

**ADDRESSING THE PAC ON BEHALF OF AACSGAM REGARDING THE
BIBBLEWINDI AND DEWHURST GAS EXPLORATION PILOT EXPANSION
NARRABRI, 19TH JUNE 2014**

This contribution addresses the *State Significant Development Assessment Report: Dewhurst Gas Exploration Pilot Expansion (SSD-6038)* [Dewhurst Report] and the *State Significant Development Assessment Report: Bibblewindi Gas Exploration Pilot Expansion (SSD-5934)* [Biblewindi Report] of the NSW Department of Planning and Environment, below referred to as the Department, on behalf of Armidale Action on Coal Seam Gas and Mining.

Many members of Armidale Action on Coal Seam Gas and Mining have connections to the Pilliga Forest going back decades. All of us are appalled by the deterioration and destruction already caused by coal seam gas exploration and pilot production in the Pilliga Forest. Further deterioration and destruction is unacceptable.

The protection of the Pilliga Forest from coal seam gas exploration and production was one of the main concerns which lead to the formation of Armidale Action on Coal Seam Gas and Mining in August, 2011.

Armidale Action on Coal Seam Gas and Mining is one of seven action groups of Sustainable Living Armidale, an organisation *committed to bringing about the changes needed at the community level to improve resilience in the face of the twin challenges of peak oil and climate change*.

Armidale Action on Coal Seam Gas and Mining has 122 members on its mailing list and Sustainable Living Armidale around 400. In Sydney this would correspond to over 23,000 and 76,000 people, respectively.

Armidale Action on Coal Seam Gas and Mining holds market stalls, film screenings and public events to inform the community and promote discussion of coal seam gas mining, including its effects on our water, our land and our future.

Armidale Action on Coal Seam Gas and Mining organised a forum at the Armidale Town Hall in May 2012, attended by about 200 people, corresponding to 38,000 people in Sydney. After listening to experts explaining the risks to water, health and the environment, and to politicians, members of the Armidale community present at the forum called on the NSW Government to

- Amend the Strategic Regional Land Use Plans to protect agricultural land and high biodiversity areas from coal seam gas mining and exploration.
- Protect the Great Artesian Basin and other underground water resources from being polluted by coal seam gas mining and exploration.
- Implement a moratorium on all coal seam gas mining and exploration until all scientific uncertainties have been resolved.

The coal seam gas reforms introduced by the NSW Government after September 2012 (cf. pp.11–12 of the Dewhurst Report and pp.10–11 of the Biblewindi Report) fail to address the substance of these matters.

Both Reports vindicate the perception, succinctly expressed by Michael Leunig in the *Daily Mail* on 23rd May, 2014

*There's a perception there's been a growth of corruption, on both sides of politics,
and there's a sense that democracy is not effective, that people are not represented.*

The omissions, flaws and failures of the Reports do nothing to counter this perception. The Executive Summaries of both Reports repeatedly use words to the effect that *the Department is satisfied that the proposed development would not result in any significant impacts* and that any

such impacts *can be managed, mitigated or offset through appropriate conditions of consent*. Yet neither Report provides substantive reason to justify the Department's satisfaction.

Drawing valid conclusions and/or determining the impacts of the two proposals requires baseline monitoring. Yet this is missing for several areas.

Water. The Pilliga Forest is an important recharge area for the Great Artesian Basin. The Director General requires baseline monitoring, however there is still no baseline water study available for the Pilliga groundwater systems.

The cumulative water model used by Santos lacks the basic data required for assessing the impacts of drilling for coal seam gas on groundwater in the future. There must be thorough sampling and testing across the project area for modelling regional groundwater flows and a comprehensive assessment of Groundwater Dependant Ecosystems in the Pilliga region including the potential impacts any groundwater drawdown or contamination.

Biodiversity. Santos has admitted that its coal seam gas exploration will destroy habitat for the Pilliga Mouse. The breeding status and population dynamics of the threatened species in the Pilliga are very poorly understood. There must be baseline ecological surveys to assess the population dynamics and status of the Pilliga Mouse, Eastern Pygmy Possum and Barking Owl.

Air Quality. Another requirement is assessing the risk of fugitive emissions on the environment and on human health. Baseline atmospheric methane data collection is required for assessing the effect of any future potential fugitive emissions. It is also necessary for an Independent Health Impact Assessment for north-west NSW. It has not been conducted.

The question of what to do with produced water is mentioned in Table 2 of both Reports under *Description of the Proposal*:

- *Produced water would be stored in one of the 300 megalitre (ML) ponds at the Leewood Produced Water Facility prior to being transported by road tankers to an appropriately licensed facility in the Sydney metropolitan area for treatment, reuse and/or disposal.*
- *Santos is currently developing plans to treat produced water at the Leewood Produced Water Facility by reverse osmosis or other methods instead of transporting produced water from Leewood to a licensed facility.*

Neither Report assesses the feasibility, the environmental impacts or the financial implications of this aspect of the proposals.

