

Further Submission to the IPC Regarding the Santos Proposal to Conduct CSG Mining in the Narrabri /Pilliga Area

Date: 20 August 2020

Introduction

The IPC Commissioners have called for comments on New Material only in further submissions

This submission addresses new material in that it addresses comments made by the Santos CEO in his opening statement, different to his comments in his first submission.

It also addresses 'missing New Material', missing from his introductory statement.

It also addresses 'missing New Material', points made in my first submission which clearly have not been addressed in Santos' second submission.

This submission also comments on the New Material in the Dept.'s response to Ms Samantha McLean by Mr Kitto

Submission

Contents

- 1 Analysis of opening statement by CEO of Santos**
- 2 Analysis of the response by Mr Kitto to the question by Ms Samantha McLean re ESD, including the Precautionary Principle**
- 3 New Material not received regarding Farmers and Food Production**
- 4 New material not received regarding Environmental**
- 5 New Material not received regarding Physical and mental Health of the Narrabri and surrounding communities**

1 Analysis of Opening Statement by CEO of Santos

The CEO of Santos has made the following Introduction to this new material, on which I comment below – in red:-

The Narrabri Gas Project is in the public interest,(no it isn't if you look at the substantial and wide ranging protests against it) critical for energy security and reliability in New SouthWales (No it isn't, according to AEMO) and would deliver significant economic benefits to NSW (to Santos, not the Narrabri region – see addresses to the Commissioners in the last hearings) and the Narrabri region, including jobs (minimal – investment and regional development hasn't been detailed

– please supply), investment and regional development. At the same time, the Project is unlikely to result in any significant impacts on the local community or the environment (Not if you listen to all the submissions – the Narrabri Council being the exception. Please supply the rigorous evidence from the Dept Planning – the science and evidence etc-). These are the findings of the Department of Planning, based on a rigorous, multi-year assessment process that relied on science and evidence, and independent expert opinion.

Thank you for the opportunity to present to the Panel during the public hearing and to now provide a further submission on behalf of Santos.

Many of the key themes addressed in this submission have previously been raised through the extensive and comprehensive assessment process so far and were also covered in my presentation to the Panel.

Santos has relied upon the best available science, expert research and opinion (Can we please have the Science, not the opinion – Have the Commissioners had a chance to study the Science?- I gather this must be new material) in our application to develop the Narrabri Gas Project so that the community can be confident it will not harm people, water resources or the environment .(This should be new material – where is the research to ‘not harming people? See Health issues), As the Department of Planning found, it is “difficult to reconcile the significant community concerns about the Narrabri Gas Project with the technical advice from experts that the risk of any significant impacts occurring is generally low and can be controlled using standard engineering practice and imposing strict conditions on Santos”.(It is the words ‘experts’ and ‘risks’ and generally low’ – it is not good enough – it has to be guaranteed 100% OK – and no expert will guarantee that – certainly not the Dept – consider the Woronora dam – see below)

While I outlined Santos’ capability in my presentation to the Panel, one thing I would like to reiterate in this further submission is our strong track record of coexistence with farmers. We have worked in partnership for more than 65 years across the country and most recently as we have developed a coal seam gas industry in Queensland that is welcomed by farmers and rural and regional communities.(doesn’t sound like it from the vast numbers of farmers who have spoken both objectively and emotionally against Santos. Please prove this with some research – where is the new material)

Landholders have welcomed payments that help drought-proof their farms by providing a second source of income from hosting gas field infrastructure, allowing them to expand their business in other directions, purchase additional land and add value to their properties. Some have also gained a new, clean source of water supply, available only because of gas production.(Again the evidence!)

Santos has more than 2000 land access agreements in place throughout the Bowen and Surat regions in Queensland and we have safely drilled and operated more than 2300 coal seam gas wells since 2006, without harm to water resources or the environment.(Evidence please!)

Many presenters and submitters were generally opposed to any new fossil fuel projects, including gas, pitting them against a renewable energy future.

