Moree Community Consultative Committee – Coal Seam Gas (MCCC – CSG)

The Rural Affairs and Transport References Committee

29 April 2011

RE. MURRAY DARLING BASIN – IMPACT OF MINING COAL SEAM GAS (CSG)

The *Moree Community Consultative Committee – CSG* (MCCC-CSG) has been established and endorsed by the Moree Shire Council to represent the community concerns of CSG mining in the Moree district.

Moree is supportive of any investment that can provide a long term positive cost/benefit to our district, support current industry and is environmentally friendly.

There are many concerns with regards to CSG Mining that the Moree community feel needs to be addressed. It is an issue that regulation and monitoring is struggling to keep pace with the CSG industry as it expands at a rapid rate.

This paper attempts to put forth community concerns and some suggested recommendations, in the hope that the correct balance between the CSG Mining, landholders, the environment and the community can be reached.

ENVIRONMENTAL ISSUES

The flow-on economic and social impacts of any environmental degradation may be devastating for the Moree community. The health of our precious water and farming land is the lifeblood of the town and is not negotiable.

Unfortunately, the legislation and the licensing processes are presently in favour of mining, with environmental concerns secondary.

Issue Environmental Science Research on Underground Water Resources

The Great Artesian Basin (GAB) and Aquifers are vital to the future of Moree. They:

- Supply our Town and Landholders Drinking Water
- Supply our Stock Water
- Feed the Moree Spa Baths which are a major tourist attraction for Moree.

However, the science of the environmental effect of CSG mining is relatively unknown. Comprehensive and independent research is extremely limited. Any research done by the CSG companies unfortunately lacks credibility.

The community concerns with regards to underground water are as follows:

- Large volumes of water is extracted (the National Water Commission identified that within 25 year CSG may extract more water from the GAB and aquifers than the entire current extraction) which may result in aquifers being depleted

- Large volumes of water is extracted, thus depressurising the coal seams – this change in pressure may result in a shifting of the aquifer waters, thus affecting water availability and result in stock and community water bores running dry
- Contamination of aquifers and GAB water quality, by releasing of heavy metals and injecting of toxins
- Subsidence on the grounds surface due depressurisation of the coal seam, resulting in surface erosion, changes in natural water flows and less productive or lost agricultural land

Issue Environmental damage of Extracted Water

The large volume of water extracted during the CSG mining process is naturally saline and contains toxins, by way of chemicals and heavy metals. The evaporated water also leaves a saline, toxic residue brime.

The community is concerned that escape of this saline water or residue brime at the drill sites, during cartage, or from water storages/evaporated ponds (due to leakage or overflow during heavy rains), through accident or negligence, will lead to:

- Permanent contamination of soils, such that they are made sterile and unproductive for cropping or grazing
- Deaths of Trees and Native Vegetation
- Seepage into local creeks and rivers, thus contaminating water supply
- Death of Wildlife

There are also concerns with treatment of this extracted water –how good will the quality be after treatment? Will it be released back into the water system? Will it be reinjected back into the underground water aquifers? Would our cities be willing to drink this water?

Issue Hydraulic Fracturing or Fraccing

Fraccing is extremely controversial. It has been banned in some overseas countries and states (including France and certain USA States), with other countries also considering banning the process.

It is our understanding that the CSG companies treat the exact chemicals used during the fraccing process and the quantities used as “proprietary information”. This is unacceptable when the health of our environment and community is at risk.

Issue Other Environmental concerns

Other environmental concerns expressed include:

- Is CSG really environmentally friendly? Some research suggests leakage of methane at wells sites nets outs any benefits to our carbon footprint.
- The criss cross of roads across properties will cause a series of levies which will affect natural water flows during heavy rains and thus the quantity of water returned to our river system.
- The criss cross of roads and wells across properties will mean more turning and shorter runs during farming, resulting in greater usage of fuels, chemicals and fertilisers.
- The impact on biodiversity, including native and threatened species and ecological systems.

