

**Submission
No 353**

INQUIRY INTO COAL SEAM GAS

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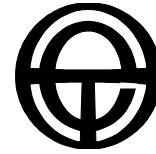
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Submission to the NSW Upper House Inquiry into Coal Seam Gas

TEC welcomes the opportunity to make a submission to this inquiry. Our concerns with the entry of the Coal Seam Gas (CSG) industry into New South Wales are brought about by known and unknown threats posed to natural areas, water supply catchments, human health, food production areas and greenhouse gas emissions. TEC is currently engaged in the development of CSG policy in NSW through membership of the Stakeholder Reference Group in the NSW Coal and Gas Strategy.

In 1994 the NSW Coal Resources Development Committee foresaw the emergence of the CSG industry in NSW, especially in the light of the threat posed to the coal industry where titles from two industries overlay one another. However until 2007 CSG developments in NSW were stymied largely because the techniques being used and that practices that were established in the United States were not working under Australian geological conditions. But since then the issuing of Petroleum Exploration Licences (PELs) has increased exponentially.

Since 2007 PELs have been granted to the point where they cover over one quarter of the area of NSW including the major urban centres of Sydney, Newcastle and Wollongong. The bulk of CSG reserves are believed to lie in the Clarence Moreton Basin in the far north of NSW but the highest concentration of PELs is in the Gunnedah Basin which is entirely covered in exploration licences stretching inland from Sydney and Newcastle in a wide band right through to the Queensland border.

Apart from a conflict in 2005 between the local community and Sydney Gas in the Wyong Shire over the attempted development of a gas field within the Central Coast's water supply catchment (the company eventually withdrew the proposal), the establishment of the CSG industry passed largely unnoticed by both the community and policy developers. But there was also an incident in 2002 where a storage pond belonging to Eastern Star Gas in the Pilliga State Forest failed and released a flood of toxic water that killed all vegetation in its path.

The current debate about CSG revolves around similar issues to coal – the rights of landowners, the use of fracking and its impact upon water resources, the chemicals used in the fracking process and the validity of CSG as a “transitional” source of energy. There is no question however, and it has been acknowledged at both state and federal government level, that the industry is running ahead of both regulation and the science.

When burned, methane produces about 40% less greenhouse gas than coal. Unburned it is at least 20 times more polluting than carbon dioxide. As with underground coal mines a significant amount of fugitive methane leaks into the atmosphere, adding significantly to carbon emissions. This calls into serious question the role in the energy sector the CSG industry has claimed as that of a provider of a “transition” fuel while a low carbon sector develops. It also contradicts objectives that frequently expressed in industry publications such as those expressed by Dr Ian Gray in *Oil and Gas Australia* in 2002 that “the gas from coal could economically meet much of the energy requirements of Australia's eastern seaboard for some decades.”

It is argued that from the area handed out in PELs to gas companies over the past four years that the CSG industry has more than transitional intentions if it continues to go largely unregulated.

There is also the health issue. There are fire and explosion risks with a significant percentage of wells known to leak methane. There are well documented instances in the United States and here in Queensland of methane being found in water bores and tap water. Volatile organic compounds, poly-aromatic hydrocarbons, heavy metals and other compounds may be brought to the surface during the extraction process.

Policy

The new NSW Government came into office with the policy that:

A lack of planning by successive NSW Labor Governments has meant that regional communities are unsure about what impact this growth will have on the environment, agricultural land, water resources and the community. The growth [of coal and CSG industries] in regional areas needs to be better planned to ensure that businesses and the community can have confidence about what the future holds.

