Department of Planning & Environment

GPO Box 39

SYDNEY NSW 2001

20th May 2017

RE: Submission Regarding the EIS for the Proposed Narrabri Gas Project (SSD 14_6456)

Dear Sir/Madam,

Thank you for the opportunity to table this Submission on the proposed Narrabri Gas Project.

OzEnvironmental ('OzE') objects to the proposed Narrabri Gas Project ('Project') generally because the EIS is an 'advocacy document' and is not sufficiently independent, robust or comprehensive in its assessments for the general public to trust it, and more specifically for the reasons outlined below.

1. ***Ecologically Sustainable Development***

The Project does not satisfy the ESD principles enunciated in the EP&A Act and should therefore be refused. ESD requires priority be given to maintaining healthy ecosystems first, followed by the delivery of enhanced social wellbeing and ultimately long term economic benefits. The EIS skews the assessment to a bias for short term economics, to the detriment of proper management of natural, cultural and human resources, and, ultimately, long term true sustainability.

2. ***Water Management***

Assessment of water resources in the EIS is inadequate. The proponent should be required to establish **to a higher level of confidence**:

- a robust, independently verified, regional model to evaluate impacts of aquifer dewatering and fracking practices;
- a specific local model to evaluate dewatering and fracking consequences;
- model outputs that quantify the anticipated drawdown and how it propagates laterally and vertically over time;
- model outputs that quantify fracking and aquifer interconnectivity risks;
- a scientifically supported quantification of the long term changes to water quantity and quality in the aquifers; and
- all model predictions rated for detailed statistical sensitivity and uncertainty analyses.

Such an approach is essential to satisfy the requirements of Australia's leading independent experts in groundwater management, namely Geosciences Australia and the National Water Commission.

In September 2010 Australia's premier geotechnical organisation, Geosciences Australia (GA) recommended a process for 'staged adaptive management of CSG development' along the following lines:

i. Apply the precautionary principle. Assume excessive groundwater extraction will have impacts. GA recommended that there should be explicit requirements to minimize and mitigate any groundwater impacts during gas production;

ii. A regional-scale multistate and multilayer model of cumulative effects of multiple developments, and a regional-scale monitoring and mitigation approach should be developed to assess and manage these impacts; and

iii. Whatever modelling is undertaken, there is very high level of predictive uncertainty involved, so proponents should consider actions to minimize potential impacts on water balances.

The proponent should be required to satisfy this approach.

In addition, in December 2010 the National Water Commission (NWC) issued a Position Statement on CSG and Water. Inter alia, the NWC states:

Extracting large volumes of low-quality water will impact on connected surface and groundwater systems, some of which may already be fully or over allocated, including the Great Artesian Basin and Murray-Darling Basin.

Impacts on other water users and the environment may occur due to the significant depressurisation of the coal seam, including:

- changes in pressures of adjacent aquifers with consequential changes in water availability;
- reductions in surface water flows in connected systems; and
- land subsidence over large areas, affecting surface water systems, ecosystems, irrigation and grazing lands.

The production of large volumes of treated waste water, if released to surface water systems, could alter natural flow patterns and have significant impacts on water quality, and river and wetland health.

The practice of hydraulic fracturing to increase gas output has the potential to induce connection and cross-contamination between aquifers, with impacts on groundwater quality**.**

The NWC is concerned that CSG development represents a substantial risk to sustainable water management given the combination of material uncertainty about water impacts, the significance of potential impacts and the long time period over which they may emerge and continue to have effect.

Therefore, an adaptive and precautionary management approach is essential for the project to allow for progressive improvement in the understanding of impacts, including cumulative effects, and to support timely implementation of 'make good' arrangements.

It is recommended that the proponent be required to adopt a more comprehensive precautionary approach.

3. Air Quality Management

The EIS does not adequately address the matter of fugitive gaseous emissions all along the extraction, processing and transportation chain and significantly understates the likely level of fugitive emissions.

This is a key risk for the Project and OzE recommends the NSW Government exhaustively examine the likely fugitive methane emissions as it is understood that if more than 4% of the gas produced leaks into the atmosphere then the industry is as polluting as coal from a carbon perspective.

4. Community Consultation and Social Impacts

The EIS is deficient in its social impact assessment, in part because the community consultation task was performed inadequately.

