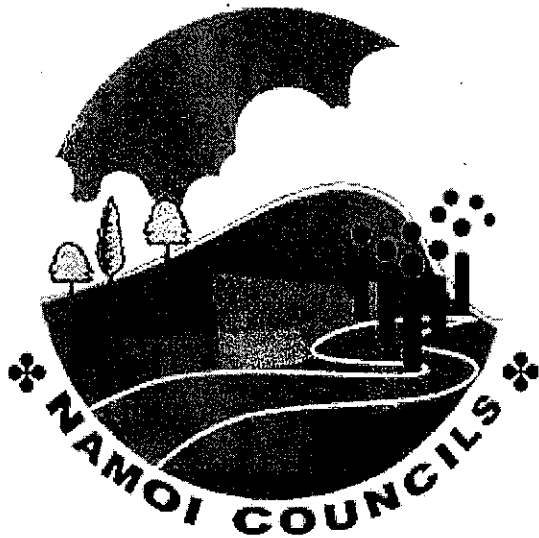


Submission
No 367

INQUIRY INTO COAL SEAM GAS

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SUBMISSION

TO

**THE NSW PARLIAMENT LEGISLATIVE COUNCIL
GENERAL PURPOSE STANDING COMMITTEE NO 5**

INQUIRY INTO

THE IMPACTS OF COAL SEAM GAS MINING

1 INTRODUCTION

Namoi Councils appreciate the opportunity to make a submission to the NSW Parliament Legislative Council General Purpose Standing Committee No 5 Inquiry into the Environmental, Economic and Social impacts of Coal Seam Gas Mining activities in NSW including exploration and commercial extraction activities.

Namoi Councils is a Regional Organisation of Councils (ROC) located within the Namoi and Peel River Catchments of the North West Slopes and Plains and New England Regions of northern New South Wales. Membership of Namoi Councils comprises Narrabri Shire Council, Gunnedah Shire Council, Liverpool Plains Shire Council, Tamworth Regional Council, Walcha Shire Council and the Namoi Catchment Management Authority. Namoi Councils is unique to the extent that it is the only NSW ROC that has a non-council member and a Catchment Management Authority as a member.

Namoi Catchment Management Authority membership brings a raft of community and environmental benefits to the management, operation and strategic direction of Namoi Councils, including:

- Identification of effective and efficient strategies targeting the needs of the catchment producing high quality sustainable environmental outcomes
- An understanding of the risks to catchment condition and strategies for adaptive management
- Strategic alignment with the Namoi Catchment Action Plan
- Participation in Namoi Catchment partnerships for collaboration and alignment with effective natural resource management action.

The primary aim of Namoi Councils is to:

- (i) effectively advocate on agreed regional positions and priorities;
- (ii) resource the capacity of the region to plan for and resource economic growth and diversification;
- (iii) work together to increase the viability and effectiveness of local government in the region; and
- (iv) facilitate and foster cooperation, information exchange and resource sharing.

Local Government and Community infrastructure, mining, exploration and energy, water supply, economic development and diversity and local governance are principal priorities of the Namoi Councils.

2 PRECAUTIONARY PRINCIPLE:

Namoi Councils expect nothing less than complete adherence to the Precautionary Principle in cumulative impact assessment of coal seam gas extraction development proposals by State and Local Government under the re-write of Part 3A of the *Environmental Planning and Assessment Act 1979*.

Relevant Local Environmental Plans and Strategic Land Use Plans will identify optimum locations for a range of land uses to ensure greater certainty for growth and development. The *Precautionary Principle* must be fundamental to the strategic land use planning framework developed to manage the land use conflicts which will naturally arise between minerals and energy resource development, prime and strategic agricultural lands, agricultural production and water resources.

For the record, the *Precautionary Principle* is an environmental management rule which provides that if a threat of serious or irreversible damage to the environment or human health exists, a lack of full scientific knowledge about the situation should not be allowed to delay containment or remedial steps to prevent degradation if the balance of potential costs and benefits justifies enacting them.

In the application of the precautionary principle, private and public decisions should be guided by:

- (i) careful evaluation to avoid, where practical, serious or irreversible damage to the environment and human health; and
- (ii) an assessment of the risk weighted consequences of various options.

In other words, "*prevention is better than cure.*"

3 NAMOI CATCHMENT NATURAL RESOURCES

The Namoi Catchment is located within the North Western NSW Region and is bounded by the Great Dividing Range in the east, the Liverpool Ranges and Warrumbungle Ranges in the south, and the Nandewar Ranges and Mt. Kaputar to the north. The Namoi Catchment is home to approximately 100,000 people, in an area of approximately 42,000 square kilometres, concentrated mostly along the Namoi River and its tributaries between Tamworth and Narrabri. Of the annual regional output of over A\$1Billion, agricultural production enterprises represent approximately half and represents approximately 11% of the State's on farm production from only 6.25% of the State's area.