The NSW Liberals and Nationals believe in a triple bottom line approach to development. This will achieve a better balance in the growth of regional areas through a combination of:

- 1. strategic land use planning to better understand the constraints to, and opportunities for growth;*
- 2. reforms to the planning assessment process to improve monitoring, compliance and cumulative impact assessment;*
- 3. reforms to mining and coal seam gas legislation to protect strategic agricultural land and associated water resources; and*
- 4. tougher planning assessments while strategic land use plans and planning reforms are developed.*

As a result of the Strategic Regional Land Use Policy there are strong community expectations for the government to deliver in areas, which have been at the centre of growing conflict between farmers, environmentalists and regional communities, and the coal and coal seam gas industries. There is also an opportunity for the government to produce a long-term energy strategy for NSW.

Strong regulation of the CSG industry before it is established is vital to avoid the destabilising impacts the coal mining boom has had on the environment and regional communities. There are over 50 operating coal mines in New South

Wales in five designated coalfields. Each year hundreds if not thousands of breaches of Environmental Pollution Licenses (EPLs) are recorded by the NSW Environment Protection Authority. The mining industry claims that many of these breaches are minor but there is also evidence of an under reporting of non-compliance. Before 2004 the EPA did not require companies to report instances of non-compliances separately, so the same breach being made repeatedly could be recorded in one report.

The CSG industry has been accused of a similar culture and three recent incidents in different parts of NSW has furthered those claims.

In September 2010 energy company AGL was accused of dumping contaminated water near Broke in the Hunter Valley. The company had been asked by the NSW Government to remediate a site near the town of Broke, after 120,000 litres from a groundwater monitoring program was expelled into a paddock owned by the company. The company also received a formal warning from the NSW Office of Environment and Heritage in August 2011 over a leaking well in Camden southwest of Sydney.

In February 2011 two wells at Bentley, northwest of Casino, were found to be leaking methane. CSG operator Metgasco said only a small amount of gas had leaked, but could not quantify it as the company had problems detecting the highly flammable gas. The company said it inspected its wells every six months but could not confirm if any of its other 45 wells in the region were leaking. The Department of Industry and Investment confirmed it was investigating the leaks but would not commit to an inspection of all wells.

In each case the incident was reported by community members and not the CSG company.

The new NSW Government won power after taking a strong position on mining and water catchment issues while in opposition. After having opposed CSG mining in the Central Coast's water supply catchment, the Coalition also opposed the development of a proposed longwall mine on the grounds that longwall coal mining "might impact on the water catchment or affect the water quality." The Coalition committed itself to not permit any coal mining in the Central Coast water catchment district and was prepared to introduce special legislation if necessary. TEC believes the future coal mines and CSG fields should be banned in designated water supply catchments.

The Coalition went to the election promoting its Strategic Regional Land Use Policy as a solution to growing unrest in mining districts. Key elements of the policy were:

- 1. strategic land use planning to better understand the constraints to, and opportunities for growth;*
- 2. reforms to the planning assessment process to improve monitoring, compliance and cumulative impact assessment;*
- 3. reforms to mining and coal seam gas legislation to protect strategic agricultural land and associated water resources; and*
- 4. tougher planning assessments while strategic land use plans and planning reforms are developed.*

The policy included the introduction of an Aquifer Interference Regulation, an agricultural productivity impact assessment, improved monitoring and compliance,

adequate resourcing for key agencies, and the Department of Primary Industries to consider and report on potential cumulative impacts of a development at each major stage.

Specifically to CSG the policy included a 10-point plan to:

1. *where CSG activities involve interference with groundwater systems, we will require that proponents must obtain an Aquifer Interference Approval under S91 of the Water Management Act 2000;*
2. *review relevant petroleum well construction and fracking standards to ensure that inter-aquifer leakage is prevented; develop better standards;*
3. *ban the use of benzene, toluene, ethylbenzene, and xylene (BTEX) in fracking fluids;*
4. *require CSG proponents to report on the location of wells to be stimulated by fracking, details of chemicals used, the toxicity of ingredients and mixtures, and demonstrate that fracking activities won't result in environmental harm; including inter-aquifer damage and contamination.*
5. *reform the project approvals system in NSW so that there is enhanced cooperation across all relevant departments and agencies. Planning approvals for CSG exploration and pilot testing must be timely, consistent across the State, appropriate to the level of impact and take into account the different requirements for project development when compared to conventional petroleum projects, while also maintaining the existing environmental standards;*
6. *review existing arrangements for land access for mining and petroleum industries to ensure they achieve our goal of facilitating good relations and timely access. This will include promoting the use of crown land, such as Travelling Stock Routes, for pipeline routes where viable and the establishment of energy and transport corridors;*
7. *review the Water Management Act 2000, the Water Act 1912, the Petroleum (Onshore) Act 1991 and related legislation to ensure aquifers are protected;*
8. *review environmental regulations for the natural gas industry to ensure they are safe and environmentally appropriate for coal seam gas development;*
9. *examine options to protect prime agricultural land so that natural gas development exists in a balanced manner so that the commercial activities of both industries are not compromised;*
10. *ban the use of evaporation ponds for mining and petroleum production activities; and*
11. *support the continuation of the Namoi Catchment Water Study.*

Since winning office the new state government has announced its intention to introduce a ban on certain toxic chemicals or BTEX chemicals, greater public consultation, stronger environmental requirements and extend of a moratorium on fracking until the end of 2011 after an initial 60-day ban.

A regulation requiring extractors of more than 3 megalitres of water per year from groundwater sources to hold a water access licence will also be introduced, along with a ban on the use of CSG evaporation ponds, and new public consultation guidelines.

Queensland

For two years Queensland environment groups have been campaigning against open cut coal mines on agricultural land and environmentally sensitive areas.

There have since been more recent demands for a moratorium on further coal seam gas developments.

Previous land clearing issues had often pitted farmers and conservationists against each other, however the rapid expansion of CSG in southeast Queensland has seen the establishment of an alliance between farming groups, environment organisations and other community bodies.

As with NSW the rapid expansion of open cut coal mines and the entry of the CSG industry was running ahead of regulation and scientific understanding. It has been a radical transformation of both landscape impacts and Queensland's contribution to greenhouse gas emissions. Some estimates put the increased emissions at 30% or more, along with the impacts from depressurising areas within the Great Artesian basin and health impacts.

The Queensland Government has responded by releasing the 'Protecting Queensland's strategic cropping land policy framework' aimed at:

- 1. protecting the "best of the best" strategic cropping land from open cut coal mining;*
- 2. Introducing guidelines, amendments to legislation and policies to improve landowner rights, consultation and communication with landowners and residents and accountability by the gas companies; and*
- 3. Strengthening the regulatory regime and enforcement mechanisms to bring an end to many of the cowboy practices being employed by some gas companies.*

However conservation groups believe that in its current form the policy would only prevent one out of about 20 coal mines proposed in the Surat Basin and are concerned about a lack of detail in other proposed protective measures. Landowner agreements are still seen as being heavily weighted towards mining and gas companies.

Major Concerns

The new government faces some important early tests of its commitment to improve regional planning. Environment groups applauded the stance taken by the Coalition on proposed longwall mining in the Wyong water supply catchment and Dharawal State Conservation Area. However in regard to important natural areas the Strategic Regional Land Use Policy remains ambiguous. The policy does not contain a clear approach to river and wetlands protection – a critical policy failure of the previous government.

A major concern is that if regulation is tightened only around the agricultural impacts, mining and gas companies will be more inclined to apply for mining permits in forests and/or water supply catchments. For Strategic Regional Land Use Plans to work it is essential that areas of key conservation and water values are identified and protected from coal mining and CSG impacts.

It can be reasonably argued that CSG extraction in state forests, State Conservation Areas and water catchments is environmentally unsustainable, releases unknown and/or unacceptable amounts of CO₂ into the atmosphere, contributes to bushfire risk, amounts to the destruction of a public asset that cannot be remediated and is contrary to the objectives of the managing agencies of those tenures.

