

**Submission
No 468**

INQUIRY INTO COAL SEAM GAS

Organisation: National Parks Association Southern Sydney Branch
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**INQUIRY INTO COAL SEAM GAS NSW Upper House Sept 2011
Submission by National Parks Association, South Sydney Branch.**

Summary

- A.** Introduction to National Parks Association and its concern with coal seam gas
- B.** Comment on need for Terms of Reference to cover nature conservation lands including NPWS estate and other lands of significance for biodiversity in addition to those specified in 1d.
- C.** Terms of Reference addressed in this Submission.
 - 1a) Ground and surface water systems
 - 1 b/c) Use of chemicals and hydraulic fracturing
 - 1d) Crown Lands, Travelling Stock Reserves and State Forests
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- D.** Conclusion calling for a real moratorium and a Special Commission of Inquiry covering both CSG and long wall coal mining impacts.

A. Introduction to National Parks Association and its concern with coal seam gas

NPA is an NGO which campaigns for the protection of natural areas as new national parks and reserves. At least half of the state's National Parks and additions to these have been gazetted following research work and advocacy by NPA. Our organisation works with the three tiers of government in cooperative projects. We also monitor the management of existing national parks and submit proposals and suggestions to ensure the best park management. We run community volunteer workshops and biodiversity surveys to acquire data and monitor native and introduced species. We coordinate bush regeneration and clean up events plus over 1000 bush walks each year to enable the people of NSW to learn about and enjoy NSW's beautiful natural places and the threats these places are exposed to. Southern Sydney Branch with some 350 members is one of 18 branches around the state.

The national parks and reserves at the southern edge of Sydney metropolitan area, the Illawarra Escarpment State Recreation Area, the Woronora catchment area, Dharawal State Conservation Area and the land between these areas are of particular interest to us because of their high and well documented biodiversity,

because they are being threatened by CSG extraction and are currently being damaged by subsidence from long wall mining. Numerous state and local government determinations have attested to the environmental significance of the whole northern Illawarra area. Illawarra Escarpment Land Use Review Strategy (4), Illawarra Escarpment Strategic Management Plan (5) Report of the Commission of Inquiry into the Long Term Planning and Management of the Escarpment (6) are just a few examples.

B. Comment on Terms of Reference

It is a matter of some concern that the Terms of Reference for this inquiry do not specify inquiry into the effect of CSG exploitation on

- ✧ national parks estate including National Parks, Nature Reserves, State Conservation Areas
- ✧ drinking water catchments
- ✧ World Heritage Areas
- ✧ private land managed under Voluntary Conservation Agreements
- ✧ wetlands protected under RAMSAR and other international conservation agreements
- ✧ lands managed for conservation purposes by organisations such as Bush Heritage Australia
- ✧ Marine Parks
- ✧ Sites of Aboriginal cultural significance

C. Terms of Reference addressed in this Submission.

1a) Effect on ground and surface water systems

It is established that CSG production involves the removal of large volumes of water from the gas bearing coal. This water carries a toxic mix of heavy metals and other chemicals from the fractured coal. In the usual surface method of extraction that water is brought to the surface for treatment in settling ponds, tailings dams and similar temporary storage mechanisms which have a history of failure and pollution to the surrounding area. Disposal of produced water into streams carries that pollution through the catchment. This problem is demonstrated by the current case in the Land and Environment Court brought by community organisations in the Gloucester area against discharge of produced water into local streams which flow into Karuah River and Port Stephens, including the Marine Park. The seriousness of water pollution from mine waste was recognised in the government's own decision to block the Wallarah 2 coal mine proposal, based on water samples taken from CSG exploration bores. Additional damage to catchments will occur from the clearing, roads, pipelines and other structures associated with bore heads.

Since ground and surface water can move great distances, the inquiry must address the issue of protective buffers around areas in which pollution or changes in water volume are unacceptable. For example CSG exploration at Putty NSW will involve exploratory bore holes within 500m of the Wollemi NP which is also a World Heritage Area. If that national park, or other sensitive lands are to be protected from impacts of the CSG exploration, a buffer of much more than 500m is necessary in addition to constraints regarding how production water is disposed of. In Special Catchment Areas, considered so significant for protection that

individuals who enter are liable for a fine up to \$11000. it is ludicrous that the state government has authorised drilling and de-watering of coal seams with all the attendant impacts.