However, the two must coexist to deliver the energy security and reliability that our society demands.(Maybe before but not now, with renewable energy, and batteries for firming- refer article SMH Aug 15-16 – ‘Big Plans in Store for Gas Giant’ – AGL – ‘the right moment to expand storage plans as battery prices were falling and the rush

of large scale energy plants vying to enter the market – the total could top 1.2 gigawatts, Mr Brokhof said. – this is new material)

The International Energy Agency says that natural gas will grow to supply a quarter of all global energy demand in 2040 in all its scenarios. On Australia's east coast, the Australian Energy Market Operator's Integrated System Plan has found that more gas supply needs to be developed each year from 2023- 2024 to meet residential, commercial, industrial and power generation demand in southern Australia. AEMO says it doesn't need much!?? – anyway we know that gas is available from other areas)

The need for more gas is driven principally by exports, including those by Santos. Further, the AEMO forecast used by DPIE has not allowed for gradual reduction in gas use as it transitions to renewables (mainly electricity) to achieve the NSW Government's Net Zero by 2050 objective

We have seen examples of large economies switching to gas from other fuels to reduce their emissions. In the United Kingdom coal-fired power generation has been phased out over the last two decades with gas now accounting for almost 40 per cent of total power generation. This has resulted in a reduction in CO2 emissions of 38 per cent compared to 1990 levels. And, as our EIS outlines, the United States has also achieved large-scale emissions reductions from coal-to-gas switching, which the International Energy Agency says is critical to meet global climate goals. What about the fugitive emissions of Methane?? – CSG is as bad as Coal, or worse – that's now common knowledge)

The Department of Planning has also identified the role Narrabri gas could play in reducing emissions as aging coal-fired power stations close in eastern Australia over the coming decades. (Santos and the Planning Dept haven't listened to the evidence re fugitive emissions– this is not new material. We need new researched material! Santos has set an aspiration (a delightfully vague word – where are the quantifiable Objectives and Goals – please detail 'deploying renewables'?? etc ..CCand S is not viable when used with power generation – give us the new material on these points - also what Santos has done on Hydrogen in terms of 'investigating it' – can we please see the new material on this - we need more than an 'aspiration' on this critical aspect – punching out more CO2 and methane for as long as commercially possible is not going to get us anywhere near Zero Carbon by 2050 – actually we need to be there by 2040 now, it is reckoned) of net zero emissions by 2050, we are driving change by deploying renewables, implementing energy efficiency projects, investing in technologies like carbon capture and storage and investigating the potential for hydrogen production. We are committed to a lower carbon future and taking practical measures to reduce our emissions, including at Narrabri where our appraisal gas is already being beneficially used for power generation at Wilga Park.(Can we please have the results)

The economics of the Narrabri Gas Project stack up – Santos would not have already invested \$1.5 billion in the Narrabri Gas Project if they didn't. Narrabri is an economically robust investment opportunity for Santos and one that will deliver numerous economic benefits for the community. (No – maybe for Santos and the Government, but not for the community – just consider the health impact – and don't insult them with a promise of up to \$120 million – and now 'assumptions' – modelling again – jobs increase by 78% - but will that 'assumption' hold? -looks terrific, but

think about the social consequences – clearly Santos hasn't – so please some new material on this.)

ACIL Allen has updated its assumptions on the Narrabri Gas Project to reflect current economic conditions.

In short, what the new analysis has found is that the impact for the local community and New South Wales more broadly has strengthened. It finds more jobs would be created. It confirms the Project (no, just more assumptions) would put downward pressure on gas prices and would create increased levels of regional development. Simply, the Narrabri Gas Project will (unproven – this is more Corporate Speak and is totally unacceptable coming from a CEO – trouble is there are too many risks clearly apparent to just barge in without seriously considering the risks, including the consequences – comparing the production of generations of farmers and their farms – forever and the social consequences – is Santos and the Govt set on doing this? – let's have some proper research on all facets of this proposal – this is the new material we want) offer large volumes of gas to the domestic market on long-term contracts. This will support Australian industries like manufacturing to drive the economic recovery out of the COVID-19 pandemic. (Please don't use 'pandemic' so loosely and irresponsibly – I am aware that this is the stated goal of the fossil fuel industry – please give us your research on which 'Australian industries like manufacturing' – is this the salt conversion discussions you are talking about? Please give us some new material on this, citing specific agreements, not just talk) The tightness in supply in the New South Wales gas market, where around 95 per cent of gas currently has to be imported from other states, has meant this has been difficult in recent years. **(what's wrong with that – don't just export it. The government just should insist on an adequate amount staying in Australia – please study submission from Ian Maloney regarding this point .)**

