



# QUEENSLAND FARMERS' FEDERATION

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## Submission

19 December 2016

Queensland Gas Supply and Demand Discussion Paper  
Department of Natural Resources and Mines  
PO Box 15216  
CITY EAST QLD 4002

Via email: [gasactionplan@dnrm.qld.gov.au](mailto:gasactionplan@dnrm.qld.gov.au)

Dear Sir/Madam

### Re: Submission on 'Queensland's Gas Supply and Demand Action Plan: Discussion Paper' (November 2016)

The Queensland Farmers' Federation (QFF) is the united voice of intensive agriculture in Queensland. It is a federation that represents the interests of 15 of Queensland's peak rural 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 primary producers by representing the common interests of our member organisations:

- CANEGROWERS
- Cotton Australia
- Growcom
- Nursery & Garden Industry Queensland
- Queensland Chicken Growers Association
- Queensland Dairyfarmers' Organisation
- Burdekin River Irrigation Area Committee
- Central Downs Irrigators Limited
- Bundaberg Regional Irrigators Group
- Flower Association of Queensland Inc.
- Pioneer Valley Water Board
- Pork Queensland Inc.
- Queensland Chicken Meat Council
- Queensland United Egg Producers
- Australian Organic.

QFF welcomes the opportunity to respond to the *Queensland Gas Supply and Demand Action Plan: Discussion Paper / November 2016* (discussion paper). QFF provides this submission without prejudice to any additional submission provided by our members or individual farmers.

The united voice of intensive agriculture



## Overview

The discussion paper is narrow in its focus and not reflective of its title as it does not cover the entirety of the gas sector or meet the broader objectives of the state. For example, the vision for a 'Bio-Future' including a \$1 billion sustainable and export-oriented industrial biotechnology and bioproducts (including landfill biogas and bio-methane from organics) sector. These have the potential to decarbonise the agricultural and waste sectors with multiple cross-sectoral benefits – yet the gas plan omits these sources of gas and associated technologies. The final plan must be appropriately titled to accurately reflect the scope of the document.

The 'Vision' stated in the discussion paper<sup>1</sup> is also not reflected throughout the document given its emphasis on maximising gas exploration, extraction and yields, with limited objectives for balancing stakeholders needs or ensuring environmental safeguards. As such, this document does not meet the expectations of QFF members and agricultural landowners and associated stakeholders.

QFF reminds the Department of the guiding principles of environmental policy set out in the Intergovernmental Agreement on the Environment, including the 'precautionary principle', 'intergenerational equity' and the 'conservation of biological diversity and ecological integrity'. This agreement was designed to provide a mechanism to align the decision making between state and federal government, and to facilitate better environmental protection.

Within this agreement, Section 3.5.1 states the precautionary principle as –

*“Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*

- 1. careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and*
- 2. an assessment of the risk-weighted consequences of various options”.*

In Queensland, for example, applications made under the *Environmental Protection Act 1994* (such as Chapter 5 Activities) are subject to 'standard criteria' as defined by these principles of environmental policy. In deciding an application, the administering authority must have regard to the 'standard criteria' in its judgment to grant or refuse.

While there is always a perceived tension between development and the protection of high quality agricultural land and the environment, the discussion paper appears to provide undue weighting for gas industry development, particularly where scientific evidence and precedent does not exist. Such situations are exactly where the precautionary principle must be considered.

In Queensland, past developments that were approved based on little scientific evidence within the context of the receiving environment, such as underground coal gasification (UCG), have caused severe environmental harm. While action is being taken in some instances; for example, the revocation of the Environmental Authority for an UCG operator and subsequent moratorium on UCG; this does not restore lost environmental values or high quality agricultural land.

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<sup>1</sup> The Queensland gas sector will maximise its potential and be internationally competitive, balancing the needs of landholders, local communities and traditional owners while ensuring environmental safeguards are maintained.

QFF considers that the Department must effectively manage the risks and impacts associated with the current CSG industry before it permits any future developments associated with other gas deposits in Queensland.

### **1. Current issues still to be addressed with the CSG industry**

The following provides an overview of some of the outstanding matters which need to be addressed to manage coexistence between landowners and the current gas industry. These matters amongst others must be adequately addressed before any further expansion to the gas sector.

