

85 College Road
Somerton Park SA 5044
18th May 2017

NSW Department of Planning and Environment

Dear Sirs,

My name is Alan Carey and I submit the following for your review and assessment of the Development Plan and EIS for the Narrabri Gas Project (NGP).

I worked for the operator of the project, Santos, from 1984 – 2015, mainly in the SA Cooper Basin, developing the tight gas fields in this region. Prior to 1984, I worked for other oil companies in Qld, WA and Indonesia (1962 – 1984). The petroleum industry had been hydraulically fracturing tight oil and gas bearing formations on a routine basis overseas since before I first entered it in 1962. The first well I was involved with where fracking was attempted on a tight sand was in 1968, in the Wicher Range No 1 well in the southern Perth Basin, near Busselton. Although the well has not been a commercial success, the fracking did go as intended with no problems encountered.

The last wells that I was involved with were drilled in 2012 – 2014 in the Big Lake field, located in the SA Cooper Basin. The tight Patchawarra Formation required fracking in all of these wells. The results were mixed, with some wells performing better than others after the fracture stimulation but I remember that all of the fracking operations went as planned with no problems encountered.

Relative to Santos's Narrabri Coal Seam Gas operations, The main community concerns seem to be the risk of contamination of the aquifers and destruction of farmland by drilling sites and access

roads. From my experience, with modern electric logs, it is possible to easily identify any aquifers that should be avoided and with the latest pinpoint fracking techniques, it is possible to accurately place the frack in the target formation without disturbing the adjacent formations.

As for destruction of farmland, when I worked for them, Santos would not drill on any farm where the owner did not wish them to enter. Further, in our Cooper Basin operations, we drilled up to seven wells directionally from the one pad, thereby reducing the footprint and reducing the number of access roads to one.

I concur with the comments below which the Petroleum Exploration Society of Australia (PESA) prepared in support of progressing the Narrabri Gas Project.

Importance of gas in NSW.

- A reliable and affordable gas supply is critical to our way of life, as evidenced by the gas supply crisis we are now experiencing on the East Coast of Australia.
- In NSW more than 1 million homes, 33,000 businesses and the jobs of more than 300,000 workers rely on an affordable and secure supply of natural gas. Yet NSW imports 95% of its gas supply from interstate.
- Industry groups and the Federal Government have been calling for new gas projects to support jobs, manufacturing and large scale production – **The Narrabri Gas Project can deliver just that.**
- The NGP could supply up to 50% NSW gas demand and deliver significant benefits to the local community and the state, including up to \$120 million for a regional Community Fund, and up to \$1.2 billion in royalties for the State.

- The Project will also create up to 1300 jobs during construction and 200 ongoing positions.
- Natural gas has a vital role to play in delivering energy security, whilst having the additional benefit of being 50% cleaner than coal resulting in a significant reduction in carbon emissions.
- The development of new natural gas resources is crucial in increasing the gas supply to the East Coast and assisting Australia's move towards a clean energy future.

Narrabri is an ideal place for a gas project and Santos has the depth of experience to develop it.

- Santos is an Australian company with a 60 year history of operating safely and sustainably, as evidenced by its exploration and production activities in the Cooper Basin, where local beef stations have achieved and retain organic certification for their beef, which demonstrates the agricultural and the gas industry can mutually coexist.
- The majority of the project area is in a section of the Pilliga which, after a thorough ecological review has been set aside by the NSW Government for logging and extractive industries.
- The Project area does not include National Parks or Nature Reserves.
- The Project area does not contain strategic agriculture land as mapped by the NSW Government. Santos has stated it will only drill on private land with landholder agreement.
- The local geology ensures that there is no requirement to use hydraulic fracturing technology (fracking) in the NGP, and Santos has stated it does not require the use of fracking to meet its delivery target projections for gas supply.
- There is quite a strong local base for the NGP, and there are many employment and social benefits which could accrue to the local

Community.

The EIS has concluded the Narrabri Gas Project can be developed safely with minimal and manageable risk to the environment.

- The EIS is a very comprehensive document that includes extensive studies and modelling on the environment in the Project area, including studies on water, flora, fauna, soil, noise, air quality and cultural heritage.
- The Proponent has drawn upon more than 13,000 hours of on ground environmental surveys, carried out by environmental scientists who are experts in their fields, and the information in the EIS will be the basis to prepare detailed management and mitigation plans for the Project.
- The EIS demonstrates an environmentally sensitive plan which will allow the NGP to proceed delivering much needed natural gas for the NSW market safely.
- The EIS concluded:
 - Water available to farmers and the community will be unaffected
 - Drilling will be carried out safely using the NSW Well Integrity Code of Practice which has been reviewed by the NSW Chief Scientist and Engineer
 - Significant impacts on threatened and endangered flora and fauna will be avoided
 - Known Aboriginal cultural heritage sites will be protected
 - The Project will coexist with current land uses including agriculture and forestry.

As such, I support the development of the NGP, providing it complies with the respective laws and planning and environmental regulations which apply within the State of NSW and Australia.

Yours sincerely

Alan Carey
