

**Senate Standing Committee**

**on**

**Rural Affairs and Transport**

**REVISED SUBMISSION**

**Inquiry into the management of the Murray  
Darling Basin**

**Impacts of Coal Seam Gas Extraction**

**Southern Highlands Coal Action Group**

**September 5th, 2011**

## Introduction

The Southern Highlands Coal Action Group (SHCAG) appreciates this opportunity to make a submission to the Senate inquiry into the impacts of mining Coal Seam Gas (CSG) on the management of the Murray-Darling Basin. SHCAG is a non-political community organisation with over 3500 members, based in the Southern Highlands of NSW. It was formed in August 2010 in response to the threat from Coal Mining and Coal Seam Gas (CSG) developments across the Highlands. While the NSW Southern Highlands are not within the Basin, the issues we are facing from CSG developments and underground coal mining proposals are similar to those facing communities in the Basin, and we hope, through this submission, to shed some additional light on the matter.

The area we refer to as “the Southern Highlands” stretches from Thirlmere in the north to Marulan in the south and from Robertson in the east to Canyonleigh in the west, and lies approximately 100 to 135 kilometres south of Sydney. It forms a vital part of the Sydney Water Catchment. The Highlands is known for its many historic hamlets, towns and villages, its physical beauty and the relatively untouched nature of its environment. Towns include Mittagong, Bowral, Moss Vale, Bundanoon, Burrawang, Berrima, Exeter, Robertson and Sutton Forest.

The Southern Highlands has an extensive residential population, and a semi-rural lifestyle in many areas. The area boasts boutique agricultural activities including vineyards, truffieries, horse breeding and equestrian activities, cattle and alpacas breeding. The area has many unique heritage buildings dating to the early settlers, and has a flourishing tourism industry, taking full advantage of a climate with four distinct seasons.

Our region lies on the edge of the Southern Coalfields, with coal seams running under almost the entire area in close proximity to extensive above and below ground water systems. For the first half of the 20<sup>th</sup> century, mining played a key role in the area’s economy however those times are long gone. Apart from Boral’s small coal mining operation near Berrima, which supplies high ash coal to the Berrima cement works, no extensive mining operations now exist in the Highlands. However, given the extraordinary rise in coal prices and the demand for natural gas as an alternative to coal for power generation, the area is now under threat from both Coal Mining and Coal Seam Gas exploitation

While this submission focuses on the threat of CSG extraction, we would like it to be noted that the Southern Highlands also faces the threat of large scale underground coal mining and many of the concerns on CSG extraction, particularly those affecting aquifers, the landscape and land values, apply equally to the coal mining proposals. Accordingly we have also included some comments on our coal mining concerns.

## Coal Seam Gas

While Federal & State Governments favour CSG development for reasons of economic growth, tax income and royalties, communities are divided on the matter. Large landowners in marginal agricultural areas, and the communities in those areas, are generally supportive. The reasons for this support are clear, significant supplemental income can flow to large landowners and some townships in decline have been revitalized.

However many of those opposing are farmers of highly productive land who are concerned that their role in society as a food producer is under threat. Another large group of objectors are owners of small parcels of valuable land with special scenic value or with specialized agriculture – vineyards, olive groves etc. – parcels of land that are characteristic of the Southern Highlands.

The proposed extension of the Coal Seam Gas industry to the Southern Highlands has caused great concern in our community. The areas of concern are detailed below, but the key issues are the serious threat to our aquifers, the proposed methods for handling contaminated water produced as part of the CSG extraction process, the impact on landscape and rural industry, and the effect on real estate values.

While most of the issues we are dealing with are matters for the NSW Government, we believe that it is important for the Federal Government, with its overarching responsibilities for the environment and energy policy, has a clear understanding of our views on the CSG industry. We are currently preparing a submission to the NSW Upper House CSG enquiry that will reflect the key points that we are making here.

Our organisation supports the concepts behind the new State Government's Strategic Regional Land Use Policy, in particular the additional transparency in applications for new coal and CSG exploration licences and the introduction of an Aquifer Interference Regulation.

We believe that the Southern Highlands, should be "ring fenced" from these types of developments due to the unique character of the area, its dependence on groundwater resources and its location in the heart of the Sydney Water Catchment Area.

Most importantly we believe that the NSW Petroleum Onshore Act (1991), which governs CSG extraction, and the NSW Mining Act (1992), which governs coal mining, should be revisited with a view to redressing the power imbalance between the miners and landowners regarding these developments. The Petroleum Onshore Act (1991) is particularly egregious in this regard as it fails to deal in any way with CSG and its unique characteristics.

Employment is a major concern for all communities and CSG extraction is often held out as creating more jobs. This may be the case in some areas, but SHCAG considers that it is not so in the Southern Highlands. We believe that there will

only be a limited number of new long-term jobs created by the CSG industry. There is the risk that a far larger number of permanent jobs will be lost as a result of the damage caused to farming and tourism in the region.

It is difficult to understand why this rush to produce CSG has proceeded with such undue haste. The industry is just a few years old, there is no shortage of gas and there are technical issues with CSG drilling and production and the managing of the produced water that have not yet been fully resolved.

Our organisation believes that there is a very good case for a moratorium on CSG production in closely developed areas and in prime agricultural regions until all technical concerns are resolved. Even then we believe that there will be areas where groundwater concerns, food production considerations and land value impact will determine that CSG production should never be undertaken.