- Most CSG application will be processed as a "Sate Significant development". Recently revised, the exact details are unknown of this new assessment process but we have the following concerns;
    i. Minister will still
        1. have final say
        2. have power to override any Environmental Planning instruments by doing an amendment to that EPI
        3. not require approvals under the Water management Act
        4. have the discretion whether environmental studies are done, conditions imposed or rehabilitation done
    ii. There is still a limited power of other government agencies in regulating State Significant Developments
    iii. There are very limited requirement to informing the general community, hence community input will be limited
    iv. The appeal process is still limited and would not have to go to a public hearing

Recommendations

1. Benchmarking of our hydrology needs to be carried out as a priority by an independent technically competent body (such as Gas Industry Social and Environmental Research Alliance – GISERA). Such an assessment could pool existing data via benchmarking and conduct further testing to fully understand the real way that drilling for CSG impacts on water resources. This information will allow a more accurate risk assessment process, allow us to understand the likely types of aquifer interference risks and help determine appropriate environmental rehabilitation securities. It could also inform later assessments of possible impacts on productive land and socio economic assessments.

2. Prior to further development of this industry and granting of any further extraction licences, fully independent, creditable scientific research on CSG mining and fraccing needs be completed to fill our knowledge gaps.

3. Prior to further development of this industry, the criteria for obtaining and maintaining licence needs to be reviewed to take account of all environmental, social and economic impacts.

4. Prior to granting any extraction licence, independent research needs to be conducted on the environmental, social and economic impacts on a regional level.

5. Environment effect and laws should not be able to be ignored by Ministers and/or the licence approval authority.

6. Extraction licences should be denied in any areas where the study shows potential for significant and irreversible negative environmental effects.

7. All reports and processes used in the decision to grant an extraction licence must be public, including any changes to an extraction licence.

8. The licence approval authority should be independent.

9. The regulations and approvals on chemicals used needs to be more rigorous and controlled, given that this are potentially being put into our water supply. The chemicals and quantities used should have to be fully disclosed by the CSG companies.

10. Current legislation is inadequate with CSG being exempted from State Water Acts. This has in part been corrected in NSW, such that CSG mining now falls under the Environmental Planning and Assessment Act from this year, ensuring CSG activities are no longer exempted from Aquifer interference approval. However, the legislation at a national and state level need to be further refined with Federal Legislation having the ability to override State Legislation where Aquifer damage is a real possibility. This will stop decisions made by the government based on anything other than the environmental, social and economic impacts on a community.

11. Water used must be paid for (as in other industries) to encourage minimisation of water extracted. But should not compete with irrigation water, as the effect of pushing up water prices to irrigators will only result in lost food production.

12. CSG companies, under the Rehabilitation and Environmental Management Process (REMP), should have to set up mining deposits prior to approval of developments (http://www.dpi.nsw.gov.au/minerals/environment/petroleum/applying-for-petroleum-projects and http://www.dpi.nsw.gov.au/minerals/info/legislation-changes/environmental-management). See section on Inadequate Compensation for further details.

13. A newly established independent CSG Audit Monitoring Authority, in conjunction with other relevant departments, should:
    - Field community and/or landholders reports on any environmental issues.
    - Conduct hydrology and other testing to measure against initial benchmark testing
    - Monitor other environmental aspects of the exploratory and extraction process eg: measuring methane gas leakage, drilling chemicals being used, adequate treating and disposal of extracted water, etc
    - Enforce regulations – the authority needs to have the power to issues fines that are large enough to deter bad practices and should also have the power to halt further extraction until an environmental breach has been corrected and/or revoke mining approvals for breaches.
    - Oversee the mining deposits suggested under section "Inadequate Compensation" further below in this paper

14. Legislate to give prosecutors and courts a wider range of ways to enforce environmental laws and discourage bad practices

And lastly apply the concept of ***Reverse onus of proof*** – it is up to the mining companies to prove they have not caused the damage.

SUSTAINABILITY OF PRIME AG LAND AND AUSTRALIA'S FOOD TASK

Moree is at the centre of food production in Australia, being known as the "Richest Agricultural Shire in Australia" due to its highly productive land. With food security into the future a major focus today, it is disturbing that agricultural productivity may take a backseat to CSG mining progress.

Issue Effect on Farming & Grazing Practices and Productivity

With placement of wells in a grid as little as 500 – 750 metres apart and roads and pipelines connected to every well, a grid of wells will be formed across farming land. This will have a large effect on farming practices in Moree and thus farming productivity.

- Even with rehabilitation, land occupied by well sites and roads will never again reach full crop or pasture production due to ***compaction, lack of stubble/vegetation retention & wind erosion, gravel/rocks*** etc. This land will be lost fully to crop and pasture production during CSG mining and for many years thereafter.
- With the placement of wells, there will also be a **reduction in productivity of other farmed land**.

