

FUTUREFOOD QLD



"STRIKING THE BALANCE"

SUBMISSION TO **Senate Standing Committee On Environment, Communications and the** **Arts** **Enquiry into the impacts of mining in the Murray Darling Basin** **September 2009**

Background.

FutureFood Qld is a community group formed in January 2009 in response to growing community concern resulting from the loss of, and damage to, prime agricultural farm land and its environment in Queensland from the haphazard approach to expansion in the coal and petroleum industries in this state.

FutureFood Qld's management committee is made up of men and women from business and agriculture across regional Queensland, and our membership has now grown in both number and geographic distribution from what was initially a regionally based membership to one which now has roughly even distribution between regional and urban Queenslanders.

The exponential growth in membership numbers and distribution is a clear indication that there is considerable and growing community concern for the preservation of our state's natural resources, our limited areas of prime farm land and the environment that supports them.

Our mission:

Our mission is to protect the world renowned, clean and green, premium food production capacity (iconic farmland) of Queensland from inappropriate mining development.

Our vision:

We see a future where non urban Queensland enjoys the same planning certainty our cities and towns already enjoy.

This plan will protect our food production capacity (iconic farmland) from unnecessary mining while providing certainty to miners over their operations on appropriate mine sites.

We believe:

That mining is an essential industry, BUT some farmland simply should NOT be mined.

That miners and farmers can work together with government and the broader community to strike the right balance between farmland and mining developments.

That food production is a primal need and too important to risk unnecessarily.

FutureFood Qld is pro mining and pro development. However we do have a series of concerns about the current frenetic development in the Surat Basin.

DIRECT AND INDIRECT IMPACTS FROM COAL SEAM GAS PRODUCTION

There are several primary areas of concern to FutureFood Qld (FFQ) members. These can broadly be described as:

- salt/brine management and disposal,
- interconnectivity of ground water tables and risk of loss or contamination of sub-artesian and artesian water supplies,
- the temporary (approximately 30 yr) life span of the CSG industry, and
- appropriate management and beneficial use of treated CSG water

Other critical issues also arising from the growth of the CSG industry, but outside the scope of this Government discussion paper include:

- Inadequate provision and regulation in the Petroleum and Gas Act to ensure existing land use, particularly in areas of high productive capacity and long term strategic significance for national food security, is recognised and preserved.
- Inadequate compensation performance from CSG companies now operating in areas of highly productive agriculture such as prime farmland and intensive irrigation. (Farmers feel under current arrangements they subsidise gas companies, they argue they should be treated as a partner in the gas production process if their land is needed as part of the gas production process.)

SALT/BRINE MANAGEMENT

On face value, the prospect of between 1.8 million and 10 million tonnes of salt being introduced into the farmland of the Darling Downs and the head water of the Murray Darling Basin would be seen as pure insanity, environmental vandalism to a degree rarely seen around the world. The significance of this proposal, and the responsibility of the proponents of this development, cannot be overstated. There is a risk of almost unimaginable consequence if not managed to the very highest level.

FFQ does not purport to have the scientific expertise to attempt to prescribe the appropriate management strategies to ensure an environmental hazard of this magnitude is handled correctly. We do, however, need to place on notice the various Government authorities who licence these activities, and those ultimately licensed to conduct them, of the moral and legal responsibility they are accepting, and the community's interest in ensuring environmental impacts are kept to a level acceptable to the broader community. No amount of revenue, either private or public, will justify large scale environmental contamination.

The performance of the Queensland government's environmental watchdog, the EPA as it was at the time, was shown to be very inadequate last year when significant environmental damage occurred in rivers in Central Queensland (after mine de-watering following a period of flooding) at an unprecedented and unacceptable extent. So significant was the water pollution several mining communities relied on bottled water trucked in by the mining companies for months, and entire reaches of the river became ecologically sterile,

yet the state environmental watchdog took only token interest, and only after sustained public outcry. It is essential regulatory authorities do their job properly if we are to have any hope of preventing the massive environmental impacts that could arise if CSG pollutants enter the Murray Darling headwaters.

CSG operation in the Murray Darling Basin must be recognised as a high risk activity, and the community will demand that the relevant government departments are given the resources and direction to enforce regulation and impose penalties if needed. CSG companies must be left in no doubt that their activities will be welcomed by the public if they operate at world's best practice, and shut down if they don't.