#### **1.1 Inadequate protection for high quality agricultural land**

QFF was disappointed that the provisions in section 68(1)(a) – pertaining to ‘restricted land’ in the *Mineral and Other Legislation Amendment (MOLA) Bill 2016* (MOLA Bill) were not extended to include critical farm infrastructure such as irrigation infrastructure and levees as recommended by QFF in its submission to the Department dated 5 April 2016.

QFF notes that during the reading of the MOLA Bill on 24 May 2016, the Hon. Dr Anthony Lynham did provide clarity around the government decisions as to why these critical agricultural assets were omitted from the restricted land framework. The rationale including existing protections under the *Regional Planning Interest Act 2014* and a statement that *“these protections will be further extended by the government’s commitment to re-establish protections that existed under strategic cropping land which the government intends to introduce into the House at a later date”* (see p1944).

To date, QFF has not been contacted to discuss how this commitment made before the Queensland Parliament will be achieved. QFF supports the re-establishment of all protections for high quality agricultural land across Queensland, regardless of who owns the land. Without these protections, valuable agricultural land is at risk from incompatible land uses and will be lost to future generations.

#### **1.2 Role of government and government-appointed stakeholders needs clarification and refinement**

There are a significant number of government and non-government organisations operating across the existing gas sector. This is in part, a reflection of the complex licencing and regulatory regime governing the sector. However, in many cases, the role and attribution made by these parties is not transparent to stakeholders.

##### *Office of Groundwater Impact Assessment (Queensland)*

QFF notes that OGIA is an independent entity established under the *Water Act 2000* tasked with preparing the cumulative assessments of the impacts of CSG water extraction, and the development of integrated regional management arrangements. OGIA also has responsibility for the storage of baseline data and monitoring data collected under monitoring plans that are carried out in accordance with water monitoring strategies in approved underground water impact reports (UWIRs).

As such, QFF recognizes the limitations of OGIA’s authority to make recommendations and provide input into critical water planning mechanisms which directly impact current and future agricultural activities. For example, the development of a new water plan to replace the Water Resource (Great Artesian Basin) Plan 2006 which is due to expire on 1 September 2017 and the apparent omission of modelling to determine the recovery of the GAB; through to the impacts pertaining to free gas in water bores and the impacts of the free gas on the supply capacity of water bores. This work is critically important given the existing exploration and some of the ‘frontier basins’ lie within the GAB.

That said, QFF acknowledges the continued efforts by OGIA to model and report on the groundwater impacts associated with the exploration for, and production of, petroleum and gas. QFF recognise the current modifications to increase the predictive ability of groundwater modelling to assess the regional impacts through the inclusion of the presence of the gas phase near to extraction wells. However, it is also worth noting that much of this modelling is undertaken on self-reported data provided by tenure holders.

- ***QFF would welcome the development of a strategy (and resources) to certify the reliability and validity of all self-reported data by the gas and petroleum industry.***

#### *Independent Expert Scientific Committee (IESC)*

The IESC is an independent, scientific body was established in 2012 by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*. The legislation requires the Commonwealth Environment Minister to seek the advice of the IESC on CSG and large-scale coal mining developments; and on State Environment Ministers where there is likely to be a 'significant impact on water resources'. The IESC has also developed a methodology for bioregional assessments to gather scientific evidence about groundwater and its relationship with surface water, flora and fauna in priority regions.

While the role of the IESC is to provide scientific evidence and advice on a development, its input has been limited to date, and utilised on an 'invitational basis' by many of the states. As an independent and scientific body, the IESC has a higher level of trust which is essential for improving the (gas) sector's licence to operate. Queensland must utilise this knowledge/service and make the process and its outcomes more transparent.

- ***QFF strongly suggest that the Queensland Government support the IESC in having a stronger role in the independent review of gas-projects and supports the expansion of the role of the IESC to include other gas deposits and technologies beyond simply CSG. A strategy to ensure that the valuable scientific input provided on a project or bioregion by the IESC is more transparently available to all stakeholders is also required.***

#### *Other Research Partners*

While there are a number of agencies intending to collate groundwater chemistry data from the various CSG companies operating in Australia, there is currently no capacity or intention to interpret spatial and temporal groundwater chemistry trends on a regional scale and make this accessible to a wider group.

