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TRANSCRIPT OF PROCEEDINGS

TRANSCRIPT IN CONFIDENCE

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INDEPENDENT PLANNING COMMISSION

PUBLIC HEARING

RE: NARRABRI GAS PROJECT

PANEL: **STEPHEN O'CONNOR (Chair)**
JOHN HANN
PROF SNOW BARLOW

SENIOR COUNSEL **RICHARD BEASLEY SC**
ASSISTING:

ASSISTING PANEL: **CASEY JOSHUA**

LOCATION: **VIA TELEPHONE AND VIDEO CONFERENCE**

DATE: **9.30 AM, SATURDAY, 25 JULY 2020**

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MR S. O'CONNOR: Good morning. Welcome to the public hearing for the
5 Narrabri Gas Project. My name is Steve O'Connor. I am the Chair of this IPC
panel. Joining me and my fellow Commissioners, Professor Snow Barlow, John
Hann, and counsel assisting, Richard Beasley SC. Before we begin, I would like to
acknowledge the traditional custodians of the lands on which we meet, and pay my
10 respects to their elders, past, present and emerging. And I also pay my respects to
elders from other communities who may be participating with us today. In line with
current COVID-19 regulations, we have moved this public hearing online, with
registered speakers provided the opportunity to present to the panel by telephone,
video conferencing or the studio we had set up in Narrabri.

15 In the interests of openness and transparency, each day we are live streaming this
electronic public hearing via our website. As always, the public hearing has been
recorded, and a full transcript will be made available on our website. Before we
begin and hear from our first registered speaker, I would like to outline how the
hearing will proceed. Each speaker will be introduced when it's their turn to present
20 to the panel. Each speaker has been advised how long they have to speak. We have
received a record number of speaker registrations, and it's important that everyone
registered to speak receives their fair share of time.

I will enforce time-keeping rules as the Chair. I reserve the right to allow additional
25 time for provision of further technical matters. You will hear a warning bell of one
minute before your allocated time expires, and two bells when your allocated time is
finished. I also ask that the speakers today refrain from making offensive,
threatening or defamatory statements, as per the guidelines available on our website.
It is important that all speakers understand that the hearing today is not a debate, and
30 the panel will not be taking questions. If there is something you would like the panel
to consider and you don't get the opportunity to raise it, the panel will consider any
written submissions lodged up to the extended deadline of 5 pm on Monday, 10
August 2020.

35 All written submissions are weighed in the same manner as verbal submissions made
during the public hearing. It's important to understand that any person can make a
written submission, irrespective of whether they've been allocated time to speak at
the public hearing. If you have a copy of your speaking notes or additional material
to support your presentation, it would be appreciated if you provide that information
40 to the Commission. Please note, however, that any information made available to us
may be made public. Thank you. I will now ask Richard to introduce the first
speaker for today.

MR R. BEASLEY SC: The first speaker is Professor Melissa Haswell from the
45 University of Sydney. Can you hear me, Professor Haswell?

PROF M. HASWELL: Yes. I can, thank you.

MR BEASLEY: We can hear you, and we're now seeing on the screen a paper you've – some slides you've put up, commencing with "Narrabri Coal Seam Gas Mining Expansion. What Are The Health Concerns?" So go ahead.

PROF HASWELL: Thank you very much. First I'd like to thank you very much for the opportunity to speak this morning, and acknowledge that I'm speaking from the lands of the Jinibara People in south-east Queensland. I'm a Professor of Environmental Well-Being at Sydney University and also Professor of Health, Safety Environment at Queensland University of Technology, that I have 37 years of experience in teaching and research in these areas. I would like to first ask the committee to reflect on the fact that the Gomeri People of the Narrabri region, like Aboriginal peoples across Australia, have ensured maximum health of their land and water and animals for thousands of years, to enable a thriving of ongoing and generations.

This was achieved through a clear commitment to living in a manner that continuously adhered to systems something similar to what we now called ecologically sustainable development principles. As we all know, these principles are supposed to be an important pillar upon which environmental laws in Australia are based, but far too often – and certainly in gas industry developments, these are sometimes cast aside for perceived short-term gain, leading to rapidly rising ecological and financial debt. We all know full well that if we don't rapidly change the way we are depleting and destabilising the environment and climate, this debt will become a misery, impacting on the ability of our young people and future generations to meet even the most basic needs for clear and secure water, air, food and safety in a chaotic climate.

I have placed stars beside each of the principles that are either ignored, impossible to meet or allegedly deliberately breached in the conduct of this industry, when copping fines is cheaper than ensuring this environmental protection. I will now provide a snap review of the health and well-being concerns relevant to the proposed gas project. You can see from this slide the rapid rise in the cumulative number of peer review publications from published studies between 2011 and 2019, and these number over 2000 today. Please note how many studies, how many papers have been published since the New South Wales Chief Scientist's review in 2013.

However, many and require study, especially regarding the potential health impact of coal seam gas mining for which there has been a severe lack of health research. Now, there are two main avenues through which an expansion of gas mining in Narrabri could impact on health. One is through the multiple emission opportunities for a vast array of chemicals into the environment. I know that many others will have discussed chemicals and these exposure pathways, but I will emphasise just one highly diverse group, the endocrine-disrupting chemicals, including the now widely-known PFAS chemicals that are found in oil and gas waste water.