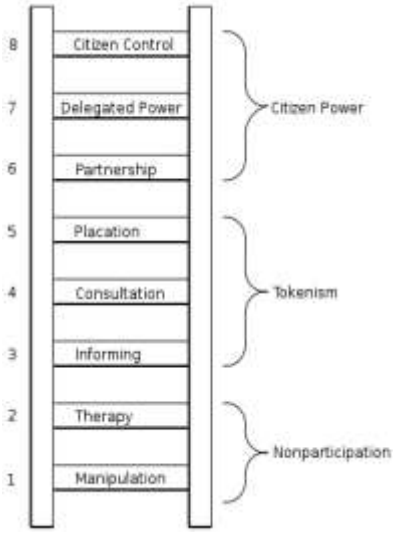
Humanistic and cultural aspects, that is the social sciences, are a vital and pivotal aspect because the values and aspirations of local communities are crucial to future land use planning and need to be given just as much weight as the natural and engineering sciences.

The EIS gives insufficient respect to intangibles such as:

- the sense of place (ie natural and built landscapes that affect resident's sense of identity and place, and level of satisfaction with their surrounds);
- shared norms of behaviour and values, social /community cohesion;
- the things that give meaning to life in the district/region; and
- cultural heritage matters.

The so-called stakeholder engagement approach was typically tokenistic and is likely to sit at levels 3 and 4 in the ladder below, alienating and disempowering communities.

Figure: Eight rungs on the ladder of citizen participation



Sherry Arnstein, "A Ladder of Citizen Participation," JAIP, Vol. 35, No. 4, July 1969, pp. 216-224

5. Economic Impact Assessment

The carbon liability associated with fugitive gas emissions is a substantive economic issue and needs greater consideration in the EIS.

The fugitive emissions are likely to be comparatively large (more so than what is stated) and secondly the '**price**' associated with such emissions (that is the carbon footprint of the activity) will impact its economic viability, as financial institutions give increasing attention to such liabilities and price them into their economic viability of the project.

6. Compensation and insurance arrangements

The EIS should outline in more detail how the compensation arrangements for landholders in the event of any compensable loss suffered, or likely to be suffered, as a result of the exercise of the rights conferred via a production lease/licence.

Compensation is typically a blunt tool that cannot always properly assess the variety of circumstances and motivations of landowners. For instance, it may be that a price can be determined for the value of the crops destroyed, or prevented from being planted, but there may also be land where no amount of compensation can place the farmer in the position he/she was in prior to CSG extraction. For example, there may be land areas of special spiritual, psychological or amenity value. The ambit of compensation is generally very limited, with its 'compensable loss' concept narrowly defined.

It is recommended that compensation arrangements should require the proponent and the NSW Government to extend compensation to loss of amenity, loss of opportunity or profits or decreased market value.

It is also recommended that landowners be provided with a robust and transparent compensation regime with additional protections similar to Commonwealth land acquisition laws. For example, the *Land Acquisition Act 1989* (Cth) takes a more expansive and equitable approach, where the value of the land is taken to be the *greater of*:

- the market value on the day of acquisition; and
- the "net acquisition cost" of the new land to be purchased.

Significantly, the "net acquisition cost" includes the likely cost of buying a new area of land, *plus* expenses incurred by closing operations and reopening them on the new land, *minus* any substantial saving gained by relocation.

It is recommended the NSW Government be more diligent in ensuring the proponent carries <u>all</u> the risks and liabilities associated with the following:

a) Disturbance and interference to aquifers;
b) Changes to surface water flow regimes;
c) Disruption to farming enterprise activities (for instance well heads connected by roads and pipelines, production water storage facilities, construction camps, etc) and how that impacts on the movement of heavy, wide machinery, cropping and livestock activities;
d) Loss of rural amenity;
e) Loss of control regarding persons accessing your freehold land; and
f) Visual and noise impacts.

7. Without Product Transport the Project is Incomplete

An integral component of a major coal mine or wind farm proposal is how they plan to transport 'product' to market. For a coal mine it is road or rail transport. For a wind farm it is an electricity transmission line. Therefore the proposed Santos project is incomplete as it omits the gas transport/delivery mode. The proponent should thus be required to withdraw the EIS and integrate a product transport mode to market into the project.

Furthermore, if the Santos project was to be approved, the separate and independent APA gas pipeline proposal will not be able to be assessed objectively solely on its merits as there will be huge pressure for it to be given approval, so it can link in with Santos. That is not fair or transparent and is duplicitous.

In essence the Santos project cannot go ahead unless the pipeline is approved, so why aren't the two projects integrated?

Thank you for the opportunity to comment.

Yours sincerely,

Warwick Giblin, FEIANZ
Managing Director