The new 3D CSG Water Atlas developed by the University of Queensland is working towards integrating monitoring data on groundwater chemistry and water level from both OGIA and the Queensland Government Groundwater Database in order to create a knowledge base that integrates a wide range of groundwater chemistry, water level and geological data sources into a single platform for visualising and analysing the data.

QFF recognises that this is an important step in continuing to understand the science and impacts associated with the current CSG industry and recognises that our comprehension of the complex reactions associated with this industry are still inadequate.

#### *Other Regulatory Partners*

QFF acknowledges the work undertaken by the CSG Compliance Unit within the Department of Environment and Heritage Protection. The Unit provides an important point of contact for landowners and is necessary to provide confidence to all stakeholders that the current sector is being appropriately monitored and regulated. The continued support of the Unit and visible investigative and enforcement activities are essential. Increased resourcing would permit the Unit to provide further on ground contact

with impacted landowners and assist with the development of further resources. For example, the creation of a regulatory structure for the development of more complete Conduct and Compensation Agreements (CCAs). CCAs are currently only a commercial arrangement based on the immediate and short-term impacts of the gas industry on the landowner. They do not take into account or cost the long-term impacts or externalities associated with the gas development.

QFF acknowledges the recent review of the Gas Fields Commission and also the current review of the Land Court. Until these processes are complete and outcomes from the reviews are realised, it is not possible to comment.

### 1.3 Tenure sunset arrangements

QFF notes that there is a considerable number of undeveloped or 'sleeper' tenures. The future of these tenures creates uncertainty for the landowners they impact and negatively impacts future infrastructure development and investment.

For example, the Surat UWIR references the contraction of planned CSG developments, including a noted reduction from 2012 projections of the long-term affected areas. As such, the 2016 report models less than 18,000 gas wells (see Figure 2-7 Existing and projected future CSG wells in current and planned production areas). However, the Departmental estimates from 2014/early 2015, it was predicted there would be 30,000–40,000 total wells by 2025, averaging 400–500 new wells per year per company (various sources). It is noted that none of the existing tenures have been surrendered and the area granted for petroleum has remained steady at 31 million hectares<sup>2</sup>. So while the number of projected wells has halved, the area of granted petroleum tenures remains the same.

QFF is aware that the Queensland Government introduced a new policy for petroleum and gas to allow applications for Potential Commercial Areas<sup>3</sup>. Potential Commercial Areas (PCAs) are effectively a variation on a petroleum production lease but the usual requirement to commence production within two years is waived. For example, PCAs have been applied to fields with high-quality reserves, but which require pipeline and other services to make the recovery of the gas economical.

The large volumes of prospective or contingent petroleum/gas resources in these basins, plus the Cooper, Bowen and Surat basins, occur in various 'unconventional' reservoirs (i.e. coal seam gas, shale gas and tight gas) and present a challenge to the CSG/petroleum industry, requiring both the development of appropriate technologies and lower costs.

While QFF recognises that with technology advancements and future increases in energy prices, these existing tenures may be developed, it is unreasonable to indefinitely confine productivity improvements in agricultural systems on this basis.

- **QFF therefore request a 'sunset clause' and corresponding moratorium to be applied to individual gas and petroleum tenures based on a range of criteria to be determined by government in consultation with the relevant industries to stop ongoing uncertainty associated with 'sleeper tenures'. Criteria may include:**
  - **inactivity of a tenure holder in the development of explorative or investigative activities;**

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<sup>2</sup> Queensland Exploration Council. (2015). Queensland Exploration Scorecard: Tracking Queensland's Progress towards becoming an Exploration Leader by 2020.

<sup>3</sup> In July 2014, DNRM introduced an 'Operational Policy – application for declaration of a Potential Commercial Area'. This policy applies to oil and gas explorers seeking Potential Commercial Areas (PCAs) under the P&G Act and provides them with guidance and clarity on PCA requirements.