The CSG industry currently has major plans in areas of key conservation significance. Eastern Star Gas (recently acquired by Santos) has declared a plan to establish a large gas field across the largest temperate woodland remaining in eastern Australia. Half a million hectares in size the Pilliga has been federally identified as one of 15 national biodiversity hotspots. As documented earlier CSG exploration has been taking place for some time in the Pilliga with unfortunate results. The proposed 1100 CSG wells will fragment over 80,000 hectares of forest with roads, pipelines and other infrastructure. In addition an export facility for the proposal threatens RAMSAR wetlands near Newcastle. Conservation groups also believe the current activities have been operating outside federal guidelines and have called for the project to be subjected to the Environment Protection and Biodiversity Conservation Act 1999. Environment groups see the proposal as failing all key aspects of what constitutes ecologically sustainable development.

The CSG industry has also moved to establish itself within the special areas. Fifteen CSG wells have been approved for development in the northern Illawarra and further wells in the region are being applied for by Apex Energy. CSG and its associated impacts are incompatible with water supply objectives and any attempt to establish a gas field inside the Special Areas will be opposed by conservation groups.

Another concerning aspect of Coalition policy is the promotion of Travelling Stock Routes (TSRs) for gas pipeline installation and the establishment of energy transport corridors. TSRs are extensive corridors of vegetation gazetted prior to clearing to facilitate the droving of stock. Unlike the lands making up the conservation estate, many TSRs traverse low-lying and productive areas, and comprise several threatened ecological communities, such as critically endangered grassy box woodlands, which are poorly represented in the protected area system.

Under changes made to the NSW planning system mining determinations will still remain in the hands of the government as State Significant as they will be viewed as being of “significant economic benefit to the State or National economy, such as those with high levels of financial investment and employment generation.”

Although the Strategic Regional Land Use policy focuses largely upon the conflict between agriculture and mining, farming organizations are yet to be convinced that it will be sufficient.

Peak umbrella bodies such as the NSW Farmers Association (NSWFA), while welcoming the new policy as “a balanced and far more transparent approach to mining”, believed that little progress had been made towards understanding the impacts and long term intentions of the industry and were forced to successfully conduct vigorous lobbying to get the initial 60-day moratorium on new exploration licences extended from July to the end of 2011.

Key to farmers’ expectations is a regulatory regime protecting the sustainability of the Great Artesian Basin as a provider of water to the state’s key food growing regions. Major concerns are held for the future of food production in the Gunnedah Basin and the Hunter Valley and the 2011 NSWFA Annual Conference voted to prohibit mining and CSG operations on what is defined as “prime agricultural land”. TEC supports this position.

- TEC believes that the CSG industry has not demonstrated its capacity to function safely and sustainably in NSW. The growth planned by CSG proponents is unacceptable under any definition of the precautionary approach.
- Zoning regulation is required to protect all State Conservation Areas, designated water catchments, high conservation value areas in State Forests, prime agricultural land and TSRs from being converted to energy transport corridors.
- The NSW Protection of Environment Operations Act 1997 should be amended to allow for greater powers of enforcement and serious fines for environmental breaches that genuinely force compliance with regulations. The proposed growth of the industry is more than compliance agencies are currently equipped to handle.
- A moratorium must be placed or continued on the use of hydraulic drilling and fracking chemicals they have been fully assessed for their health and environmental hazards by the industrial chemicals regulator, the National Industrial Chemical Notification and Assessment Scheme (NICNAS).
- Air emissions produced by fracturing chemicals, impacts of the release of BTEX, the impact of potential break down products or intermediates from fracturing chemicals, combined effects of the mixture of chemicals on human health and the environment and the life cycle assessment of fracturing fluids must be regulated into the risk assessment process.
- The NSW Coal & Gas Strategy or similar energy strategies must confine CSG development in NSW to within its stated 'transitional' purposes and define what 'transitional' means.