  Controlled traffic farming is widely used around Moree, in recognition that it greatly improves farm efficiency and productivity. The benefits are well supported by agronomic research (http://www.controlledtrafficfarming.net/benefits.php)
  - more yield by improving conditions for plant growth
  - More uniform grain
  - Compatibility with raised beds and alley farming
  - Less overlap
  - Lower input costs and greater accuracy of placing inputs
  - Reduced operating costs by lowering fuel usage, less time/labour, saving on seed, sprays and fertiliser, and improving efficiency (10-25% savings can be expected immediately)
  - Easier driving and less operator fatigue
  - Less fuel use and lower tractor power requirements
  - Application of inter-row technology
  - Improved timeliness of operations
  - Control of soil erosion and increased moisture retention, provided properly designed layouts are used
  - Better drainage and waterlogging control
  - Improved farming practices and opportunities due to easier management
  - Improved integration and management of precision farming tools and systems
  - Improved efficiency and effectiveness of all operations

  The Grains Research and Development Corporation research states "The longer the tramline run, the greater is the efficiency of the system, as turns on the corners are kept to a minimum"
  (see http://www.grdc.com.au/director/events/researchupdates.cfm?item_id=AC900FF79F6CAF001BDEA6695DE84529&pageNumber=90).

  Placement of wells at 500-1.5 km in a grid will undoubtedly reduce productivity on land that is not occupied by well sites or roads, resulting in:
  - Greater compaction due to more turns & overlap
  - Higher operating costs as greater fuel usage, time/labour, seed, chemicals, sprays and fertiliser used due to more turns & overlap
  - Reduced timeliness of operations
  - Harder driving and risk of operator fatigue working around objects requires greater driver concentration
  - Greater waterlogging and poorer drainage
  - etc

- Farmer will need to **remap GPS systems** on their properties each time a well site is added or closed down, which is costly.
- Graziers will need to ***resow pastures***
- Formed up roads and well sites will disrupt natural water flows and may result in greater ***waterlogging and leaching of nutrients*** on lands.
- Formed up roads and well sites will disrupt natural water flow, thus may lead to erosion ***as waters push along unnatural paths.***
- Water is vital for ***irrigators*** and any contamination or shifting of water tables is of a major concern.
- Any contamination of water quality may mean grazier they have ***no stock water***, which will financially cripple their entire operation
- Shifting of underground water may result in ***bores running dry*** and thus no stock water.
- Any contamination of water quality may also mean the ***meat is contaminated*** and unable to be sold.

Many of the above will also have an affect neighbouring land holders also.

Recommendations

1) That the federal government legislate to protect Prime Agricultural Land from CSG Mining. The NSW Strategic Regional Land Use Policy is an encouraging step in this direction but it should also be noted this policy has many unanswered questions, in particular how prime Agricultural Land will be determined and how to define the term "protect". Federal legislation should also move to protect our valuable agricultural lands from CSG Mining.

2) Legislate to give landholders the right to refuse access.

3) The proposed legislation change in the NSW Strategic Regional Land Use Policy requiring an Agricultural productivity Impact Assessment is a good step. However, this assessment must be independent and take into account the impact on individual farms.

4) Legislation should be introduced to make it easier to claim compensation and that it is paid to the landholders and wider community for any of the above negative effects on farming practices. Most farmers do not have the legal expertise or financial resources to get compensation in the event losses bought about by CSG mining.

PROPERTY RIGHTS AND VALUES OF LANDHOLDERS

Unfortunately, CSG mining is a major infringement on property rights. The CSG companies claim they have a right to access the resources underground, but this is at the expense of the a landholder's property rights. There is little legislation to protect the interests of landholders.

Issue Lack of landholder rights

Presently, the rights of landholders are subservient to CSG Mining and landholders really lack any genuine rights.

A Landholder cannot barr CSG mining on their land. The CSG companies must negotiate an Access Agreement with the landholder in NSW but ultimately a landowner cannot deny a CSG

company access. If a landholder goes to arbitration, the arbitrator will focus on what terms access should be granted, not if access should be granted.

In negotiating these agreements, it should be recognised that the CSG companies are professional negotiators and landholders are at a distinct disadvantage. Unfortunately, CSG companies have proven they will play "dirty" (eg: we have instances in the Moree community of the CSG companies calling at 6 am and on the weekends and also sending out misleading outdated information).

Landholders lack technical and legal experience and are not aware of their rights. Unfortunately there is no advisory group for them to seek advice from.

Landholders mostly do not have the financial resources to exercise and protect what little rights they have.