As our economy comes out of hibernation from the COVID-19 health crisis, every effort must be made to drive economic growth, investment and job creation, also mindful that such development must be ecologically sustainable. **Well, there's a conflict and a challenge – possibly/probably destroy our generations of food production and the families who produce it, through damage to the water supply, and do it in an 'ecologically sustainable' way. Again let's see the rationale on paper – new material please)**

Meanwhile, let's consider the New Material coming from the Zero Emissions Renewable Energy field with costs coming down, already cheaper than Coal and CSG, and surging on to the market:-

- **AGL – Big Plans – to expand its storage plans as battery prices were falling. “The new build of renewables is exactly what the driver is”. The Liddell battery is part of an 850MW multi-site storage plan, to be installed by June 2024. Ref: SMH Aug 15-16 2020**
- **Sanjeev Gupta's plans for 3000MW for 'green steel'**
- **Broken Hill and one of the world's largest mini grids, proposed by Transfield. Ref: RenewEconomy 12 Aug 2020**
- **BHP's updated policy on climate related expectation, and its new stance to exit coal. Ref: SMH Aug 15-16 2020 News Review**

Why would you want to dig up environmentally valuable forest and productive agricultural land for risky CSG, and cause a real fight, when we know that

Zero Emissions renewable energy, with storage, will shortly overrun the former!?

Santos submits that the Narrabri Gas Project can be developed safely and sustainably (**inaccurate word**), without harm to people, water resources or the environment. The Project will bring jobs and business opportunities to regional communities in New South Wales at a critical time. (**Research Details please , not just talk! – new material please**)

Santos submits the following submission for consideration by the Panel.

Commissioners – I see no new material – all I see is the need for new material to substantiate all the claims and statements.

And I find it objectionable to be given tweaked up figures on the basis of ‘ACIL updating its assumptions’, posing as new material.

2 Analysis of the response by Mr Kitto to the question by Ms Samantha McLean re ESD, including the Precautionary Principle

I now refer to the Response by the Department of Planning (Mr Kitto) to Ms Sam McLean’s request below (please note that the yellowed words mostly relate to ‘The Precautionary Principle’ which I address further down):-

Ecologically Sustainable Development

Provide details regarding whether and how the Department considers that the Project (if approved) would be Ecologically Sustainable Development (ESD) and what principles and programs of ESD have been implemented in the Department’s assessment of the Project and the Department’s recommended conditions of consent

Under Section 4.15 of the Environmental Planning & Assessment Act 1979, a consent authority must consider the public interest of a development proposal when it determines the development application.

This includes considering the objects of the Act to the extent that they are relevant to the evaluation of the development application.

During its detailed assessment of the Narrabri Gas Project, the Department determined that at least six of the 10 objects of the Act, including the object to facilitate ecologically sustainable

development, were relevant to evaluation of the project; and considered the merits of the project against each of these objects.

Based on this assessment and subject to the recommended conditions, the Department has concluded that the project:

- represents a safe and sustainable use(incorrect word!) of the State's natural gas resources that would promote the social and economic welfare of the community without compromising the needs of any future generations (Object a);
- represents ESD (Object b – see below);
- is a permissible land use (Wow – the heavy hand of Government) under the relevant planning controls and can be carried out in an orderly and economic way subject to the recommended conditions (Object c);
- would not significantly affect the environment, including protected conservation areas such as the Brigalow State Conservation Area and Brigalow Nature Reserve and listed threatened species and communities (Object d); and
- would not significantly affect the cultural heritage of the region, including Aboriginal cultural heritage, and that the culturally significant resources within the project area can be managed in a sustainable way in consultation with key Aboriginal stakeholders under the recommended conditions of consent (Object j).