Major industries include cotton, livestock production, grain and hay, poultry, horticulture, minerals and energy resource development.

The Namoi Catchment is an irrigation and agricultural area of significance in New South Wales and Australia. Covering an area of approximately 5,400,000 hectares, the catchment has a variety of land uses including natural vegetation, grazing, cropping, forestry, nature conservation, water, urban and irrigated pastures. The Namoi River flows in a generally westerly direction over a distance of 659 km from its source in the southeast margin of the catchment to its confluence with the Barwon River near Walgett.

The Namoi Catchment is a part of the Murray Darling Basin (MDB) covering approximately 3.8% of the total basin area. Significant tributary streams to the Namoi River include the Macdonald River, Peel River, Cockburn River and the Manilla River. Three key water supply storages are present in the Namoi Catchment; Split Rock Dam on the Manilla River (397,000 ML), Keepit Dam on the Namoi River (423,000 ML) and Chaffey Dam on the Peel River (62,000 ML).

The Namoi Catchment is reportedly one of the most intensively developed groundwater resources in NSW. Groundwater is a significant resource in the Namoi

Catchment and has been extensively developed with the highest rate of groundwater extraction in NSW.

4 REGIONAL STRATEGIC LAND USE PLAN

Given the significance and value of the Namoi Catchment natural resources to the State and National economies, it is critical that plans and scenarios be developed to predict the cumulative impact assessment of coal seam gas development proposals, coal seam gas extractive technologies and processes.

In the view of Namoi Councils, a key planning instrument to provide a regulatory framework for the cumulative impact assessment of coal seam gas development, amongst other things, is the development of a New England North West Regional Strategic Land Use Plan. This Plan will have regard to a raft of current natural resource management studies and strategies including the Namoi Catchment Water Study. When completed, the Study will provide for an integrated suite of models for the assessment of the nature and extent of potential effects from coal and gas developments on water resources within the Namoi Catchment.

Namoi Councils is on the record as congratulating the NSW Government for the introduction of a range of new initiatives including the roll-out of a Strategic Regional Land Use Plan designed to address land use conflicts in the New England North West Region encompassing the Gunnedah Basin in relation to coal seam gas industries interaction with prime and strategic agricultural lands, agricultural production and water resources.

In the interests of ensuring a whole-of-government approach as announced earlier this year by the NSW Department of Planning and Infrastructure to regional strategic land use planning, and with the greatest of respect to the intent of the Inquiry into Coal Seam Gas to balance environmental, social and economic objectives of coal seam gas development, the long term interests of the community and the environment would be much better served and the stated intention of the Inquiry would be achieved in the timely development and roll-out of a New England North West Regional Strategic Land Use Plan.

Namoi Councils support a whole-of-government approach which would include the following initiatives to protect prime and strategic agricultural lands, agricultural production and water resources:

- (i) consultation with communities, stakeholders and, importantly, local government;
- (ii) triple bottom line considerations of environmental, social and economic impact assessment of new coal mining and coal seam gas extraction projects;
- (iii) public consultation before exploration licenses are issued on all new applications for coal, coal seam gas and petroleum exploration licenses;
- (iv) submission of an Agricultural Impact Assessment on all new project applications for coal, coal seam gas and petroleum extraction pending the completion of the Regional Strategic Land Use Plan; and
- (v) adoption of an Aquifer Interference Policy to protect, and better regular resource development activities that impact, critically vital to Gunnedah Basin aquifers.

An effective and conscionable Regional Strategic Land Use Plan is key to:

- Creating certainty for the community, the environment and the economy
- Building sustainable and resilient communities
- Involving the community in local and regional decision making
- Giving primary producers and the mining and energy industry increased control of their respective futures
- Balancing the need for growth, change and development with the need to protect the existing character, quality and operation of the places where we live.

5 COAL SEAM GAS EXTRACTIVE TECHNOLOGY IMPACTS

Namoi Councils understand the process for coal seam gas (methane) gas extraction which involves drilling a well into a coal seam, hydraulic fracturing the coal seam then releasing the gas by reducing the water pressure by pumping away the water.

Hydraulic fracturing of the coal seam is carried out by pumping large volumes of water and sand at high pressure down the well into the coal seam which causes it to fracture for distances of up to 400m from the well. The sand carried in the water is deposited in the fractures to prevent them closing when pumping pressure ceases. The gas then moves through the sand-filled fractures to the well.