The Department received numerous submissions: 209 of 221 submissions object to the Dewhurst proposal and 173 of 185 submissions object to the Bibblwewindi proposal. It is interesting to note that the only submissions not objecting to either of the projects are from state or local government authorities. The main grounds for objection are listed in Section 4 of both Reports, on pp.19–20 of the Bibblwewindi Report and on pp.20–12 of the Dewhurst Report.

The lack of an *adequately explained strategy for produced water management, including its treatment and use or disposal* figures high on the list of principal objections to both proposals. Why is this omitted from the assessments in Section 5 of the Reports?

Another principal objection questions the *adequacy of groundwater baseline monitoring and adequacy of groundwater modelling*. The Department states, on p.22 of the Bibblwewindi Report and on p.23 of the Dewhurst Report, that

NOW (the NSW Office of Water) notes, and the Department concurs, that while Santos' model is not suitable for making the required predictions of groundwater impacts for a larger production project, the risks associated with predicting the impacts of an appraisal pilot are much lower than the risks associated with impacts of full-scale CSG production.

Whether the risks associated with an appraisal pilot are lower than the risks associated with full-scale coal seam gas production is irrelevant to the question of whether the risks posed by the current proposals are acceptable. Other than this red herring, the Department fails to provide evidence for accepting the risks associated with the two proposals before us. The Department then recommends, on p.30 of the Bibblewindi Report and on p.32 of the Dewhurst Report, that Santos be required to

in consultation with NOW (the NSW Office of Water) revise its Groundwater Monitoring and Modelling Plan to include a description of the monitoring specific to the development and ensure that the groundwater model is upgraded to a Class 2 or 3 Model in accordance with the AIP (Aquifer Interference Policy).

Thus, the Department recommends approval before the completion of adequate groundwater baseline monitoring and leaves the requirement to provide adequate groundwater monitoring and modelling as a condition of approval of the proposals.

Regarding the establishment of monitoring bores, the Department states on p.22 of the Bibblewindi Report and on p.23 of the Dewhurst Report that

Santos has informed the Department that the monitoring bore has already been installed at the eastern periphery of the gas exploration activities . . .

While the Department then mentions that several submissions raised concerns about the use of only one deep aquifer monitoring bore, the Reports state, on the same pages, and then assert blandly, without justification or argument:

The Department considers this to be acceptable . . .

Regarding *impacts on other water users, including drawdown of aquifers*, the Reports state, on p.29 for Bibblewindi and on p.31 for Dewhurst, that

Santos' modelling indicates that any cumulative impact on registered bores across the E & A (Exploration and Appraisal) Program would not be significant.

As the Department provides no other justification, it seems to have accepted conclusions drawn from Santos' modelling even though, by the Department's own assessment on p.22 of the Bibblewindi and on p.23 of the Dewhurst Report, respectively, Santos' modelling is inadequate.

Regarding *leakages of chemicals during drilling and cross-contamination of aquifers*, the Reports state, on p.26 for Bibblewindi and on p.27 for Dewhurst, that

Impacts during well operation are limited to those associated with leakages from the water gathering system, for example a potential line failure. Santos monitors water pressure within the pipes remotely, and should a leak occur, operation of the well would be suspended until rectified. The Department is satisfied that, should this occur, the extent of impact would be small, localised and short-term.

Thus the Reports omit the question of storage of produced water. Yet a serious breach of a liner at Santos' Bibblewindi wastewater storage ponds resulted in the contamination of a groundwater aquifer with uranium 20 times higher than safe drinking water guidelines. Currently the Environmental Protection Authority is investigating possible leaks from two wastewater storage dams at Tintsville, within 8km of Narrabri.

The *creation of an artificial connection between water-bearing formations that bypasses aquitards or aquicludes, resulting in cross-contamination of aquifers* is listed on p.21 of the Bibblewindi Report and on p.22 of the Dewhurst Report as potential effect of the proposed developments. According to a 2003 Schlumberger oilfield review, 5 % of well bores fail immediately and, over a 30-year time frame, failure rates exceed 50%. Multi-lateral wells pose an increased risk as it is very difficult, if not impossible, to seal the junction between the casing and the lateral. However, the Reports fail to assess this risk.

This analysis of the Department's assessment of some of the principal objections submitted to the proposals shows the lack of substantive justification for the Department's conclusion that *the proposed development would not result in any significant impacts on water*. The remaining

principal objections submitted to the proposals fare no better, but I won't bore you with all of the details and restrict myself to adding the Reports' assessment regarding Aboriginal heritage.

