

Office of the Independent Planning Commission NSW  
Level 3, 201 Elizabeth Street  
SYDNEY NSW 2000

21<sup>th</sup> August 2020

**Update to Written Submission: Narrabri Gas Project, Commission Public Hearing**

**Concern that the Project will not meet/achieve stated CO2 tonnes emitted/kwhr power generated**

Since writing my original submission I have read the SANTOS response ( Section 5.1 in regards Reservoir CO2 production), wherein SANTOS assert that there is a difference between in-situ CO2 levels and produced CO2 levels and that produced levels of CO2 will be significantly less.

The science of multicomponent adsorption of methane and CO2 in a CSG environment does show that CO2 molecules have a greater affinity for coal surfaces meaning that the early gas released will be proportionally higher in CH4. Studies show, however, that over the whole depletion cycle that the trend reverses and that eventually CO2 molecules desorb. Hence we make the following comments on the SANTOS response:

- We note that SANTOS have subtly raised the stated average project emission level to 10% CO2 (mole %) whereas an earlier assertions spoke of 5% levels. It is important for the regulator to insist on clarity and consistency on this matter.
- SANTOS are correct in their assertion that early CO2 levels in produced gas will be less than in-situ average CO2 levels. However, according to CSIRO studies<sup>1</sup> for example, the produced % CO2 level will inevitably increase with increased levels of depletion.
- We disagree that laboratory sample results are commercial in confidence *if the specific location of these samples are removed*. What is required is a review and evidence produced, that over the depletion life of the field that CO2 levels remain below the asserted levels. In the absence of this information, the available literature evidence shows that CO2 will inevitably rise to high levels.
- We maintain our earlier position that an independent review of the samples ( composition and likely produced composition profiles) be made.
- In the absence of such information regarding whole-of-depletion CO2 level, hard limits need to be placed on the project emission levels (specifically the venting of produced CO2 levels removed at the inlet of the gas processing plant) to ensure the operator stays within their asserted project levels. At 5% produced CO2 level this would be 250,000 tonnes p.a. of CO2 vented (for a 70 PJ gas project).

We recognise the importance of reliable gas supply to NSW and recognise SANTOS as a reliable operator. However, at the current time we consider the risk of the project producing vented CO2 levels outside prior assertions made, to be quite high. The regulator has a clear role to set defined levels of native gas venting and ensure the project adheres to these levels in a transparent fashion. We would argue that prior assertions of 5% native CO2 be used to set these defined levels. If a higher level (or none at all) is chosen by the regulator, the regulator needs to clearly state why this is so.

Sincerely

Dr Ian Taggart

Stockton NSW.

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<sup>1</sup> Connel, L., Pan,Z., Camilleri,M. (2019). The variation in Produced Gas Composition from Mixed Gas Coal Seam Reservoirs. International Journal of Coal Geology Volume 201, 2 January 2019, Pages 62-75