1 b) and c) Effects relating to use of chemicals and hydraulic fracturing.

Given that release of the gas often requires increasing the porosity of the coal seam, commercial extraction is likely at some stage to deploy hydraulic fracturing of the coal. Even if BTEX solutions are not required, the injected water picks up such contaminants as well as heavy metals from the coal. Subsequent de watering will carry these pollutants to the surface. Undertakings by the government and gas mining companies to not use BTEX or other toxic chemicals are not sufficient to ensure protection of soil, surface and ground water.

In addition, fracturing of coal seams will cause subsidence, admittedly more moderate than that from long wall mining, but still causing damage to aquifers, rock strata, surface drainage patterns, surface rock formations and wetlands. CSG mining would compound existing subsidence damage to the Woronora catchment. Subsidence damage from CSG was referred to by the National Water Commission on CSG “land subsidence over large areas, affecting surface water systems, ecosystems, irrigation and grazing lands” and “reductions in surface water flows in connected systems” (2) Aboriginal habitation and ceremonial sites in rocky sandstone are particularly at risk from subsidence. Woronora Plateau including Dharawal State Conservation Area should be protected from CSG exploitation for this reason alone.

1 d) Crown Lands, Travelling Stock Reserves and State Forests and all of the other areas identified in **B** above, are vulnerable to impacts from CSG exploitation. The whole process of gas exploration through construction of extraction bores has been demonstrated in Queensland, Broke and Camden, NSW, to involve substantial degradation of vegetation, soils, ground and surface water and air quality. It is a process that is incompatible with conservation of biodiversity or of the landscape. In areas such as the Illawarra Escarpment and Woronora Plateau with recognised sensitivity because of their high biodiversity there is no compromise that would permit exploitation of CSG without substantial loss of habitat and ecosystems. The Scientific Committee, NSW is currently considering listing of the Coastal Upland Swamps, unique to the northern Illawarra. Preliminary findings (1) recognise the threat of CSG.

Travelling Stock Reserves are significant for nature conservation as wildlife corridors in otherwise modified landscapes.

Broader areas of Crown Land are also significant as refuges and corridors for movement of species which in the context of climate change may provide the only mechanism for survival of species. The vision statement of the government's Great Eastern Ranges Conservation Initiative (3) confirms its recognition of this principle. In the southern Sydney / northern Illawarra areas of Crown Land, private land, water catchment and NPWS estate provide these vital corridors need to be protected from CSG damage.

3) The role of CSG in meeting the future energy needs of NSW.

NPA Southern Sydney Branch submits that in NSW no strategy for local production of CSG can be developed in isolation from the government's responsibility to

reduce greenhouse gas emissions. Promotion of gas as a transitional fuel perpetuates our carbon output. A recent report from Cornell University (8) suggests that replacement of other fossil fuels with CSG yields no reduction in carbon pollution.

The International Energy Association (7) has released a Golden Age of Gas Scenario in which gas is projected to make up about one-quarter of the world's energy supply by 2035 but CO² concentration still rises to 650ppm, resulting in a dangerous 3.5°C global temperature rise. The NSW government has a responsibility in the national context to replace fossil fuels with renewable energy sources as a matter of urgency. The report of Beyond Zero Emissions (9) for example sets out in detail the part that solar thermal energy could play in providing stationary energy.

D NPA Southern Sydney Branch calls for an immediate long term moratorium on all new coal and CSG exploration and development until these issues are adequately researched and the problems regulated.

This moratorium should be complemented by a comprehensive Special Commission of Inquiry into the impact of long wall coal mining and CSG extraction. The Inquiry must examine in detail

1. the known impacts of current coal and CSG mining on soils, water resources, biodiversity and communities
2. identify the unknown aspects, particularly regarding aquifers, water tables and surface water movement
3. the long term cost of continuing exploitation of fossil fuels in NSW compared with conversion to renewable energy sources.
4. Until these questions are answered the government must

apply the Precautionary Principle, recognising that the price of 30 years of gas could be permanent destruction of many other priceless natural resources.

References.

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Secretary

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