### Key Points - CSG

The situation with CSG in the Southern Highlands is as follows:

- Leichardt Resources, a private company, holds the licence to explore PEL 469, covering the Shoalhaven region and much of the southern and western part of the Southern Highlands. This licence, along with many of a similar nature, was granted without adequate public consultation. Planet Gas, a small ASX listed company, has entered into a farm-in arrangement with Leichardt, and plans to conduct exploration in the licence area in return for a 50% equity share.

Planet Gas has announced plans for exploration in PEL 469, but due to a dispute with the Wingecarribee Council have placed these plans on hold.

AGL holds the licence for PEL 2, which stretches from Campbelltown to the through to the central part of the Southern Highlands, but their activities are currently focussed in the Camden area.

- CSG occurs naturally in underground coal seams, the gas being held in the fractures or 'cleats' of underground coal seams by water and ground pressure. The gas is released by drilling wells into the coal seam and pumping out the water. Most wells are located 400-900 metres apart, and the produced water is saline and requires specialised treatment. At this point in time there are many ideas on how the contaminated, saline water should be handled, but a complete solution has not been agreed upon between Government and the CSG industry.
- CSG is a 'dilute' source of energy, in the sense that vast areas of land are required for its extraction. A CSG gas field has a large above ground footprint, and the companies involved generally own just enough land to secure their most critical operations, the rest they 'lease' from other landowners. Current legislation does not adequately protect landowner

rights and conflict with the CSG companies has resulted.

- The practice of including confidentiality clauses in all landowner agreements leads to a lack of transparency where the community is unaware of the total impact of a proposed gas field until it has become a reality. Individual landowners can be played off against the other in this world of confidentiality.
- CSG extraction threatens aquifers, both from the viewpoint of depletion of the aquifers and contamination. The use of the hydraulic fracturing technique (fracking), where large volumes of water mixed with sand and some chemicals are pumped into the coal seam under high pressure to enhance the flow of gas to the surface, can increase contamination concerns.

In the Southern Highlands aquifer protection is a major issue. The target coal seam for gas extraction, the Wongawilli seam, lies immediately below the Hawkesbury sandstone layer that contains the aquifers on which the area depends. The extraction of water from the coal seam will inevitably lead to a rebalancing of underground water resources and the movement of water from the agricultural aquifers.

- The principal legislation governing CSG in NSW, the Petroleum Onshore Act (1991) contains no mention of CSG despite the clear differences between this process and conventional natural gas exploration.
  - *The Act favours the rights of the miner against an unwilling landowner, who can be required to enter a six-year access agreement that allows exploration to go ahead through a mix of mediation and legal process.*
  - *If CSG is discovered in the exploration process, the Government can grant a Petroleum Production Lease for a period of up to 21 years, with environmental objections being the only significant basis for the lease to be refused.*
  - *The access agreement and related production lease pose a serious obstacle to any future sale of the affected land. This is of particular concern to holders of small parcels of land, where turnover is more frequent, and on whom the impact of the CSG operation falls most heavily.*
  - *There is no compensation available to landowners in the current legislation for the impact of the CSG extraction industry on the value and saleability of affected land.*
  - *The legislative changes required to provide a more even playing field for participants in the CSG industry are complex, involving more than one piece of legislation. Work is currently being undertaken on this front. The essential challenge is to ensure that the CSG operator retains responsibility well beyond the extraction period, and that the landowner*

*rights built the Land Access Agreement are enshrined in legislation.*

- With its high rainfall, the Southern Highlands form an important part of the catchment for the Sydney drinking water supply. Two major storage dams, (Avon and Nepean) are located in this area and the water from here flows, via the Wingecarribee and Wollondilly rivers, into Warragamba Dam.

It is because this area is so essential to Sydney's water supply that legislation, currently the Sydney Water Catchment Act 1998 and the Environmental Planning and Assessment Act 1979, has long placed very onerous restrictions upon the uses to which land within the SCA can be put. It is difficult to understand why those restrictions should not apply to the potentially very damaging activities envisaged to extract CSG.

- Small companies hold most of the CSG exploration licences, and any assurances given by these companies on their future operating plans are generally worthless. They are invariably bought out by organisations with the large capital base needed for the extraction phase. The larger operator will not be bound by previous assurances and may have an entirely different view on operational practice.

### **Coal Mining in the Southern Highlands**

The Hume Coal Company (70% owned by Korean steelmaker POSCO) is the holder of Exploration Authority 349 covering 115 sq. km around Sutton Forest. The company is currently drilling exploration holes with the objective of developing a 2-4 MT per annum underground export coking coal mine. The community has a number of serious concerns:

- Groundwater in the proposed mine area is already fully allocated for domestic and agricultural purposes and no further agricultural bores are being approved. The target coal seam sits immediately below the aquifer bearing sandstone and the introduction of coal mining will substantially dewater the aquifers and deprive existing users of groundwater access.
- The company has not yet chosen a preferred mining technique but it will be either the Longwall or the Bord & Pillar method. While both methods can cause subsidence problems, Longwall, the most efficient, is the more serious offender. In an area with many historic and valuable homes and other important surface facilities, subsidence is a serious concern.
- While underground mining has less surface impact than open cut, the impact is still substantial. Office, workforce accommodation, maintenance and equipment storage facilities will all be above ground, but the most intrusive facilities will be the coal washery and related settling ponds and

the large coal stockpile and railcar loading loop and related equipment. The visual impact alone will affect real estate values and that is without consideration of the dust, noise and light pollution that will inevitably occur.

## Summary

SHCAG has great concerns over the current mechanism for coal mining and coal seam gas development in NSW and in the Southern Highlands in particular. We appreciate the initiative taken by this Senate Standing Committee for a review of operations of the CSG industry and are grateful for the opportunity to contribute our views.