These are very worrisome because they can profoundly affect human reproductive function, foetal and child development and metabolism at extremely low concentrations. Our water quality standards may not be set low enough to protect environmental, livestock and human exposures to these chemicals. The second main
5 pathway for damaging human health is by causing distress and disturbing ecological, social and spiritual health through a myriad of ways, as shown here, ranging from despair at loss of heritage and environmental integrity to fear for one's health and safety.

10 This slide lists the wide array of health impairments that have been linked to living in the proximity of gas mining operations for children and adults that may result from both chemical exposures and stress. And perhaps are the most greatest concern in research is the finding of negative birth outcomes arising more frequently for pregnancies proximity of gas wells and very recently in areas with gas flaring.
15 As a healthy start to life is critically important, this finding suggests that the industry may already be affecting the next generation even before birth.

Now, I've only touched on a few concerns in my talk, but I urge the committee in your deliberations to put all the water, land, climate, food security, landscape,
20 heritage, biodiversity, chemical, economic, psychological and social concerns brought by gas mining together. The knowns and unknowns, such as disturbed pregnancies and endocrine-disrupting chemicals justify a stop to this industry expansion. Only when we consider the whole picture can we truly ask ourselves, "Is this worth the purported and certainly questioned benefits of cheap gas and jobs?"
25 And I urge the committee, as the brief holders of power in this development, to apply the wisdom of Aboriginal custodians of the land, and place the protection of the environment and of people, and especially future generations, as a top priority in your final decision-making. Thank you.

30 MR O'CONNOR: Thank you, Professor. Thanks for your presentation. Can we have our next speaker, please?

MR BEASLEY: The next speaker is Gwyn Hooper. Ms Hooper, can you hear me?

35 MR G. HOOPER: Mr Hooper. Can - - -

MR BEASLEY: Sorry. I apologise. That's the first time I've done that. I've mispronounced a few names, but I haven't got anyone's sex wrong yet. It had to happen. Please go ahead, Mr Hooper.

40 MR HOOPER: It can be proved, and you're now off my Christmas list. Okay. Good morning. Thank you, first of all, for letting me have the opportunity to speak to you. My name is Gwyn Hooper and I am the Vice-President of the Northern Rivers Guardians, an environmental and activist group on the north coast – on the far
45 north coast of New South Wales. Our organisation has over 600 members and I am speaking on their behalf today. We are opposed to this development. Our members were involved in the organisation and participated heavily in the Bentley Blockade

here in the Northern Rivers that resulted in the banning of CSG fracking throughout our area, a case where people power overcame poor government decision-making to create a gas-free area, protecting our region for future generations.

5 You may wonder why our organisation has successfully defeated – having
successfully defeated CSG fracking in our backyard – should be concerned for CSG
fracking in other areas of the State. The simple answer is that if it is wrong here, it is
wrong everywhere else. Our backyard is not just the Northern Rivers region. It is
10 State-wide. It is Australia-wide. It is worldwide. Our organisation has a right and
an obligation to demand the same protection from CSG fracking and to stand with
the people of the Narrabri region in this fight.

Anyone with an iota of common sense knows that the fossil fuels have no future.
The only dissenting voices are those of fossil fuel companies, their shareholders,
15 employees, contractors and the politicians that are receiving donations for themselves
and their party, donations that are perfectly legal at this time – that, however, can
lead to perceptions of a quid pro quo, or in the extreme case, corrupt practices. This
Commission will have heard every objection possible from people and organisations
with far greater knowledge than me. Therefore, I will not reiterate what you have
20 heard before, other than to say that we are – that we endorse every objection that has
been raised about this development.

What I will say is this. This decision is about the future. This decision is about what
we are leaving for our children and grandchildren. What we are leaving should not
25 be short-term fossil fuel exploitation and environmental degradation. It should be
about leaving them with a long-term sustainable, renewable energy future that will
provide them with the life that they deserve, the life that we would want for them.

At the beginning of my submission, I stated that I was representing the 600-plus
30 members of the NRG. I should now like to give a voice on a more personal level, for
Jayden – 13, Cooper – excuse me, Cooper 10; Chloe, six; for Blake, eight, and
finally Izzy, six years old. These are our grandchildren, and on their behalf and for
their future and for the future of your grandchildren, we urge you to reject this
development. So listen to all the experts, the voices of the people, and most
35 importantly, make your decision for your children, your grandchildren and the vision
that you want for their future. For them, please reject this application. Thank you
for the opportunity to express my views and those of the members of the Northern
Rivers Guardians before this Commission. Thank you for taking out time to listen to
all the submissions for and against, and I apologise for my emotions. Thank you.

40

MR O'CONNOR: No need to apologise, Gwyn. Thanks very much for your
presentation. Next speaker, please.

MR BEASLEY: We have Jennifer Granger. Ms Granger, can you hear me? Ms
45 Granger, can you hear me? You gave me 291, so we're going to 265. Ms Brummell,
Leanne Brummell, can you hear me?

MS L. BRUMMELL: Yes. Good morning.

MR BEASLEY: Sorry about that. Please go ahead. We can hear you.

5 MS BRUMMELL: Okay. Good. Okay. Good morning and thank you for
listening. My name is Leanne Brummell and I am speaking this morning from
Gamilaroi country and wish to pay my respects to the traditional owners, past and
present. I was actually talking with one of our elders this morning, and he told me
10 that he is very opposed to gas extraction everywhere because what the Creator put
under the ground was put there for a reason. I made a submission to the original EIS
for Narrabri, and I will include that and a written submission. I also made a number
of submissions since then about projects in Queensland, and have requested internal
reviews for some of these projects, where I have had some success in having
15 conditions imposed or conditions spelt out so that it wasn't so grey.