As justification for the omission of a comprehensive Aboriginal cultural heritage assessment from the Director General's requirements, the Reports state, on p.33 for Bibblewindi and on p.38 for Dewhurst, that

there were no Aboriginal objects, sites, places of significance or culturally modified trees within the site or immediate surrounds

This raises several questions which remain unanswered: What are the *immediate surrounds*, why is it sufficient to restrict attention to the immediate surrounds and how can we be sure without a comprehensive Aboriginal cultural heritage assessment?

Moreover, there is a Native Title claim over the project areas, yet the Reports are silent on consultation with the Gomeri Native Title Claimants. This is unacceptable.

The justification for these proposals is their potential to lead to large-scale coal seam gas production. The required assessments of cumulative effects must therefore evaluate the impact of large-scale coal seam gas production in the Pilliga Forest. Both Reports are silent on this; the large scale production is presented as the reason for these proposals, but its impacts are not evaluated. However, it is apparent from the Reports that the Department considers the risks associated with the Exploration and Appraisal projects to be insignificant compared with those of full-scale production.

The Reports state, on p.13 for Bibblewindi and on p.14 for Dewhurst, that

The proposed development, as part of Santos' E&A (Exploration and Appraisal) Program, is an important opportunity to investigate the potential to secure local gas supplies in NSW and inform the CSG production planning process. It is also an opportunity to potentially alleviate gas supply shortages which may lead to significant energy price increases for NSW consumers, including domestic consumers.

Yet, according to BHP Billiton Petroleum chief Mike Yeager, there is plenty of conventional gas for eastern Australia [1]. The Independent Pricing and Regulatory Tribunal (IPART) states [2]

The main driver for price increases is structural changes in the wholesale gas market, including increased exposure to the international gas market.

This is confirmed by energy company AGL [3]

The commitment of large LNG projects in Queensland has driven intense competition for available gas between domestic customers and LNG projects as the CSG reserves have been committed to LNG projects in order to underwrite their development.

In the words of WA Premier Colin Barnett [4]

It's a hard narrative to sell, to a community, to a government, that we are going to increase production of gas and we are going to export it, and in the meantime, domestic gas supplies will be diminished and domestic prices will go up. I'm a politician and I'm pretty good at selling a story, but I'd find that a tough one to sell.

Another argument provided, on p.14 for Bibblewindi and on p.15 for Dewhurst, to justify the proposed developments is that

The use of gas in power stations has the benefit of a significantly lower greenhouse gas emissions profile compared to more traditional coal-fired power stations.

It is true that natural gas releases half as much CO₂ as coal per kilowatt hour generated when burned to generate electricity. But this is not the full story – once the leakage of methane during extraction and transport of gas is taken into account, it is far from clear that gas is any better than coal.

Leading scientists are now telling us that we should be setting targets for how much fossil fuel we can afford to extract [5]. Even the conservative International Energy Agency (IEA) has admitted that we need to leave two-thirds of confirmed fossil fuel reserves in the ground to have even a 50% chance of avoiding disastrous runaway climate change [6]. For a 75% chance of success, we need to leave 80% underground.

Maintaining a liveable environment for future generations must be our highest priority. As a fellow member of Sustainable Living Armidale put it

The economy is a wholly owned subsidiary of the environment.

In other words, without a liveable environment, there is no economy.

The Reports fail to provide sufficient evidence that the proposed development would not result in any significant impacts and the Department's justifications do not stand up to scrutiny.

Thus, on behalf of Armidale Action on Coal Seam Gas and Mining and in solidarity with the Aboriginal Custodians, the Gomeroi People, and with farmers and communities across the North West, I call on you to reject the Departments recommendation to approve the proposed Bibblewindi and Dewhurst developments.

REFERENCES

- [1] <http://www.smh.com.au/business/nsw-to-press-on-with-coal-seam-gas-hartcher-20120515-1yo6c.html>
- [2] Independent Pricing and Regulatory Tribunal Fact Sheet, 23 April 2014. Regulated retail gas prices from 1 July 2014 to 30 June 2016.
- [3] AGL. VPA - Proposed price path for NSW regulated gas prices from 1 July 2014 to 30 June 2016 public submission. 2014.
- [4] <http://www.pnronline.com.au/article.aspx?p=1&id=1161>
- [5] Nature, April 2009 http://www.ecoequity.org/wp-content/uploads/2009/07/meinshausen_nature.pdf
- [6] IEA, World Energy Outlook 2012; <http://www.iea.org/publications/freepublications/publication/English.pdf>
- [7] <http://www.abc.net.au/news/2013-06-17/fossil-fuel-reserves-must-stay-in-ground-report/4757448>