- *scientific data from exploration and geological modelling which determines gas reserves are of poor quality, there are significant and detrimental impacts to ground water particularly in basins such as the GAB;*
- *location determinants such as the quality and/or agricultural productivity of the land.*

#### **1.4 Increased science to determine long-term impacts of current CSG industry on agriculture**

A critical concern of landowners where CSG bores have been utilised is the life-span of the associated capping of these bores and the future liability for the failure of these ‘caps’ given that the tenure holders do not exist in perpetuity.

- ***QFF welcomes the opportunity to contribute to future discussions with the Queensland Government on the associated life-span of various (CSG) bore remediation methods as well as those associated with future gas extractive activities; and the longer term (future generational) impacts and liability should the capping or restoration of these bores fail.***

#### **1.5 Remediation and waste management**

The current gas industry generates a number of by-products including but not limited to fracking fluids, drilling muds, CSG waters and brine.

Under the previous government, the status of some of these waste products was amended to remove them as ‘regulated waste’ under a beneficial use approval. This amendment meant that additional tracking, transport and disposal requirements now only apply to strongly saline CSG water and brine concentrates. While this resulted in a reduction in regulatory burden (and financial cost) for the majority of CSG waters and indeed the gas industry, such measures do not provide confidence to the community.

The quality of CSG water quality varies greatly, however it is generally accepted to include varying concentrations of salts and other minerals. CSG water is currently reused for a number of purposes that have been deemed by the Department of Environment and Heritage Protection to be beneficially used for environmental releases, existing or new water users, and existing or new water-dependent industries. One of these water-dependent uses has been agriculture, ranging from stock watering to irrigation.

There is increasing anecdotal evidence that the repeated/ongoing use of CSG waters for irrigation, particularly drip irrigation, is resulting in ‘salt crusts’ to agricultural soils. More research into the long-term impacts of the deemed ‘beneficial uses’ of existing CSG waters must be undertaken and understood to ensure that valuable agricultural land is not used as a disposal point for gas-industry byproducts.

In Queensland, in all but exceptional circumstances, evaporation dams have now been banned for CSG water, and existing dams will be either converted to other uses or decommissioned. Once a dam is no longer being used for CSG operations it must be rehabilitated or modified for a different use (like a farm dam, subject to landholder agreement). In some cases, these dams have been converted to ‘storage or balancing ponds’ particularly where water treatment activities are being undertaken.

The treatment of CSG water using desalination technologies for example results in brine and, ultimately, salt residues that must be appropriately managed under a Salt Management Plan. The concentration and composition of salts depends on the characteristics of the CSG water and the treatment process.

The Coal Seam Gas Water Management Policy (2012) requires that saline waste is managed in accordance with the following two priorities: 1. brine or salt residues are treated to create useable products wherever feasible; and 2. if no markets are available once fully investigated, disposing of the brine and salt residues in accordance with strict standards that protect the environment. As far as QFF is aware, there has been no attempt at, or development of credible markets for usable products.

### **1.6 Consideration of State Planning Policy - Tenure**

QFF does not consider that the process of adaptive management can be achieved through the release of large-scale tenure areas. The State Planning Policy (April 2016) was developed so that stakeholders can better understand government policies. One of the guiding principles for the policy is that “decision-making integrates and balances the economic, environmental and social needs of current and future generations”.

The policy acknowledges ‘mining and extractive resources’ to be a state interest. Providing for “appropriate separation distances or other mitigation measures between the resource/processing area of the Key Resource Areas (KRA) and sensitive land uses to minimise conflict with the use of land in a KRA for an extractive industry” (see 2b).

For coal, mineral, petroleum and gas resources: *“considering opportunities to facilitate mutually beneficial coexistence between coal, minerals, petroleum and gas resource development operations and other land uses”* (see 3). The policy also stipulates that *“a key resource area is not a development approval for extracting the resource. This interest acknowledges that development decisions will require the careful consideration of competing interests”*

The state’s interest in planning for agriculture is to reduce the potential for conflict between agricultural land and other uses, protect resources from inappropriate development, minimise encroachment to ensure viable tracts of agricultural land are maintained and improve opportunities for increased agricultural investment, production and diversification.