So I read all the rules about construction, abandonment, waste legislation, just all the
– everything. So I've also snapped photos of chemical storage, where the only thing
between the wildlife and the chemicals was a wire fence, and the only thing between
chemicals and soil was a tarp on the ground, and if that's world's best practice, it's
20 not good enough. This approval is a blank cheque. It asks for several reports to be
given to the Planning Secretariat before it starts. This is information that you as the
Commissioners should be considering. I'd like to touch on the water models
probably first. Models are never accurate, according to the Director for the Gas
Industry-Funded Centre for Coal Seam Gas at the University of Queensland.

25 I've spoken with him a few times with my concerns about this industry, and he does
share some of my concerns, especially with long-term legacy issues. My
submissions, I have mainly always used expert advice and basically pooled all of that
information together into the submissions. There's been three underground water
30 impact reports in Queensland since 2012, and that has used three different models.
The first model under-estimated the volume of water that would be taken and the
speed at which it would happen. The last report in 2019 contained information that
the Queensland gas industry is using four times the amount of water at all the towns
in the Queensland gas fields use every single year. So in 10 years, that is 40 years of
35 water gone that is not available for drought. But I will note that that little fact did not
even make the executive summary that I would imagine decisions-makers use to
make decisions.

Second, I'd say health impacts. There is not – no Australian study that says that the
40 gas industry is safe with health impacts. There are vast numbers of studies from
America that say that it's not, and there is a compendium put out every single year
with more and more research. And if it is safe, why were so many Queensland
families removed from the Queensland gas fields on the proviso that they sign
confidentiality agreements? Why doesn't the industry tear up those agreements and
45 let them speak? Like seriously, they are the people that the Commission should be
speaking to about the impacts. They would know more than anybody else what it's
like to coexist.

I would also say that the drilling process can probably be argued to be experimental. Santos – one of the conditions says that they can directional drill 110 metres below conservation areas. That can result in methane seepages if there is natural faulting. And the gas industry in Queensland often cites natural seepages, but they would not
5 come with a condition, as I requested, that every square inch of the site be filled with a FLIR camera to get a baseline of the naturally – natural seepage. The drilling company websites are full of information about, “We’ve got this new process, and we’ve got this new drill bit, and we’ve” – you know.

10 So it’s basically experimental, if you’re looking scientifically at, you know, experiments. The approval says “no fracking”. Well, so did the ones in Queensland. In Queensland, it cost \$327.45 to apply to amend an environmental authority to allow fracking. The government in Queensland says that they don’t frack all of them, but
15 there are now multinational companies and foreign governments who have a legal document saying they can frack every single well. And if it’s profitable, do you think they won’t do it?

MR O’CONNOR: Leanne, could you please wrap up now? Thank you.

20 MS BRUMMELL: Yes. Sure can. This approval doesn’t have a hand brake. There’s nothing that says if X occurs, they have to stop. Indeed, it allows them to keep producing till 2045. Climate reports say that the planet doesn’t have the capacity to start one more fossil fuel project. We have 10 years to get to nett zero. Renewables and batteries are already cheaper, and could become even more so if
25 government got out of the way. And there is a huge potential for this project to become a stranded asset. Not approving this project will not cause the end of the world. Approving it will contribute to climate impacts, to not only Australian children, but to children in places around the world who have no capacity to mitigate. There is no planet B. Please just say no.

30 MR O’CONNOR: Thank you, Leanne, for your presentation. Next speaker, please.

MR BEASLEY: Next speaker is Ron Campbell. Mr Campbell, can you hear me? You might need to turn your microphone on, sir.

35 MR R. CAMPBELL: Yes.

MR BEASLEY: Now we’ve got you. Please go ahead.

40 MR CAMPBELL: Good morning, gentlemen. My name is Ron Campbell, a local business owner and a Narrabri Shire councillor. My family have lived in the Narrabri Shire for generations. I have lived here all of my life, and I’ve been in business here for 30 years. Country communities rarely get opportunities for growth. In fact, most country communities don’t get opportunities for growth. They are stuck
45 in a cycle of decline. The opportunities for the Narrabri Gas Project give the Narrabri Shire, and for that matter, the region, a life change. These opportunities are

retaining our youth with jobs, attracting other industries to the town, means jobs. Influx of representatives, contractors and new residents means jobs.

5 The Narrabri Shire Council is northern New South Wales inland port. Connecting to
gas from Santos means jobs. The flow-on effect of reasonably-priced secure energy
to the northern New South Wales inland port, and the opportunities for agriculture
through that means jobs. Some say it's not all about jobs. Well, it is all about jobs in
the bush. To sustain a country community, it can only be through jobs. Some say,
10 "What happens when it's all over? What do we do then?" Well, by then we will
have built a productive manufacturing, value-adding industrial precinct called the
Northern New South Wales Inland Port that employs thousands of people. We've
built on our population from new jobs, a direct result of the Narrabri Gas Project.

15 It can increase our population to possibly 12 to 14,000 people living in Narrabri,
which is the magic number of people needed in a country town to self-generate and
sustain local industries to survive for generations to come. Link gas to the Northern
New South Wales Inland Port, which is linked to the inland rail, hauling all of our
opportunities right across Australia. That is our future. That is how we build a
20 sustainable, vibrant community for the next hundred years and beyond. Country
towns don't have the luxury of population, of investment and infrastructure. We
don't have social and economic opportunities or a plethora of medical services, good
hospitals to connect with mental health and specialist services.

