattoir effluent and poultry and fish processing wastes (K100)
- Food processing wastes
- Vegetable Oils.

The inclusion of these organic resources into the Regulated Waste Schedule presents excessive operational processes and associated costs such as transport and receipt and impedes their processing and beneficial use. QFF suggests the removal of resources from classification as a regulated waste, based purely on 'amenity values'.

Opportunities for Queensland's Agricultural Sector to Lead the Resource Recovery Industries

Bioenergy Estimates

QFF notes that the Australian Bioenergy Roadmap⁶ acknowledged that bioenergy sources supplied 0.9 per cent of Australia's electricity generation in 2010. The Roadmap reports that bioenergy could potentially provide from 19.8 per cent to as much as 30.7 per cent of Australia's electricity requirements by 2050.

A number of factors could be considered to help bioenergy meet its potential. These include⁷:

- A secure demand for bioenergy products, which will underpin investment for feed supply and bioenergy processing.
- A regime that places costs on carbon emissions across each of the areas in which bioenergy can contribute (e.g. heat, power, transport fuels, chemicals).
- Further understanding of the environmental and social costs and benefits of using different types of bioenergy in Australia.
- Local feedstocks with technical characteristics and costs that are well understood.
- Mapping of potential feedstock volumes and thus actual supply (fuel and electricity) that Australia can expect from biomass.
- Mapping of current industry and technologies being utilised, to provide a baseline against which growth may be measured.
- 'Buy in' from market drivers such as oil majors and car manufacturers.
- Greater understanding that some new tree crops can be integrated into current agricultural production systems to maintain or increase agricultural production, produce biomass and provide benefits such as soil protection.
- Integration of bioenergy production with production of co-products such as foodstuffs, chemicals and biochar.

Many of the existing REC registered thermal units are sugar mills. There are 24 sugar mills in Australia, 23 of which are in Queensland. Australian sugar milling is a diversified agricultural and regional manufacturing industry. Sugar mills utilise their waste streams with bagasse (waste cane fibre produced as a by-product) used to generate electricity and steam. The majority of the boilers in the industry are grate fired. All mills ensure that they have capacity to move between biomass and coal in some instances, which tends to keep them in the grate boiler technologies. The 23 Queensland sugar mills export additional electrical capacity to the grid.

Invicta, Pioneer and Victoria Mills have upgraded cogeneration facilities to increase their export capacity. Pioneer's cogeneration plant is the largest biomass generator in Australia. Surplus bagasse produced in our Burdekin mills during the crushing season is stockpiled on large, specially designed pads at Pioneer to enable the cogeneration facility to continue to operate outside of the crushing season.

⁶ Australian Bioenergy Roadmap - <http://www.cleanenergycouncil.org.au/bioenergy/>

⁷ Bioenergy Australia. (2010) Overview of Bioenergy in Australia. Australian Government RIRDC. <http://www.agrifutures.com.au/wp-content/uploads/publications/10-078.pdf>

Invicta, Isis and Rocky Point Mills all provide over 30MW generating capacity. Subject to the boiler design and mill operations, approximately 15 per cent of the original energy in the bagasse is being converted into electricity and exported to the grid. Whilst the mill is not crushing approximately 20 per cent of the original energy in the bagasse is converted into electricity and exported to the grid.

The RET provides an incentive for increasing energy efficiency at sugar mills. By storing and managing bagasse out of season, and increasing boiler efficiencies, mills have increased electricity generation, supplying their neighbouring communities. However, the efficiency of most mills could be improved by finding a homogenous feedstock for all-year energy production.

Sugar mills play an integral role in a low carbon economy into the future, and currently represent an under-utilised energy resource for bioenergy. The sugarcane plant is one of the world's most efficient converters of solar energy into chemical feedstock, making it suitable to derive a range of products such as electricity and ethanol; and into the future, other biofuels and biochemicals. Sugar milling companies have the capacity to significantly expand their production of renewable electricity and biofuel, with no expansion to the existing industry footprint. These expansions can have payback periods in excess of 10-years and, as such, require the right policy settings to provide the necessary investor confidence.

Sugar mills have been generating renewable energy from waste sugarcane fibre for approximately 100 years in Australia, meeting their own electricity needs and exporting excess electricity to local networks. This capacity has been expanded since the Commonwealth Government's Mandatory Renewable Energy Target (MRET) was introduced in 2001, so that all sugar mills can export surplus electricity into regional distribution networks during the crushing season (June to November). There are some cogeneration projects that now generate for 50 weeks of the year and are base-load generators in terms of reliability.

In 2014, sugar mills in Queensland produced almost 1,000 GWh of electricity. This expanded cogeneration capacity increases regional energy security and reduces the Queensland Government cost of Community Service Obligations. With the right policy settings, the potential contribution to renewable energy (and firming of that energy) could be substantially expanded.

It is essential that the draft Plan and associated documents such as the Waste Strategy and Energy from Waste Policy supports the agricultural and agri-processing sectors to grow, diversify and make additional use of agricultural by-products. This requires the Queensland Government to remove existing constrainters such as excessive regulation, duplicative regulation (such as in the case of Anaerobic Digestions being included into ERA53) and provide funding opportunities from levy funds beyond simply the local government, and waste management and recycling sectors.

Specific Document Feedback

The definitions at the back of the document need to align with other Queensland documents, including those definitions prescribed in regulation.

- There are contractions used throughout the document – this is inappropriate for a formal government document.
- The document needs to acknowledge and link to other State Government initiatives – as well as relevant federal drivers or regulatory settings; for example, Queensland's Energy from Waste Policy through to the relevant renewable energy sources as defined in the *Renewable Energy (Electricity) Act 2000 (Cth)*. Core waste streams for example must also include those products prescribed under the *Product Stewardship Act 2011 (Cth)*.
- The draft Plan continuously refers to the 'Vision of a zero waste society'. However, a 'zero waste society' is not stated in the vision box on page 6 of the document. This also does not align with the current Draft Waste Strategy.
- Page 7 states that there is a 'stable policy and regulatory framework' which supports this draft Plan. This requires bi-partisan support and QFF is not aware that this has been agreed.



- The 'Resource Recovery Industries' identified at the top of page 8 currently omit 'manufacture' and 'storage'; and fail to acknowledge bio-thermal (it is more than simply the production of energy from waste).
- The graphic on page 9 is limited – it needs to be expanded and corrected.
- The document makes several references to 'realising new markets in regional Queensland' yet no details are provided. Disappointingly, neither the agricultural or mining (resources) industries are mentioned at all in the draft Plan – however, we are dominant, regionally located industries.
- The document is incomplete as a Road Map or an Action Plan.

QFF looks forward to discussing the draft Plan further with the department. We welcome the opportunity to provide input to the 'creation of new jobs and upskilling opportunities' (as outlined in the draft Plan) for the agricultural sector derived from resources recovery opportunities and technologies.

If you have 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