FFQ supports the Queensland Government's decision that evaporation dams are not an acceptable management process for untreated CSG water. (Although this only occurred after considerable community outcry forced a change in policy). Further, we urge the Government to urgently address the matter of existing and proposed dams. Those already built need urgent upgrading to ensure no leakage is possible, and in the case of those "ponds" as the CSG industry calls them (itself a misleading term – 50ha is hardly a "pond") not yet built, licenses should be revoked.

FFQ supports Reverse Osmosis as an appropriate first step treatment in the management of CSG water. Stringent standards need to be developed to ensure treated water will always be at a level that makes it an asset to the community, not a liability. The cost of this treatment must be borne by the gas companies, and viewed by those companies as part of the cost of gas production. The community will not condone any amount of subsidisation of this cost.

FFQ expects that treated CSG water should be offered for sale by the gas company and sold to the highest bidder. This will assist the company in offsetting the cost of treatment and allows the free market to establish the highest value use of the end product. It would be anticipated that this would see treated water find uses in regional towns for business and domestic consumption, and also in some agricultural or forestry applications.

We note the Queensland government's suggestion that treated CSG water be used to "address water sustainability and adjustment issues, including relieving demand on groundwater..." and, consistent with FFQ's philosophy that food production must be provided for ad infinitum, remind government that CSG water has at best 30 years life, and therefore should not be seen as a permanent solution to any water supply requirement. Further FFQ recognises the irreplaceable role the Great Artesian Basin plays in underpinning much of regional Queensland's water supply.

Stringent *independent* monitoring protocols must be established to ensure the community can have confidence that treatment and containment practices are being adhered to. International experience and expertise must be drawn upon to ensure management strategies that are developed are indeed world's best practice. The Government and stakeholder representatives must be active participants in development and enforcement of these practices.

The disposal of brine from RO treatment is going to be at the heart of successful CSG water treatment. FFQ does not accept that encapsulating dried brine (salt crystals with other

contaminating elements) in a clay envelope is an acceptable solution - it is merely putting the problem off for another generation to deal with. Recent discussions with one of the larger CSG companies revealed that, should their “ideal outcome” of selling off the dried salt, which the company themselves acknowledge as far from a guaranteed outcome, then the alternative disposal method proposed in their EIS is to bury the salt and cover it with clay.

Whilst we do not have the scientific knowledge required to make informed recommendations, re-injection of brine back into the coal seam some 200m underground would seem one possible disposal method, provided expert opinion is confident that there would be no contamination of other aquifers.

There has been some speculation about piping brine beyond the continental shelf off the Queensland coast and this option, whilst expensive, may be worth scientific investigation.

It is very pertinent to point out that at this very point in time, we are witnessing at least four very large companies expanding their coal seam gas well drilling activity in the Queensland Murray Darling Catchment at a very significant rate, and as yet we do not have an agreed process for the final disposal of the salt or brine that is a by-product of the CSG wells.

The Queensland Government has not released its policy position arising from its enquiry into CSG water management held in June this year, yet they are encouraging well drilling at an incredible rate.

Each of the CSG Companies is drilling new wells, and these will total in the thousands in the next few years. Queensland Gas Company indicates approximately 6000 wells are needed for one CSG compression plant or “train”, and they intend to build two trains as soon as possible (with potential to go to three in the near future).

CSG water will very quickly approach, and ultimately will exceed 100,000 ML per year. This water varies in salinity but we expect an average of about 4000PPM, or 4 tonnes of salt per ML. Therefore we need to plan for approximately 400,000 tonnes of salt per year, for at least 30 years being produced in the Queensland Murray Darling Catchment.

FFQ does not believe it is possible to market this quantity, and is convinced there is no clear management process in place at this time that will ensure this massive amount of salt will not become a pollutant.

GROUND WATER LOSS

The members of FFQ are concerned about the lack of scientific certainty surrounding the possibility of interconnectivity of the artesian and sub-artesian aquifers and the coal seam waters that are to be extracted by CSG wells. By greatly reducing the amount of coal seam water, and thus reducing the “head” or pressure in this aquifer, the risk of inter-aquifer water movement is the subject of differing scientific opinion. It is a concern to FFQ that respected officers within QLD DNR speak privately of having real concerns in this area but being prevented from speaking openly about it. The Government would be well advised to take advice from *all* of its expert agencies, no matter how inconvenient the advice may be.