25 We don't have the opportunities to go to art galleries, museums. Major acts don't
come to town. We can't attract investment to build say an industrial estate to create
jobs. Build it and they will come, but that does not exist in country towns as it does
in more highly-populated areas, unless there is a catalyst. That catalyst for us is the
Santos Narrabri Gas Project. In country towns, when an opportunity knocks on your
30 door and you've got to look at it straight in the eye. You can't just say, "We don't
want it" because opportunity does not come knocking very often, if at all. So when
that catalyst comes to town, you have to grab it by the scruff of the neck, give it a
shake and say, "Are you fair dinkum? Are you serious" and find a way to make it
work rather than finding ways it won't.

35 That is what's happened with the Narrabri Gas Project. That's what's happened with
Santos and this community over the last nine years. The community and government
have stripped Santos bare, requiring a great deal of information and guarantees
regarding the ecological, environmental, geological and social impacts of the
Narrabri Gas Project, and they have complied with all that has been asked by the
40 regulators, to the point where New South Wales is now the most highly-regulated
State in Australia and possibly the world, to do business in for the oil and gas
industry.

45 There's been many people comparing the Narrabri Gas Project to projects in
Queensland and America. This is like comparing apples with oranges. The Pilliga
Gas Project is a boutique, valuable gas field that is geologically perfect for the safe
extraction of coal stream gas. Now, I may not have "doctor" written in front of my

name, nor do I live in an ivory tower. I want to clarify the definition of “ivory tower”, and I quote:

5 *A state of privileged seclusion or separation from the facts and practicalities of the real world.*

I hear exactly that in many of the submissions against this project. The facts and practicalities of the real world in country towns lives next door. It’s down the road. It’s at my workplace, and it’s in the main street. It’s a single decision of government that affects our daily lives when you live in a country community. We live in the bosom of reality every day of our lives, and our reality is that we need the opportunity that the Narrabri Gas Project will give us, and that is the dignity of having a job and supporting our families. There is a silent majority. This is not a divided community, contrary to outside misconceptions and scaremongering. This is a united community, and the opportunities we have ahead of us for our children and generations to come with the Narrabri Gas Project. Thank you.

MR O’CONNOR: Thank you, Ron, for your comments. Our next speaker, please.

20 MR BEASLEY: Sue Anderson. Ms Anderson, can you hear me?

MS S. ANDERSON: Yes, I can.

MR BEASLEY: Please go ahead. We can hear you.

25 MS ANDERSON: Thank you. Good morning, Commissioners. Thank you for hearing my submission. I am a 75-year-old science graduate and grandmother of eight. There are many important reasons why the Narrabri Gas Project should not go ahead, and these have been expertly detailed by many knowledgeable speakers. My focus, as that of others also, will be on global warming because the future of our planet and not just the human population depends on serious action immediately. This action, as everyone knows, is reduction of fossil fuel use. We do not need any more gas. We do not need a transition fuel from coal. We have many renewable alternatives. Gas is not a transition fuel anyway, as the methane leakages at all stages of production make the use of gas as bad for increased global warming as the use of coal. Dr Canadell, Head of CSIROs Global Carbon Project, says in reference to gas use:

40 *...that moving from one fossil fuel to another fossil fuel is not a pathway to nett zero emissions, and was never collectively agreed on at the 2015 Paris Climate Accord.*

I have been worrying about global warming almost since my university days, and becoming more and more frustrated by the almost intentional lack of action by governments. More recently, it seems that any excuse will be used to allow fossil fuel companies to continue to pollute, in spite of the dire warnings from just about all scientists. We are currently on track for a 4 degree C rise in global temperatures

which would cause global collapse. Yet even with this knowledge, we continue to develop more and more fossil fuel facilities when we have the renewable alternatives.

5 The Narrabri Gas Project must not go ahead. According to Ian Dunlop, if we want to stay below the Paris limits – that is, well under the increase of 2 degrees C, we can only use 80 per cent of the currently-developed fossil fuel projects worldwide – that is, no more fossil fuel project development at all anywhere. Even so, no one knows when the tipping points will be reached, and that is a time when there will be no
10 turning back. Have we already lost control? We have wildfires in Australia, the Arctic, California, the Amazon, Indonesia already. What will that be like in years to come?

I am extremely worried about the future for my grandchildren. The older ones who
15 are worried but helpless. What can they do? Protests, letters, etcetera, get nowhere except to more frustration and worry, and more recently anger. The Narrabri Gas Project must not go ahead. The rejection of this project on many grounds, but especially on global warming, would set an important precedent and an amazing example that we at last are taking the warnings seriously. Thank you.

20 MR O'CONNOR: Thank you, Sue. Our next speaker, please.

MR BEASLEY: Liz Millen. Ms Millen, can you hear me?

25 MS L. MILLEN: I can.

MR BEASLEY: Please go ahead.

30 MS MILLEN: Good morning, Commissioners. Thank you for the opportunity to speak to you. I'd like to acknowledge the Pilliga's traditional owners, the Gomeroi People, and pay my respects to their elders, past, present and emerging. I am speaking for the land of the Gadigal People of the Eora in Sydney, and note the land we live on and use was ever ceded. I'm a retired health worker who spent many years working to raise awareness about food systems in Australia and what is needed
35 to ensure sustainable food access for all into the future. I've listened to a number of speakers who've provided compelling evidence that the Narrabri Gas Project is not in the public interest on many different counts.

