Why Should Our Water Resources be Protected from CSG Exploration and Mining and Large Coal Developments?

It is our responsibility to ensure our natural environment is sustainable for many generations to come.

I write this application as both a cattle farmer and an urban resident (Sydney).

My two properties are worlds apart. One is 700m2 in urban Sydney, the other being 180 acres of dairy country in the Manning Valley (Mid North Coast NSW). From talking to my neighbours and colleagues, I understand the different perspectives from each area.

In relation to our Manning Valley farm, CSG in that area (or any other regional area) would have massive impacts, namely:

- Drop in land value
- Loss of land amenity (due to tracks, well pads and extra gates/fencing)
- **Potential loss of usable water from creeks, rivers and dams (for household use, stock use, crop irrigation)**
- **Potential drop in bore water levels (short term and long term) due to loss of aquifer pressure**
- **Potential contamination of town water, and that of local catchment management authority (providing water to 70,000 people in three LGA's)**
- Loss of security
- Loss of privacy
- Contamination of air due to fugitive emissions of methane
- Increase in noise levels
- Increase in light levels (at night)

The above points pertaining to **water** have been highlighted.

In regard to any approval of CSG/major coal project in exploration or production stage, there should be **special conditions in regard to water access, use, storage, treatment and disposal**.

- **Baseline studies** should be carried out on **water quality, flow rates for creeks/rivers, dam levels, and bore levels** during various times of the year/seasons. Wherever possible, these studies should access more than 12 months of studies in all areas proposed for mining activity.
- Once a project is operational, studies on water quality, flow rates for creeks/rivers, dam levels, and bore levels should be regularly measured and reported using real time applications (with public access to this data).
- Any mining activity should be treated in the same way as agriculture in regard to access to/use of water in their activities. During approval stage, **estimated water usage** for entire project should be documented. If project is approved, **actual water usage** should be measured and reported using real time applications (with public access to this data).
- **Aquifier Interference legislation** needs to be tightened up considerably, and applied to all mining projects. There is the very real potential danger of cross-contamination of aquifers. In NSW, the draft Aquifer Interference policy suggested that if any mining operation will take more then 3 megalitres per year during its activities, special environmental reports would be required.

In the final Aquifer Interference Policy there is no threshold set (leaving interpretation open to mining companies).

- **Evaporation ponds or holding ponds** should not be permitted anywhere in Australia. These ponds are simply a way of putting waste products "on hold" as no other way of treating waste/saline water has been found to date. If water treatment and re-use of this waste water is not possible, surely it points to this industry not being environmentally sustainable. Evaporation of these chemicals (and the subsequent 'return to earth' of these chemicals in a new 'acid rain') could pose a whole new collection of environmental problems for agriculture, fisheries, urban populations, etc. The latest approved holding ponds in NSW will hold 600 megalitres (in two ponds within a wetlands area).
- There should be a **tight timeframe for water to be treated and re-used in all mining activities**. i.e. Within 6-12 months. Otherwise there is the very real danger that the problem of wastewater becomes a legacy for state or federal govenments (years after the mining companies have ceased activity in the area).
- A large percentage of securities paid my mining companies to state governments, should be kept in trust for a period of up to 50 years. These securities would pertain to damage to water bores, local dams/rivers/creeks and aquifiers. 'Make good' bills on damage to major water infrastructure would not be covered by the modest security bonds paid today. Some of this damage may not be evident until 10-20 years after drilling/mining activity.
- Fraccing should be banner in Australia, as it compounds the environmental problems associated with CSG exploration and production activities (especially the toxicity of wastewater). This process releases more naturally occurring chemicals within rock formations, and required more chemicals to facilitate the process.
- In Qld, monitoring of wells is not required after they have been abandoned. Who is now responsible for this monitoring and repair if required?

As can be seen, there are many real and potential effects on water due to CSG, large coal projects (and also shale gas and other unconventional mining practices). These need to be considered carefully prior to proceeding with this industry.

Thank you for considering my submission.

Yours faithfully,

Jacqui Hastings