Due to factors such as latitude and longitude, a geological progression from tablelands in the east moving to slopes and plains in the west, the interaction of global weather systems in a particular way, the Namoi Catchment is afforded a recognisable and valued climate consisting of temperature and rainfall. Notwithstanding the debate as to whether or not human-induced climate change is occurring, climate variability manifest in changes to overall weather patterns is a key driver that may change how the Namoi Catchment performs in the context of agricultural production for the State and the Nation.

The complexity of the vegetation and how it interacts with rainfall, temperature and altitude is particularly important in determining the biodiversity of the Catchment as a whole. The extent of deep fertile soils with high water holding capacity provide significant agricultural opportunities. Alluvial soils on floodplains extending into the far west of the Catchment, associated with adequate rainfall or access to irrigation water and a suitable climate, mean that high value agriculture extends right to the western tip of the Catchment.

All soil types underpin the native vegetation, economic activity and surface and groundwater assets of the Catchment and none can be allowed to be subject to or abandoned to degrading influences. However, highly productive soils have critical importance because of their significant contribution to the level of economic activity in the Catchment.

Fresh and available surface water and ground water are a direct result of the climate and geology of the Catchment. The high altitude at the eastern edge of the Catchment means that orographic uplift plays a part in rainfall. The eastern part of the Catchment is subject to coastal influences therefore water from rainfall enters the region's surface and groundwater systems over and above the large scale

continental high/low systems. Geology also influences surface and groundwater systems as it is a key determinant in the permeability of soils and the amount of water that enters groundwater systems.

The level of groundwater available for irrigated agriculture is a key element that makes the Namoi Catchment different to many other Australian catchments. Combined with the quality of soils, groundwater availability provides a significant contribution to economic activity across the Catchment. Surface water availability for human needs and agriculture is also very important. The major rivers and streams that cross the Catchment underpin biodiversity, surface and groundwater availability and cultural identities. Rivers are key social nodes within the Catchment with most centres being placed on a major stream. Rivers factor highly in recreational, creative and social contexts within the Catchment.

A social structure exists consisting of one major regional centre of Tamworth, the towns of Gunnedah, Narrabri, Quirindi, Werris Creek, Walgett, Barraba, Wee Waa and Manilla and a myriad of smaller villages and localities all have their particular mixture of history, connectivity, culture and commerce.

The functioning of economic and social facets within the Catchment is underpinned by a dependent relationship with operating biophysical processes. Relationships between the Catchment economic and social systems are highly complex and interdependent. In response, whether acting independently or interdependently; economic and social systems operating within the Catchment are driven by the availability of services provided by natural resources. Where these biophysical assets are in good condition, services are increased and options for economic and social use or choice is maximised. Conversely, natural resources in poor condition will limit choice and subsequent functioning of Catchment economic and social structures and systems, a driver of decreasing resilience.

The challenge for the future of the Namoi Catchment is to maintain the natural resource base in a way that means decisions taken now do not limit the choices or options available to future generations.

Given the use of relatively large volumes of water required for coal seam gas extractive processes to be taken from an extensively developed Catchment with the highest rate of groundwater extraction in NSW, the invasive properties of the chemicals used to fracture coal seams and conversely, the large volumes of contaminated water generated requiring remediation and discharge to the environment, Namoi Councils hold serious concerns in relation to the cumulative impact of the current technology and process used to harvest coal seam gas on the key assets and defining values of the Namoi Catchment of biodiversity, communities, ground water, surface water and prime agricultural land.

6 CONCLUSION

In conclusion, achieving a balance between coal seam gas development with the protection of prime agricultural land and water resources is of critical importance to the future of the Gunnedah Basin energy resources and primary industry and indeed, in any area where there is potential for prime agricultural land and water resources to be impacted. Triple bottom line considerations of environmental, social and economic cumulative impact assessment of new coal seam gas extraction projects within the Namoi Catchment and Gunnedah Basin must be a fundamental and strategic feature of coal seam gas exploration and development from the perspective of both energy companies and development consent authorities.

We are all charged with the responsibility of treating and using our natural resources as assets which we must turn over to the next generation enhanced and not decreased in condition and value.

"Achieving sustainable development is perhaps one of the most difficult and one of the most pressing goals we face. It requires on the part of all of us commitment, action, partnerships and, sometimes, sacrifices of our traditional life patterns and personal interests".

Mostafa Tolba, Chairman of the Commission on Sustainable Development

Stephen Bartlett
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7 September 2011