40 There is clear evidence that it will contribute to Australia's carbon emissions, and make it difficult, if not impossible, to meet obligations under the Paris Agreement. The economic arguments don't stack up as there is an over-supply of gas. Claims about employment opportunities have been greatly over-rated, and have not considered the loss of agricultural jobs and the alternative employment that investment in renewables would offer. This is truly a yesterday project, when what
45 is so badly needed is renewable and clean energy infrastructure which can keep on providing, rather than depleting and polluting, into the future.

All the above would be enough reasons to argue against this project, but I want to focus on the potential impact on food security, both directly through risks to ground water which has not been adequately addressed by Santos, and indirectly through the impact on climate change. In Australia, we're lucky to take for granted a year-round supply of food that is largely Australian-grown. However, many of us have no idea where this food comes from, and do not recognise the active steps that need to be taken to ensure we can maintain food supply in the face of future challenges, including climate change, population growth and the many competing commercial interests in land.

It has been estimated that by 2061, domestic food demand may be 90 per cent above 2000 levels, but at the same time in 2013, the International Panel on Climate Change estimated that Australia may be on track for 4 degrees of warming. This will entail huge decreases in agricultural production. A 2015 Climate Council report, "Feeding a Hungry Nation", that looked at climate change, food and farming, has estimated Australia to be one of the most vulnerable of developed nations to climate change. It is really important that we take this seriously and do all in our power to reduce climate change now. Adaptation will only get more expensive the longer we leave it.

Australia lacks a national food policy which would take a strategic approach to ensure protection of productive agricultural land, prioritise the water resources, and that would identify and reject unnecessary risk. Much of the most productive agricultural land in Australia has already disappeared as major cities have expanded into surrounding regions and developers have replaced farmers or land has been lost to mining. We can't keep shifting the problem elsewhere. We cannot afford to jeopardise prime agricultural land such as the Liverpool Plains, where the risk that aquifers may be polluted by chemicals used for fracking or that the recharge capacity to the Great Artesian Basin may be affected.

It's clear that we can't rely on self-regulation or control through recommendations and regulations. Despite Santos' PR leaflets which claim that operations adhere to the strictest environmental standards, I have heard that they waited 13 months before reporting one instance of chemical contamination of water to the authorities. In another case near Santos operations, had high levels of uranium, much higher than the safe level, that resulted in a fine of \$1500 from the EPA. Hardly an effective disincentive for a company investing heavily and expecting to return billions on this project, especially when two days later, an MOU was signed by the Deputy Premier in New South Wales to speed up the project.

Even the New South Wales Government's own assessment is that Santos' modelling has a high level of inaccuracy, and the Department of Planning's water expert panel has expressed concern that the model may have poor predictive capacity in relation to the impact of production on the surrounding water sources. How can approval be granted when there's no certainty about the long-term effects on ground water supply and its role in recharging the Great Artesian Basin? It's worth noting that a 2020 report by the ANU Commissioner for Human Futures identified 10 intersecting

threats, of which number 1 was decline of natural resources, including water. The final threat was failure to understand and enact preventatively on these risks.

5 I feel that approval will give a green light for future proposals to ignore the scientific evidence, the economic evidence and the overwhelming community opposition, both locally and across New South Wales, and will pave a way for a bleak future for our children and grandchildren. I urge you to reject this proposal, as embodying too much risk, it does not have social licence. Thank you.

10 MR O'CONNOR: Thank you, Liz. Our next speaker.

MR BEASLEY: Next speaker is Anne Ciesiolka. I hope I've pronounced that correctly. Anne, can you hear me?

15 MS A. CIESIOLKA: Yes, I can.

MR BEASLEY: Please go ahead.

20 MS CIESIOLKA: Thank you very much for the opportunity to speak today. I have just recently retired from 50 years of farming in the Wee Waa area. In 1971, we moved from Kingaroy to Wee Waa to irrigate peanuts and, in fact, we were the pioneers of irrigation of peanuts in Australia. Over the 50 years, we have developed crops that were not normally grown in the area – wine grapes, peanuts, of course, potatoes, and the bulk of that farming enterprise is now being carried out by our son,
25 Matthew, and his wife, Sarah. Sarah spoke eloquently and passionately on Tuesday, so I'm not going to revisit the material that she used or presented, except for a couple of issues which I think probably relate to the point that I want to make.

30 I have read the assessment report, and I'm very, very concerned about the fact that it states that the project is unlikely to result in any adverse impacts on the region's ground water resources. I don't think "unlikely" is a safe enough proposition to base a decision on. "Unlikely" means there is a possibility that it could happen, and I believe yesterday there were speakers who showed that there were quite severe risks of contamination to the water. Sarah actually mentioned one of the issues being that
35 insurance companies have refused to insure landholders in the area. Insurance companies deal in risk, and if they believe the risk is too high to get engaged, I think ordinary people, ordinary little farmers are perfectly justified in having concerns about it.

40 The main point that I wanted to make was about – one of the things that I didn't mention was that we have grown oranges for the last 15 years. I wish you could smell – these are – these were harvested in June. We no longer own the property because we're old and needed to retire. The – these oranges at one stage were certified organic, so I'm very, very aware of the hoops you have to jump through in
45 order to achieve organic certification. I am very concerned now that anybody who wanted to achieve organic certification in the area would find it almost impossible. I had researched the issues – there are some co-existing organic certifications in

Queensland, but the person – one of the persons who has that certification has said that it has been extremely difficult to prove that it's safe.