Throughout the assessment process, the Department has consulted extensively with key stakeholders and sought to encourage community participation (98'ish% of the approx.. 10,000 + submissions + the 401 speakers at the hearings against the Proposal says it didn't – further, I detect a strong bias built into the 'consultations' to get people to support the Proposal – this is a serious act being taken by the Government) - (Object f). Further, the recommended conditions will ensure there are further opportunities for community participation during the implementation of the project. These conditions include requiring Santos to establish and operate a Community Consultative Committee, Water Technical Advisory Group and Aboriginal Cultural Heritage Advisory Group for the project. They also require Santos to make all relevant information on the project publicly available.

Under NSW legislation, ESD requires the effective integration of economic, environmental and social considerations in decision-making processes. (Minister Rob Stokes has always said that Environmental is the most important of the three – Economic comes under Environmental – it would appear that Economic is the driver, and that Environmental and Social are set aside which destroys the ESD claim)

This (Economic, it is clear – absolutely no reference to the substantial year-in-year-out productive farming operations and the huge risk of losing water) has been a key driver for the Department in its detailed assessment of the merits of the Narrabri Gas Project, which has included investigating the complex interaction between each of these considerations and weighing up what is in the public interest and consistent with the requirements in Government legislation, policy, guidelines and codes of practice.

The Department has summarised the findings of this assessment in its assessment report and considers ESD to be at the heart of the whole report. Essentially, the report represents the Department's attempt to effectively integrate the economic, environmental and social considerations of the Narrabri Gas Project in a simply and practical way, and to inform the Commission's determination of the development application.

It also reflects the Department's practice of seeking to avoid a formulaic or template approach to the assessment of ESD on major projects where every principle and program is considered explicitly and in isolation in assessment reports, even if they are irrelevant to the specific circumstances of the project, as this can lead to significant repetition and duplication in reports - due to the complex interaction of economic, social and environmental matters on major projects – and quarantine these matters in a manner that fails to integrate and communicate the key components of ESD with the broader assessment of the merits of the project.

Similarly, the recommended conditions seek to establish a strict regulatory regime for the project should it proceed and represent the Department's attempt to deal with a whole range of economic, social and environmental matters in a wholistic way. It would therefore be a difficult and somewhat arbitrary process to disaggregate the conditions and link them in an explicit way with each of the principles of ESD. The Department is not aware of any other examples where such an exercise has been undertaken for a State significant project, and for the reasons described above, does not consider it is necessary or appropriate in this case either.

(The above 2 paras say that Economic wins the day, and that Environmental and Social are the losers – there is clearly scant consideration, if any, for the farmers who produce the food, or the environmentalists' concern for the Pilliga, or the impact on the Health of Narrabri and the surrounding communities – again where is the detailed, reasoned argument for this very wordy summary? – let's have the New material on this please!)

Commissioners – I ask again – which is preferable – continuous food production to feed our growing population- forever, and to earn export income - or 25 years , possibly, of CSG, and the likelihood of the serious degradation, or destruction, of the rich land?

Why would we take the risk – especially when we basically don't need the gas – it can come from other areas. BUT, we DO need the food!

Project Represents ESD

Based on its detailed assessment and subject to the recommended conditions, the Department has concluded that the Narrabri Gas Project represents ESD as it:

- is development that meets the needs of the present generation without compromising the ability of future generations to meet their needs; **(how would the Govt. know? – they could well have passed on , along with me!**

- would exploit a significant natural gas resource in a sustainable **(an inaccurate use of the word here)** way and provide substantial economic and social benefits for NSW and the Narrabri

region; **(I very much doubt it , after hearing a substantial number of the 401 speakers – absolutely heart wrenching!)**

- **would not cause serious or irreversible environmental damage; (who would know? – it's a best guess from all the consultants, none of whom will guarantee this claim)**

- **would not adversely affect the biological diversity and ecological integrity of the region, including the Pilliga State Forest; (again, who would know, until it has happened. But what we have seen already is a spill that's 10 years old – and that hasn't recovered – why does the Govt. disregard this?)**