There is significant anecdotal evidence that exploration drilling is sometimes not adhering to protocols to prevent exploration holes becoming an open link from shallower water tables to the deeper coal seam water, thus creating yet another avenue for inter- aquifer water movement. Stringent monitoring and appropriate penalties should be adopted as a matter of urgency.

There is existing international experience of loss of beneficial aquifers as a result of CSG activity. This should not be overlooked in planning Queensland's CSG industry.

As mentioned earlier, we should not be hoodwinked into accepting treated CSG water as a *solution* to water shortages created by CSG activity, as the loss of beneficial aquifers would be a permanent problem, and CSG water only a temporary solution.

The water created from CSG activity should become a productive asset to Queensland, and we have the opportunity to generate employment and income from it, but its temporary nature must not be overlooked.

DIRECT AND INDIRECT IMPACTS FROM OPEN CUT AND UNDERGROUND MINING ACTIVITY

FFQ acknowledges there are many suitable sites for open cut mining in the Queensland Murray Darling Catchment. Indeed all existing mines are sited in appropriate areas, that is, areas of low productive capacity and not in floodplains or interfering with rivers and creeks. Unfortunately the same cannot be said for several of the proposed mines. Mining areas such as Felton Valley and Haystack floodplain, which are environmentally sensitive as well as very productive, is very poor policy and reflects the complete inadequacy in the mining permit approval process.

Queensland has 300 years known supply of coal (at 2007 record export levels), so we have sufficient opportunity to selectively mine our areas of least environmental and productive significance first, and leave the more sensitive areas until technology develops that allows us to access those reserves without the undesirable impacts.

Open cut mining on floodplains cannot be undertaken without significant concentration of floodwater movement in areas adjacent to the mined area, and this will inevitably result in increased flooding, increased erosion and increased nutrient and contaminant levels in floodwater going down stream. The experience of the recent Central Queensland floods, and the resultant damage from mining company actions, cannot be overlooked.

Many of the fertile floodplain soils that underpin agricultural production sit on top of subsoils containing high levels of salinity and sodicity, thus excavation and disturbance of these subsoils greatly increases the chances of downstream pollution.

Modern underground mining processes such as long wall and pillar and bord provide much less intrusive mining techniques than open cut, and FFQ publically congratulated Ensham mine in Central Queensland for modifying its proposed mine expansion this year to use underground mining as a less damaging way of mining the sensitive floodplain. We must however be cautious about these underground methods, as they do cause very significant

surface subsidence. On areas that are naturally undulating, the introduction of man made undulation of several metres may not be a problem, but on the very uniform and flat floodplains, this sort of undulation would completely change the water flow patterns, and would ruin the beneficial flooding that farmers rely on for natural irrigation. Concentration of floodwater will occur and this will increase erosion and decrease productivity.

FOOD SECURITY

Whilst acknowledging it is outside the scope of the senate enquiry, national and international food security is increasingly gaining the attention of major governments and bodies such as the World Bank, and the United Nations.

Today, more than six billion people around the world rely on food produced on just 11 percent of the global land surface, but much less, just 3% is inherently fertile soil. By 2050, the world's population will have ballooned, and we will be trying to feed the equivalent of 13 billion by today's nutritional standards. Global food demand will more than double in the next 40 years. Or, as the World Bank put it, "the worlds farmers will need to grow more food in the next 50 years than they have in the last 10000 years".

Globally we have consumed more food than we have produced in seven of the last eight years, so food production is an issue here and now. We have almost certainly already reached "peak farmland availability" as land around the world is lost to urban and mining encroachment, land degradation and re-forestation. In its 2008 World Development Report, the World Bank states "managing the aggregate response of agriculture to rising demand will require good policy and sustained investment, not business as usual". Growing world demand for food provides Australia with not just a moral obligation, but also an export opportunity that will last thousands of years, if we preserve our meagre areas of prime farmland.

CONCLUSION

FutureFood Qld sees significant and critical challenges in the development of the Coal Seam Gas and coal mining industries in the Queensland Murray Darling Catchment. These challenges will require carefully researched and tested management strategies before being implemented. Our food bowls are too important to be treated as 'lab rats'.

The development of this industry would have huge employment and financial benefits that would flow through to all. Therefore it is a very tempting proposition. It is incumbent upon policy makers and elected leaders at all levels of Government to ensure we are not blinded by that temptation. The precautionary approach must be employed.

FutureFood Qld, is supportive of carefully planned, managed and monitored development.