5 The water – the waste water plan is to release the treated water – they say treated to
potable standards. I have my doubts about that being totally safe, but it's to be
released into the Bohena Creek in high flow periods. Bohena Creek is upstream of
the area that we farmed, and if – upstream, up the Namoi River, so if there was a
high flow event – not likely actually nowadays, but if there was a high flow event,
10 that water would come down the Namoi River, spread out across the land, and there
would be definitely some risk to – of contamination to the land that we at one stage
had certified organic. I think it's an important point. People have a right to be able
to farm or carry out their business in any way they believe – legally, but in – they
have a right to be able to achieve organic certification, and if that right is denied by
the approval of this project, I think that is extremely unfair.

15

MR O'CONNOR: Could you please wrap up now, thanks, Anne?

MS CIESIOLKA: I have finished. Thank you.

20 MR O'CONNOR: Thank you for your presentation. Next speaker.

MR BEASLEY: Next speaker is Marie Flood. Can you hear me, Ms Flood?

MS M. FLOOD: Yes, I can.
25

MR BEASLEY: Please go ahead. You may have switched your microphone off,
Ms Flood.

MS FLOOD: How's that?
30

MR BEASLEY: That's better. We can hear you now.

MS FLOOD: Hi. My name is Marie Flood and I like acknowledge that I'm
speaking from the land of the Gadigal People, and I pay respect to their elders, past,
35 present and emerging. I also acknowledge the Gomeroi elders – this country we're
speaking about today. I strongly oppose the Narrabri Gas Project. I'm a Knitting
Nanna who grew up in the north-west, and I retain my connection to home. I'll stay
– I will say a few words about social licence and inter-generational equity. Now,
many of the speakers this week have stressed that the Santos project doesn't have a
40 social licence. I can assure you that this applies in the city as well as in the north-
west.

A petition of over 11,000 signatures collected by the Knitting Nannas will be
discussed in the New South Wales Parliament on 6 August. It will call for the
45 project to be stopped. Nannas have collected the signatures in the CBD of Sydney,
mostly last year. We spoke to many people about what they knew about the project
and about coal seam gas. We found that nearly every person who knew about the

project objected to it. As the severity of the drought became more obvious, our job became easy. People approached us, asking to sign. Then came the bushfires, and people lined up to sign. A lot were angry. They expressed disbelief that the project was still being considered by the New South Wales Government and that it was
5 being pushed by the Federal Government.

It's clear to the Knitting Nannas that Santos has no social licence in the city, just as it doesn't in the bush. The Knitting Nannas are about saving our water, land and climate for future generations. The ongoing legacies of this project raise the issue of
10 intergenerational equity, fairness and justice for future generations. It's just one of the issues that the department has opted out of because they don't acknowledge the of this project. We've heard a lot about the risks that areApart from the significant contribution of climate change, there's depletion, depressurisation and contamination of water, there's loss of productive land, there's damage to a beautiful
15 forest, extinction of species, gas wells leaking long after Santos and the gas industry have gone, and there's the salt waste that will never go away.

Intergenerational equity is about leaving future generations a liveable environment and a climate, and to do that, we need to change direction much faster than we are,
20 and at the same time work to fix the environmental damage we've already done. The good thing is that changes have started and they're being embraced in rural communities. I have loved this week learning about the rural communities in New South Wales who started the project, developing their own renewable energy. The Manilla example was amazing. Their project shows how communities can unite
25 around the common need for cheap, clean energy.

There are many great alternatives to gas development that will bring real social and economic benefits to rural towns as they build community unity. There are more
30 jobs in renewables, and the north-west deserves to be part of this inevitable growth of renewable industries. Santos has brought division and exhaustion to the north-west. If they go ahead, the legacies won't just be environmental. There will be many negative social legacies as well. They will affect different communities in different ways and inequitably. The Gomeroi People tell us of the great significance of the Pilliga to their culture and to their responsibilities to protect the country.
35

They said they don't want the mines, full stop. The Pilliga, the whole forest is of significance to their culture, and to damage it is to damage the lives and culture of their present and also the future generations. I contend that intergenerational equity principles require that this project is stopped. This public hearing has clarified that
40 it's time to cut our losses on this project. Santos and the department have spent fortunes getting this far. Farmers and community groups have invested money and uncountable volunteer hours stopping it. Please don't lock the north-west into dangerous and expensive gas for 25 years. Not only in Narrabri. Mr Gallagher told us on Monday that Santos wants to invest more in New South Wales if they get the go-ahead in Narrabri, confirming that they would go for expansion and more gas
45 mining. Don't let - - -

MR O'CONNOR: Marie, could you please wrap up now, thank you?

MS FLOOD: Don't let Santos block the development of renewables which are rearing up, ready to take off, and they've got strong community support. Please
5 reject this project in the public interest. Thanks for hearing me, and thanks for this week. It's been a great learning experience.

MR O'CONNOR: Thank you, Marie, for your presentation. Next speaker, please.

10 MR BEASLEY: Katherine Marchment. Ms Marchment, can you hear me?

MS K. MARCHMENT: Yes. I can hear you.

MR BEASLEY: Please go ahead. We can hear you.
15

MS MARCHMENT: Okay. I'm Katherine Marchment. I'm ringing from Darwin, Northern Territory, you know, the Larrakia – from the Larrakia Nation, the Larrakia people who support the Gomeri People in protecting their country, as do the Aranda People, the Warlpiri People, many people across the Northern Territory who you
20 know, have Santos licences over their land and concerned about their water. I have a direct connection with the Pilliga country. I used to live in Coonamble. I'm still friends with people there. In 2014, I think it was, I sat with a local farmer in front of a Santos drill rig, our main concern being the ground water.