- **is consistent with the principle of internalising the environmental costs of development as Santos would be liable for meeting all the costs associated with avoiding and/or minimising the impacts of the project, with monitoring and reporting on its environmental performance during operations, and with fully rehabilitating the site following operations. (I'm yet to see a successful site rehabilitation. And, apparently, plugs will eventually break down and then we have Methane leakage)**

In reaching this conclusion, the Department considered all the principles expressly referred to in the definition of ESD under the legislation that “can be used” to implement ESD, and their relevance to the assessment of the specific impacts of the Narrabri Gas Project. **(finish the sentence – and therefore give it the green light !!? – totally inadequate piece of writing – lacking factual argument and research– I certainly wouldn't give it the green light)**

Commissioners

I make a few points at the end of this Precautionary Principle section of new material

The Precautionary Principle

Under NSW case law, there are two preconditions for the application of the precautionary principle:

1. **Threat of serious or reversible environmental damage; and (I take it they mean 'irreversible'.)**
2. **. Scientific uncertainty as to the nature and scope of the threat of environmental damage.**

Based on its detailed assessment, the Department concluded that the Narrabri Gas Project **would not cause any serious or irreversible environmental damage (that's a serious slip up – a guarantee!)**, and consequently that it did not trigger the first of the pre-conditions for the precautionary principle to be triggered.

While there is some scientific uncertainty about the likely localised impacts of the project, principally due to the limited information available on the deeper geological strata due to the lack of development in these strata historically, the **Department considers these uncertainties have been adequately addressed in the assessment through the use of**

conservative assumptions, and that this assessment clearly identifies the range and magnitude of the potential impacts of the project. **(looks like another guarantee)**

In addition, there is significant potential to reduce these uncertainties further during the carrying out of the project, and the Department has recommended conditions to ensure this occurs, and that the findings of these investigations are factored into any future decisions about the design and implementation of the project. It has also recommended conditions requiring Santos to implement additional preventative measures **to avoid and/or minimise the environmental impacts of the project (What about fixing them up, like the section in the Pilliga, which they haven't fixed up over a period of 10 years?)**, and to adapt its operations in response to any new findings or changes in circumstances.

Several speakers at the public hearings claimed the Narrabri Gas Project triggers the precautionary principle, and either may or would result in serious or irreversible damage to the region's groundwater resources, to certain listed threatened species or communities, and to the global climate.

In the Department's view, these speakers focussed primarily on some of the scientific uncertainties associated with the assessment, without providing any new information that materially changes the Department's assessment of these uncertainties, rather than identifying and providing clear evidence of the specific serious or irreversible environmental damage that may or would occur as a result of the project and how likely the threat of this damage is. (Has the Dept. provided any clear evidence regarding their assessment? – please where is the new material on this?? – now that's a challenge)

For the reasons outlined in the Department's assessment report, which have been expanded upon in the Department's briefings to the Commission during the public hearings, the Department **does not believe** there is any evidence available to support a conclusion that the project would result in serious or irreversible environmental damage, or even poses a credible threat of such damage occurring. **This conclusion is supported by the advice from government and independent experts. (so the Govt. does not have any clear evidence! That is really serious!)**

In summary, following detailed assessment the Department has concluded that the project:

- would **have negligible impacts (That's serious!)** on the quantity or quality of water in the region's shallower aquifers, which are highly valued by the community and sustain the regional economy;

- would not result in any significant impacts **(That's also serious)** on listed threatened species or communities, principally because Santos can avoid and/or minimise the impacts of the project on these species and communities during the detailed design and implementation of the project, and that any residual **impacts can be significantly reduced by the progressive rehabilitation of the site and offset in accordance with the requirements in the NSW Government's Major Projects Offsets Policy; (Has this been proven to work – I don't recall a successful example – please give us some New Material on this)**