The planning scheme is to appropriately integrate the state interest by protecting Agricultural Land Classification (ALC) Class A and Class B land for sustainable agricultural use by avoiding fragmentation and avoiding locating non-agricultural development on or adjacent to ALC Class A or Class B land; and facilitating opportunities for mutually beneficial co-existence with development that is complementary to agriculture and other non-agricultural uses that do not diminish agricultural productivity.

The policy also acknowledges the state interests in environment, being biodiversity, water and coastal environments. So that matters of environmental significance are valued and protected, and the health and resilience of biodiversity is maintained or enhanced to support ecological integrity; and the environmental values and quality of Queensland waters are protected and enhanced.

The discussion paper does not acknowledge or reflect the intent of this policy in its objectives or across its ‘reform ideas’.

### **1.7 Science-based policy and decision making**

The gas formations and associated Basins outlined for development in the discussion paper are largely unmapped and there is insufficient understanding at this time about the broader impacts from explorative and extractive activities within them.

QFF understands that one of the most important aspects of drilling for any petroleum/gas is predetermining the success rate of the operation. While vertical wells may be easier and less expensive to drill, they are not the most conducive to developing tight gas. In a tight gas formation, it is important to expose as much of the reservoir as possible, making horizontal and directional drilling necessary. A common technique for developing tight gas reserves includes drilling more wells. Additionally, acidizing the wells is employed to improve permeability and production rates of tight gas formations and deliquification of tight gas wells is commonly employed to overcome production challenges.

Processes such as increasing bore concentration, acidizing wells and removing groundwater will undoubtedly have significant impacts to the environment and also other groundwater users. The science and evidence is not sufficiently robust at this time to provide any ‘social licence to operate’ for the proposed expansion of the gas sector.

### 1.8 Skills and Employment

The discussion paper outlines links to other government initiatives such as Jobs Queensland and outlines objectives for skills development.

The agricultural sector requires a significant proportion of complementary skills sets and occupations to the gas industry. While QFF acknowledges the important contribution that the CSG industry has made in many regional communities in building sustainable and resilient communities which have provided overall benefit to farming communities, there is also competition for skilled personnel. The agricultural industry is a large regional employer, but it cannot compete with the wages offered by competing industries.

	<b>Median Weekly Earnings (2014)</b>	<b>Most Common Educational Attainment</b>	
Agriculture, Forestry and Fishing	\$976	Cert III/IV	21.34%
Electricity, Gas, Water and Waste Services	\$1,493	Cert III/IV	29.40%
Mining	\$2,115	Cert III/IV	40.14%

Source: ABS 6333 Characteristics of Employment Nov 2015

The development of any further gas industries within Queensland would require additional training resources, which acknowledge the lag-time associated with these skills and occupations.

QFF has developed a significant body of work pertaining to the current and future workforce needs of Queensland’s agricultural sector which it would be happy to share with the Department.

### 1.9 Gas Supply and Prices

QFF accepts that the state considers the development of the gas industry as critical with regards to a balance of revenue, employment and a potential solution to decrease the barriers to the supply of gas to the domestic market as a way of controlling prices and those impacts on gas users. QFF also notes the recent writs lodged in South Australia and New South Wales pertaining to recent moratoriums on gas exploration and also hydraulic fracturing, where approvals and tenures had already been awarded.

An investigation of the National Gas Market and appropriate reforms is already underway. Certainly, the rising price of gas to domestic markets is unsustainable and it has had an impact on the agricultural sector, although more particularly to the agri-processing sector.

QFF recognises that gas, including CSG is one of the cleanest fossil fuels and will be a critical component in supporting the necessary increase in renewable energy production and the overall decarbonizing of the economy.

However, until the community can be satisfied that the current CSG industry is being appropriately managed within a framework informed by robust science-based government policy and regulation, the prospect of developing more complex gas reserves with more intrusive technologies (including the adoption of further hydraulic fracturing) is unlikely to improve or provide the sector's social licence to operate.

As such, at this time, given the lack of scientific evidence currently available, QFF is unable to support the extension of gas exploration and extractions within Queensland.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Travis Tobin', written in a cursive style.

Travis Tobin  
Chief Executive Officer