Concerns of landholders also go beyond their farming practices and the environmental risks, as these farms are the homes of families. Under present legislation, the CSG companies can mine as little as 200 m from a home in several directions.

With CSG Mining farms, there will be a significant increase in traffic and unknown individuals coming and going all day, increasing the risk:

- to landowners personal property of vandalism or theft
- of "unsavoury" persons with regards to children's safety
- to health and safety if children try to enter CSG sites
- to health and safety of children, family and farm workers due to increased traffic.

It will be practically impossible to monitor the activities on their land. If the landholder were to try (e.g. by asking permission every time the CSG people wanted to enter the property), he/she would spend an inordinate amount of time doing this, thus taking them away from their business and impacting deeply on their personal lives.

Furthermore, with the increased risks, if something were to happen, the CSG companies would deny responsibility for any wrongdoing by their staff and it would be very hard to prove. The landowner would be left with the cost or worse (for examples, if something was to happen to a child).

Issue Inadequate Compensation

Compensation is too limited and inadequate. Compensation falls under the Mining Act 192 and Petroleum (Onshore) Act 1991 and under Mine Subsidence Compensation Act 1961 for subsidence.

Under the first two acts, compensation is limited to impacts that occur on the surface of the land and within the landholder's boundaries. However, as discussed, the effects and concerns extend far beyond the surface of the land.

Likewise, for subsidence compensation, The Mining Subsidence Compensation Act is limited and does not cover CSG mining.

In the case of a disaster, historically any mining deposits (or security) have been woefully inadequate to cover the true cost of ameliorating damages the have caused during mining. This is demonstrated in this story www.abc.net.au/rural/news/content/201103/s3177384.htm where the deposit was not even a small percent of the landholder's immediate damages, let alone enough to cover environmental rehabilitation or ongoing loss of income.

Recommendations

1) Immediate regulatory change to halt the "fait accompli" negotiations between CSG Companies and landholders and allow for a pause in exploration activities where agreement is not reached with the landholder. This is easily justified by the need to benchmark hydrology surveying and study the full environmental, social and economic impacts of CSG Mining.

2) Implement regulatory and policy changes to even up the negotiating field between the CSG companies and landholders, by providing landholders access to experienced advisors who will protect their rights. This may be done by providing the funding for advisors to groups such as NSW Farmers.

3) A complete review of just Terms Legislation. Expand the definition of compensation in the legislation to account for:
    - All legal and access agreement enforcement costs of the landholder, prior to, during and after the extraction process
    - Quality of the land lost – not all land is equal
    - Effect on personal lives, including proximity to houses, loss of privacy, etc
    - Effect on landholders business, including health and safety risks (including the CSG companies accepting full liability in case of an accident), loss of productivity and extra costs incurred on farming etc
    - Decreased land values
    - Lost opportunity and profitability (e.g. of increasing land values and land productivity)
    - Risk of underground water impacts and other environmental impacts

4) CSG companies, under the Rehabilitation and Environmental Management Process (REMP), should have to set up mining deposits prior to approval of developments (http://www.dpi.nsw.gov.au/minerals/environment/petroleum/applying-for-petroleum-projects and http://www.dpi.nsw.gov.au/minerals/info/legislation-changes/environmental-management). The formula for this should ensure the deposit for each individual bore is sufficient to cover the genuine costs in the case of a negative environmental effect or disaster – this will mean it covers both indirect and direct costs. An example of a formula might be:
    i. Number of bore licences (30 years X marginal return/ML X number of ML bore water irrigation licences which could be impacted by a specific bore i.e. a 30 km radius)
    ii. PLUS Cropping/livestock area (area that could be potentially contaminated by extracted water through leaking/overflowing of ponds, trucks, pipes etc)
    iii. PLUS Loss of amenity and land values due to potential contamination (per ha figure)
    iv. PLUS normal formula for the environmental rehabilitation work.

5) Any newly established independent CSG Audit Monitoring Authority, in conjunction with other relevant departments should:
    - Oversee the mining deposits
    - Field community and/or landholders reports on any breaches by the CSG Companies on landholder rights and access agreements
    - Enforce land access agreements with CSG companies - it needs to have the authority to halt further extraction until the access agreement breach has been corrected and/or revoke mining approvals for breaches.

6) Amend legislation to exempt common land use types (cultivation, improved pastures and irrigation land) and/or Prime Agricultural land from CSG Mining

7) Amend legislation to allow landholders greater rights to have an input into and challenge decisions to grant mining licences.