- project would not generate significant greenhouse gas emissions either incrementally or in a cumulative sense , **(nowhere does either the Dept. or Santos talk about the now well known fugitive leakages of Methane, making CSG at least, or worse than coal – are they hoping people won't notice?)** particularly when you consider that it would be used to sustain existing gas use in East Coast gas market which has been occurring for decades, and is likely to be more than offset by a range of other initiatives in NSW that

are being pursued by the State and Commonwealth governments as well as the private sector. **(We keep on saying that there is no need for gas from the Narrabri /Pilliga area – please see further submission from Ian Maloney on this subject - and AEMO’s 20 year transition details)** This includes the forecast closure of all of NSW’s existing coal-fired power stations in the life of the Narrabri Gas Project and the transition to an energy market dominated by renewable energy as outlined in the recent release of the Australian Energy Market Operator’s Integrated System Plan 2020.

Health

Santos and the Dept. have both forgotten to address the Health issue – well documented (see excerpt article by Dr David Shearman below). I attached this last submission under Health, but clearly neither the Dept. nor Santos read it – or perhaps they chose not to read it. This certainly is New Material that we need to see

Precautionary Principle

Precautionary principles are the foundations for policy when it has to deal with weakly understood causes of potential catastrophic or irreversible events, and where protective decisions require certain and costly policy interventions that may not solve the problem that they are designed to correct.

From: [Reference Module in Earth Systems and Environmental Sciences, 2013](#)

Commissioners – a few notes on the Precautionary Principle, which I am well aware you will be on top of – but I am concerned in regards to the Dept

Precaution and Ecological Risk☆

O. Renn, in [Reference Module in Earth Systems and Environmental Sciences](#), 2015

Political Relevance

‘The precautionary principle has been adopted in a variety of forms at international, European Union and national levels. It is applied across an increasing number of national jurisdictions, economic sectors and environmental areas. It has moved from the regulation of industry, technology and health risk, to the wider governance of science, innovation and trade. As it has expanded in scope, so it has grown in profile and authority.’

“The measures, although provisional, shall be maintained as long as the scientific data remain incomplete, imprecise or inconclusive and as long as the risk is considered too high to be imposed on society” (European Commission, 2000, 21). In addition to the presence of remaining uncertainty the EU communication lists the condition that the risk must be too high to be imposed on society

Commissioners

The decision by the Govt. to treat the Precautionary Principle in such a cavalier way is amazing, and totally irresponsible.

It's 'detailed assessment' would be based on 'consultants', 'experts', none of whom really know what will really happen

Not a single one of these employed experts would ever guarantee that no damage would occur.

They never would – they never will – never ever – that much you can guarantee!

They would not even guarantee that a small amount of damage could be fixed up – I have never seen such a guarantee in all the years I have been making submissions.

They will use words like those above - 'any significant aspects', 'would not significantly affect the environment', 'is likely to be'etc

Commissioners, this is not a trite issue – we are dealing with a very large body of water that has served all sorts of people in Australia for thousands of years, in what we are told is the driest continent on Earth, and the Department says that the conclusions of its 'experts', who will not guarantee that everything will 100% OK, say that it probably will not put this vast body of water at risk – either or both Pollution and a drop in the Level, making access difficult, or eventually impossible. Nobody would know for sure.

And the Dept. says this does not trigger the Precautionary Principle.

I am amazed, and very concerned. I find that an extraordinary decision!

Example

Here's an example – the Woronora Dam - and Miner Peabody damaged the rock surface above and all the creeks disappeared. I wrote to Minister Rob Stokes at the time some years ago and received a letter back from the appropriate Dept to say it was being managed carefully.

Recently, we found out that Peabody has caused a leak in the bottom of the dam. Work was stopped to insist on Peabody fixing it.

Not long after Peabody was given the go-ahead to continue mining

What happened to the Precautionary Principle?

3 New Material not received regarding Farmers and Food Production

Commissioners, there are one or two words only that Santos and the Department, in an offhand way, refer to the farmers, their multi – generational families and their farming businesses, and the farming industry which supports them.

It was like 'Terra Nullius' – they were not to be seen

They seem to be rounded up with the word – 'public'

The whole thrust is on a drive to drill the ground to produce CSG.

