

**Submission
No 898**

INQUIRY INTO COAL SEAM GAS

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Term of Reference 1: CSG mining represents a serious threat to water resources due to:

1. The potential for drawdown and contamination of groundwater aquifers, including potential for major cumulative impacts on the Great Artesian Basin. 2. The pollution of surface water systems from 'waste' water, leading to serious reductions in water quality. 3. The use of large volumes of water for drilling and fracking in water systems that are already over-allocated, such as the Murray-Darling Basin. 4. The location of CSG wells on sensitive floodplains and in water catchments. Examples: Discharge of treated 'waste' water by Eastern Star Gas into a creek in the Pilliga; location of CSG wells on the floodplain at Casino; exploratory drilling near Woronora Dam in water catchment areas of Sydney and the Illawarra; drilling near the Tomago sand beds water catchment area in the Hunter. CSG mining produces vast quantities of waste that represent a serious environmental risk: 1. Management of waste water is highly problematic and leads to environmental degradation where storage, leakage, spillage and discharge occurs. 2. Treatment of waste water results in the production of a highly concentrated 'brine' by-product, that is extremely difficult to dispose of without causing harm. Examples: Spillage of waste water leading to extensive tree death in the Pilliga; deliberate discharge of saline water leading to pollution event near Broke; native animal deaths at drill ponds in the Pilliga. CSG mining represents a major threat to natural areas: 1. It leads to extensive clearing and fragmentation of native bushland and threatened species habitat and increases the risk of catastrophic bushfires. 2. It represents a major threat to wetland systems, even distant ones that are hydrologically connected. 3. It transforms major vegetation remnants, refuges and corridors into industrial zones. 4. Even protected areas and public lands are not safe – CSG mining can occur in areas bordering National Parks, and is permitted in State Conservation Areas and State Forests. Examples: Pilliga CSG mining will clear at least 2,400 hectares and fragment 85,000 hectares of public lands, including State Forests and State Conservation Areas; at Putty drilling is planned next to the World Heritage-listed Wollemi NP; at Pogy, drilling is occurring on an inholding in Goulburn River NP; in north-west NSW, Travelling Stock Routes are targeted for drilling and gas pipeline infrastructure; in the north-east, a pipeline is proposed through the World Heritage-listed Border Ranges NP. CSG mining represents a serious risk to human health: 1. Due to potential contamination of water used for human consumption and agricultural production with chemicals used in drilling or fracking as well as those present in the coal seam. 2. From leakage of toxic methane and other gases during gas production and migration of methane into water supplies. 3. Through poor management of chemicals and use of toxic chemicals without full disclosure, particularly during fracking and drilling. Examples: The recent foamy discharge from a well at Camden; methane leaking from gas pipelines and a water drain in the Pilliga and from well-heads at Casino. Other major environmental problems with CSG mining include: 1. The complete failure of remediation, even at the exploratory phase – such as at Casino where drill ponds had not been remediated and in the Pilliga where there has been no rehabilitation of well-pads. 2. The fact that regulatory processes, including assessment, approval and compliance, are all drastically inadequate – this was evident in the approval of the Gloucester AGL project without details about what it entailed, and the lack of resources or political will to enforce compliance in the Pilliga. 3. Coal seam gas (CSG) is a fossil fuel and a significant source of greenhouse gas pollution. It generates more than 40 times the amount of greenhouse gas per unit of energy generated than solar or wind. Coal seam gas will make a major contribution to global warming, particularly when fugitive emissions and liquefaction prior to export are fully considered.

Term of Reference 2: CSG mining causes major social impacts:

1. Landholders face the prospect of losing control of their land, and property values are degraded and options for re-sale lost once exploration licences are issued. 2. The social fabric of communities is drastically weakened, with evidence that communities dominated by fly-in / fly-out workers show higher incidence of violence and crime, soaring rents and worsened mental health outcomes. The rapid expansion the CSG industry looks set to have major economic impacts: 1. Food security is threatened by risks to groundwater and loss of arable land. 2. It is undermining economic diversity and leading to a skills shortage in other rural industries, and can lead to collapse of businesses unable to compete for staff. 3. It is likely to impact negatively on a whole range of other industries such as organic farming, tourism, vineyards and orchards. 4. It leads to important local infrastructure, such as roads, being run-down and damaged at a cost to the taxpayer. Examples: Food security is threatened by CSG mining proposals on the Liverpool Plains, around Moree and Bellata, and the in Northern Rivers region; pipelines threaten to cause major erosion to self-mulching black soil plains around Mullaley; and CSG mining poses a threat to the vital hot springs tourist attractions from Pilliga to Moree. Other socio-economic issues with coal seam gas mining include: 1. Royalties paid to the State create an expectation that projects will be approved, whilst failing to deliver sufficient funds to offset the impact of CSG. 2. Local Government and local communities are currently largely excluded from the planning process and public participation and legal standing is inadequate.

Term of Reference 3: Coal seam gas is not required to meet the future energy needs of NSW.

Most gas in NSW is extracted for export, not to meet local energy needs. There is a lack of information about the whole lifecycle emissions for CSG production. US studies suggests unconventional gas has huge fugitive emission impacts. The only way to deliver energy security is to switch to renewable energy now, particularly solar thermal. There are vast solar thermal resources in the major areas where CSG is now proposed, such as Narrabri and Moree. The massive expansion in coal seam gas production is delaying the transition to renewable energy alternatives.

Term of Reference 4: Coal seam gas mining is exempt from a number of other environmental statutes, including the Native Vegetation Act 2003 and the Water Management Act 2000.

Legislation controlling activities on public lands are inadequate to prevent coal seam gas mining, which when approved effectively privatises public lands. Interaction with Federal legislation at the exploration phase is poorly understood and not enforced – ie extensive exploration without getting Federal approval in the Pilliga.

Term of Reference 5: Experience from Queensland: significant problems with leaking wells; impacts on groundwater evidenced from drops in bore levels; growing social discord; an exploding well at Dalby; major impacts on natural values near Gladstone; alienation of farmland and clearing of bushland. Experience from overseas: regular fires associated with CSG wells, pipelines and facilities; chemicals used in "fracking" shown to be toxic to humans; systematic contamination of groundwater with methane; increased incidence of earthquakes after said activities.