Issue Land Values

CSG companies want to occupy land only.

Anecdotally, real estate agents report lower interest in CSG mining occupied properties and a fall in land values. This is logical considering the impact on farming practices & productivity, invasion of property rights and risk of environmental damages.

Landholders and their neighbours should not have to suffer from reduced land values or lost opportunity of increased land values due to CSG mining. For some landholders, this will actually be financially crippling.

Recommendations

1. As per the above set of recommendations under the Inadequate Compensation section, amend Just Terms Compensation legislation to include lower land values and lost opportunity of increased land values

2. As per the above set of recommendations under the Inadequate Compensation section, introduce security deposits under REMP, to account for loss in land values and lost opportunity of a rise in land values

3. Apply to this the 'Reverse Onus theory' – it is up to the CSG Mining to provide evidence they did not result in a fall in land values rather than have the landholder have to prove it.

4. Reconsider payment of royalties to landholders. It is a potentially very effective way to maintain land values, as it provides the landowner with an income stream that is attached to the land and he can on sell with the land.

SOCIAL EFFECTS

Issue Economic Prosperity of Moree

Moree's main industries are Agriculture and the Hot Artesian Spa Baths.

Any damage to the long term productivity of agricultural lands and/or and the quantity and quality of our water, would have the potential to cripple the economic prosperity of Moree.

It is worth noting that even the perceived risks of CSG mining may be detrimental to Moree. The threat of reduced land values and lower productivity, even now, is creating a level of uncertainly in our farming community. This uncertainty may result in greatly lowering or halting landholder's willingness to make capital investment and reduce borrowing power.

The ultimate result may be a negative impact on town business and thus entire community.

Recommendations

1. Prior to further development of this industry, the criteria for obtaining and maintaining a licence should be reviewed to take account of all environmental, social and economic impacts.

2. Extraction licences should be denied in any areas where a cost / benefit study of CSG mining in an area is negative to the community.

3. The government needs to consult the community and implement regulations and legislation to ensure the correct balance of environmental, social and economic factors is maintained.

Issue Roads Use

Associated with CSG mining, will be a significant increase in heavy vehicles and traffic on the local roads.

However, the CSG mining companies do not pay rates towards the maintenance of these roads.

Landowners are already facing a 90% increase in rates over 3 years presently in the Moree shire. It is likely that in the future the rates would need to be raised again to cover the additional traffic on the roads and resulting maintenance. Why should the local ratepayers foot this bill?

Recommendation

1. Full reparation for road repairs and maintenance should be made to the council.

Issue Not a Long Term Industry

CSG mines, by their own admission at the CSG Forum in Moree on 28th June, have a ***20-25 year lifespan***. Hence, it is not a long term industry for the community.

Agriculture and the Hot Spring Baths, however, will provide base industries for Moree in the long term.

Thus CSG Mining cannot be at the expense or put at risk our other industries.

Issue Contribution to Local Economy

There are doubts on the long term cost benefit to the town of Moree.

There are suggestions that the CSG companies:

- tend to fly their crews in and out of town, rather than live in the towns
- Tend to set up campsites at the drill holes, rather than rent and live in towns (and there have been local instances where CSG companies have asked exactly this in land access agreements)
- Build their own temporary accommodation, designed to last a few years as this is all they are needed for.

Issue Health of the Community

There are also many health concerns in relation to methane gas leakages and chemicals released into the atmosphere at the extraction sites and compressor stations. We understand evidence has already been given to the committee about these substances, and that in some cases they are carcinogenic, affect reproductive and can cause other health concerns.

Given legislation allows wells as close as 200 m from a house, this is a very scary prospect for those living in gas fields.

Recommendations

1. Conduct a full, independent study of the health impacts of CSG mining and regulate accordingly to protect the community.

2. An independent CSG Audit Monitoring Authority, in conjunction with the relevant health authorities, be set up to:
   - Monitor all health aspects of the extraction process eg: measuring methane gas leakage etc
   - Enforce health regulations – it needs to have the authority to issues fines that are large enough to deter bad practices and it should also have the ability to halt further extraction until the environmental breach has been corrected and/or revoke mining approvals for breaches.
   - Give the community and/or landholders an organisation to take report health concerns to and be able to act on community or individual complaints

Thank you for the opportunity to give feedback to the enquiry.

Yours sincerely

On behalf of the MCCC-CSG
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