On the basis of No New Material, I ask, has the Department carried out research to discover what is at stake if the water and soil is affected to the point where the farmers can no longer continue to operate?

It would be fairly easy to establish – gather the total income from the farms affected, including all those that draw water from the GAB – I recall one farmer saying, on the first day I think, that he puts 1 million servings of beef on the table every- his annual income is \$68 million.

Another farmer was at over \$50 million on an annual basis

Multiply the total farm income by at least 25 years – then if Santos still can't fix it, you would have to multiply this by infinity.

You then add in the ongoing mental and physical Health costs for say at least 25 years, probably longer

Then add the cost of fixing up the Pilliga – probably not possible, but have a go – over 25 years probably

Then you would do the maths on the 'modelled' projection of royalties to the Govt. , plus the value of the new projections of employment (OK, we'll accept the new 'modelled' figure)

THEN you can make a strategic decision in the ongoing interests of NSW and its people, and the loss to the export market, always remembering that the consultants and experts will never guarantee that these models and projection will be 100% correct

Never ever!.

If the government doesn't do this, it is acting totally irresponsibly to the people of NSW.

4 New material not received regarding Environmental

We haven't seen any proper research on **Environmental**.

We do know that Santos spillage has killed a section of the Pilliga (photo accompanied my first submission), and they haven't cleaned it up for 10 years That says a lot to me about Santos 'willingness and/or its ability to do so.

Commissioners, have you seen the research, and their detailed plan as to how they will clean up their damage to the Pilliga? Could we please see it? Does it exist?

5 New Material not received regarding Physical and mental Health of the Narrabri and surrounding communities

And what has happened to Health – both Physical and Mental?

You can understand that Santos is clearly not interested in this topic – neither is the NSW government, even with its duty-of-care obligations to the people of NSW.

Where is 'the best available science, expert research and opinion? – so that the community can be confident that mining CSG will not harm people.

Commissioners, please note the excerpt from an article by Dr David Shearman, Adelaide University below:-

The production of gas in Australia is a health risk and, as with coal, the health impacts become simple externalities ignored by government for political expediency; one should ask why health studies in gas fields have not been studied significantly in Australia as they have in the US.

In the United States where rapid and expansive development of gas and oil fields has occurred in close proximity to residential areas, over 1800 papers with a substantial body of research findings have been published. [A review of these studies](#) shows that proximity to gas development risks low birth weight infants, pre-term births, congenital heart disease and other congenital disorders, cancers and blood and immune diseases in children.

Health and water security concerns cause stress to residents in Queensland's vast gas fields and for the proposed Narrabri, Northern Territory and Western Australian developments. Clearly there are legal and insurance implications for industry and governments allowing these risks to proceed.

How could the gas industry in Australia be so dismissive of this work? Partly because of incompetence in state regulation of the industry.

In Queensland [the Auditor-general](#) questioned transparency and the oversight of the CSG industry.

There are hundreds of wells to monitor by government or by industry in Queensland and monitoring is costly to carry out thoroughly.

In NSW much of the Chief scientist's long standing [coal seam gas report](#) on regulation has not been implemented.

These derelictions of duty to the public explain why health impacts may not be evident in Australia; the data is not available to relate health events to potential instances of release of toxins into air and water, and chemicals in spills. Health departments have been reluctant to embark on studies when their governments are besotted by gas development

What can be done? Australia needs a climate change policy based on scientific facts, not on opinion.

Dr David Shearman AM FRACP Emeritus Professor of Medicine, University of Adelaide

Conclusion

As I write this second submission, I again wonder how you could approve this proposal – so many holes in the arguments of Santos and the NSW government – so many models, so many assumptions, so much New Material lacking, so many consultants and experts who will never guarantee their expert statements.

A serious decision to be made – do you support food production forever, to feed a growing population, and for export earnings, or 20 years of CSG production, with its negative impact, either serious or catastrophic, on the Environment – the land, the water, and the Health of the communities, gas which can be sourced elsewhere.

I repeat, this proposal must be refused and let's get on with renewable energy

Thank you Commissioners for all your patience and hard work

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