

DEA Opening statement to the NSW Parliamentary Inquiry into coal seam gas 17th November 2011

Doctors for the Environment Australia is a voluntary organisation of medical doctors working to address the diseases caused by damage to the earth's environment.

DEA considers the current level of assessment, monitoring and regulation of CSG exploration and mining activities in NSW to be inadequate to protect the health of current and future generations of Australians. There is the potential for public health to be affected directly and indirectly through CSG operations

- **through contamination of water, air and soil**
- **through diversion of water and land away from agricultural food production**
- **from mental health impacts on communities who have had environmental changes imposed upon them**

Contamination of drinking water supplies is the greatest concern, from the chemical additives used during drilling and hydraulic fracturing, degradation products, and also the compounds that are mobilised from sediments during the mining process. These chemicals can include toxic, allergenic, mutagenic and carcinogenic substances as well as methane. Waste water coming to the surface may contain volatile organic compounds, high concentrations of ions, heavy metals and radioactive substances.

Effects on human health from chemicals depends on many factors including the dose, the route and the duration of exposure. Health effects may be immediate in onset, with symptoms such as headache, dizziness and nausea, but can also develop later even with very low levels of chemical exposure. Long term effects may include hormonal system disruption, fertility and reproductive effects, and the development of cancer.

There is insufficient information on the use and mobilisation of these chemicals to make adequate health risk assessments. One of the biggest problems is the lack of public transparency around the chemicals used, the majority of which have not been assessed for safety, and the lack of monitoring of their use.

Mining companies infer safety of all chemicals, as some are components of household products. However, just because we may have hair bleach or antifreeze in the cupboard does not mean it is safe to drink it.

Some compounds, such as the BTEX chemicals, can present a risk to health even in minute concentrations. For example, the Australian drinking water guidelines for benzene (a known carcinogen) state; "no safe concentration for benzene in drinking water can be confidently set" so the guideline is set at below the level of detection, which is 1ppb, the equivalent to one drop of water in a swimming pool.

In NSW there is no uniform mandatory requirement for CSG companies to treat or even test their produced water. It may be held in storage ponds, where contaminants may

be washed over surrounding land and waterways during a flood event or become dust during a drought.

Air pollution can occur locally around CSG wells transferring volatile chemical pollutants into the atmosphere. These can contribute to ground level ozone, a respiratory irritant that can inflame lungs and reduce lung function.

Water and food quality and security are key determinants of health and CSG threatens both.

Water and air pollution, water shortages, permanent degradation of productive agricultural land and loss of livelihood and landscape, all have mental health consequences for communities living in a gas field. The CSG process can divide previously close-knit rural communities, increasing tension and disharmony, impact on local economies, and threaten other industries such as beef production, viticulture and tourism.

DEA recommends

- full mandatory disclosure of the composition and quantities of chemicals used in all CSG operations, including public information on potential health effects, and that these are assessed for this use by NICNAS our national chemical regulator
- comprehensive independently audited water monitoring programs and air quality monitoring near CSG operations
- independently audited monitoring and reporting of volumes and contaminants of waste water produced, and disposal methods
- Great Artesian Basin aquifer water and productive agricultural land should be protected and landholders should have greater legal protection against involuntary intrusion on their land by CSG operations
- Health Impact Assessment as part of all unconventional gas project assessments, under nationally developed guidelines
- a moratorium on new CSG operations until the health and environmental consequences are adequately understood and the appropriate monitoring and regulations are in place to protect human health

In summary:

- Protecting the health and wellbeing of the citizens of NSW should be a priority
- Coal seam gas poses unassessed and potentially serious health risks to the community
- NSW should not proceed until there is proper assessment and regulation of the impact on public health and vulnerable communities.