25 You know, this Coonamble farmer is utterly dependant on ground water, for drinking water as well as, you know, for the farm, and she's bordered on two sides by the Pilliga Forest, so it's directly related. You know, my concerns with this project is that it fails to the bottom line. It abysmally fails environmentally. The dead zones in the Pilliga Forest, the damage that's already been done by Santos operations
30 in the Pilliga has not gone away. They haven't been unpredicted. You know, damage to an aquifer, the damage to the forest itself. It fails on a social level.

It's very telling that there were 23,000 submissions, you know, to the environmental impact statement, objecting to this project, with a couple of hundred for it, so no
35 social licence. And it fails economically. This company is in big trouble. Onshore gas is in big trouble. You know, we've got Deloitte coming out of theor EEFA, the Australian Institute saying, "Look, you know, there's no profit in this". So – and not only that, I mean, glaring omissions to this project are where are they going to dispose of the waste? And there's no costing for well remediation which would
40 come into the billions of dollars, and what that externalised completely onto the community.

I'm surprised that, you know, this project hasn't been knocked on the head already. It is – smack on top of the main of the Great Artesian Basin, the deepest part of
45 the Great Artesian Basin, the main recharge for it. The Great Artesian Basin is being the Northern Territory, New South Wales, Queensland, South Australia. It goes across four States. You know, it is our main water resource. To, you know, be

risking that for a – you know, what the economists are saying, “This is not profitable if it goes ahead”.

5 Why is this still being pushed through? It seems to me it’s just a political decision because there’s And I’m worried for my children and for my grandchildren. You know, we’ve got threats on the main water supply in the Kimberley. We’ve got threats in the Beetaloo which is our main water supply in the Northern Territory, and the Great Artesian Basin which is the main water supply for Queensland and New South Wales, and this project is the worst of the lot. I cannot see the reasoning in it, and if the Planning Commission can give us any reason at all. I mean, the Santos and the companies can’t back up what they’re saying about this.

15 You know, the proof, the data is saying the opposite. So this project should not go ahead. So I’d really – I’d like to register my objection, and I’d really appreciate that, you know, if common sense prevails. You know, I’m speaking from the heart here. I’ve only got five minutes to have my to say my say, and I’m praying that it does make a difference. Thank you for listening to me.

20 MR O’CONNOR: Thank you, Katherine. Next speaker.

MR BEASLEY: I think we have Jan McNichol. Jan, can you hear me?

25 MS J. McNICHOL: Yes. I can hear you, Commissioner. Yes. My name is Jan McNichol and I’d like to thank you for this opportunity to speak. I acknowledge that we speak about the lands of the Gomeri and the traditional lands of the Gomeri People, and I pay my respects to their elders, past, present and emerging. You have been listening to the testimony of real experts all week and the heartfelt and reasoned pleas of local residents, but my speech is a personal statement. I live in Brisbane and I have been an environmental activist and nature lover most of my life. 30 My latest focus is on climate collapse, so it is a convergence of these two phenomena that bring me to you today.

35 Many aspects of this gas field proposal concern me, and with the fact that with a number of these issues, approval is being sought in advance of the information the decision should be based on, specifically water, waste, biodiversity impacts and indigenous cultural heritage. Zeroing in on the concept of biodiversity, I am especially grieved by the fact that the project area encompasses a large part of the Pilliga State Forest, a remnant of the once great Grassy White Box Woodlands ecosystem, now reduced by clearing for agriculture to tiny non-viable pockets mostly 40 in country cemeteries and along travelling stock routes.

45 I have made two trips to Barraba, east of Narrabri, owing to its repute as a place where regent honeyeaters might be seen, which involve wandering around in the degraded bushland remnants The Pilliga State Forest is one of the largest remnants, and it is in public ownership. It should be permanently protected, not sacrificed in the short-term smash and grab mining project for an obsolete technology. A thousand hectares of the forest will be cleared for roads, pipelines,

condenser stations, produced water ponds, waste dumps, pad areas, storage depots, methane flares, etcetera, affecting 10,000 hectares, with all the new edges that will provide access for weeds anti-social humans and feral animals.

5 It will be trashed and ugly. Grassy White Box Woodlands have their own special birds, including the regent honeyeater which is probably down to the last few hundred birds if the species survive Black Summer. The swift parrots and the
10 babblers, which are charming social creatures. These woodlands have a low, open eucalypt canopy, producing enormous amounts of nectar and pollen and massive wildflowers in spring. They are extraordinarily attractive places, probably visually similar to the forest we first evolved in in Africa when we diverged from our ape
15 cousins. But these are uniquely Australian.

My intention today is to plead to the lives of these innumerable beings and the
15 ecosystem they comprise. They are our responsibility and in our care right here and now. We can wipe them off the face of the earth forever or we can stop this madness. As much more learned people have already told you this week, this project has huge problems with extracting large amounts of polluted underground water,
20 disposal of the tonnes of sodium bicarbonate and other waste it contains, the risks of gas flaring, causing bushfires, the climate aspect of burning the gases, the climate aspects of the methane emissions, the whole dodgy economics of the project, the social impact of fly-in, fly-out workers, the ignoring of the chief scientist's
25 recommendations on this project, and the destruction of Aboriginal cultural heritage.

For these reasons and to save the Pilliga Forest, I ask you to reject Santos' proposed
25 gas field at Narrabri. I was searching the web for actual information on the Pilliga, and I came upon a trailer for a horror movie called "There's Something in the Pilliga". The filmmakers are right. There is something in the Pilliga, and it's not the fabled Pilliga Princess. It's an imminent global and local ecological catastrophe in a
30 place of great natural and fragile beauty. We can do – we can be the good ancestors that we need, and save this for the future and not destroy it now. Thank you very much, Mr Chair.

35 MR O'CONNOR: Thank you, Jan, for your presentation. Next speaker, please.

MR BEASLEY: I don't know who this is – do we have Anne Hodgson, Ms Hodgson?

40 MS A. HODGSON: Yes, we do.

MR BEASLEY: Good. Please go ahead. We can hear you.

MS HODGSON: I'm here to say I vigorously oppose this project because I take
45 guidance from people who know much more about the subject than I. We are told from a very young age to listen to those who know better than us. At the start, those people are our parents and carers. At school, we are guided by our teachers who taught us to examine, interrogate and research information, to seek out the facts and

to increase our own knowledge, and in high school science, we are shown to look for cause and effect, to learn, adapt, grow in knowledge and improve. As adults, we seek guidance from people in our community and the wider world, respected people who are clearly knowledgeable, who have credentials, experience, vision and understanding in their area of expertise.

It is accepted that it is to our benefit to listen to people who have specialised knowledge. For instance, right now the government is taking notice of medical experts as we try to navigate through this extremely difficult COVID-19 pandemic. Had medical experts been ignored in Australia, tens of thousands of people may have died. Of course, the situation is still extremely difficult, but if medical advice had not been followed, it would have been many, many times worse. But there are examples of where good, sound, scientific advice has been ignored. Doctors and scientists warned of the link between lung cancer and smoking as early as 1950. However, the powerful tobacco industry lobbied hard to quell this message and to sway public opinion and government support.

My point is, we are taught to listen to people who know better than we do, and yet here, with this CSG proposal, the government are not listening to the experts. Cold steam gas is a fossil fuel. The fossil fuel industry has waged a similar campaign to that of the tobacco industry, even using some of the – many of the same so-called expert scientists, they have endeavoured to change public opinion and to sway governments into supporting their developments. And government is supportive of these projects for a range of reasons. They rely on job data to maintain their electorate appeal. They are desperate to support any opportunity that will fast-track job creation, particularly now, when unemployment is at record high.

Santos is offering a seemingly easy option for government, but the job numbers are not high and they're not long-term. Government has given very little consideration into alternative employment creation opportunities in the renewable energy sector. Projects in wind and solar could create many more employment opportunities than cold stream gas mining, so why allow a development of a hugely damaging industry when other alternatives have not been fully considered? Numerous organisations have published papers outlining the employment prospects for renewable energy projects.

One only released very recently by the Climate Council, the Clean Jobs Plan, shows that 76,000 jobs can be created, and it includes independent economic modelling. These have not been given due consideration. The Santos development, to me, seems like an easy option for the government. In my opinion, what we are witnessing in the government support of fossil fuel project is a government at the whim of big mining companies with huge budgets to lobby and sway political will. Just like it was in the 1950s with the tobacco and oil industries, we are seeing it here again.

And, of course, as you've heard repeated over the past few days, there are a raft of reasons why the CSG project should not go ahead, including the negative impacts on

water, biodiversity, indigenous sites, CO2, to name just a few. Santos, of course, will say they will manage these impacts, but their past record suggests otherwise. So who should we listen to? Santos or the scientists? Will we listen to Santos whose record to date is untrustworthy and who are desperate to claw back their initial
5 investment from this damaging development. Their rhetoric has a clear bias. Or should we listen to science which has more than 97 per cent of the world's scientists agreeing that climate change is a huge problem.

10 They tell us that we must stop burning fossil fuels or face irreversible damage. This is a dire warning. Ninety-seven per cent of scientists. As I started this talk, we are taught to listen and follow the advice of people who can advise us appropriately. My belief is if we fail to heed the warning of the world scientists, we are condemning future generations to an incredibly bleak future. I respectfully ask you to not approve this development. Thank you.

15

MR O'CONNOR: Thank you, Anne, for your presentation. Next speaker, please.

MR BEASLEY: We have Mary Busted. Are you there, Mary?

20 MS M. BUSTEED: Yes, I'm here.

MR BEASLEY: Please go ahead.

25 MS BUSTEED: Thank you. Good morning, Commissioners, and thank you for this opportunity. We live in Tallegalla, Queensland, so I won't be directly impacted by this, but we're opposing the project because it will impact on all Australians sooner or later. We've owned a small rural property since 2003 and lived the effects of climate change. A once green area which has been reduced to negligible rainfall, dying trees and rock-hard ground. I know we're not alone with that, but this is our
30 experience. We face the next bushfire season with trepidation.

35 For the last 17 years, the science – sorry, science tells us the causes of climate change, and we don't understand why this project is being approved or seeking approval. Sadly, this government's post-COVID-19 recovery is spending four times more on mining fossil fuels than on other cleaner alternatives, and I don't need to go over what they are. The UK has less sun than Australia, and yet they are tracking far more rapidly than Australia towards a carbon-neutral future. This project, if approved, will impact significantly on the environment.

40 It will assist global heating. Gas emits less harmful substances than coal apparently, but still methane impacts on global heating. To meet the Paris Agreement as economically as possible because the longer we wait, the dearer it will be, we need to move much faster towards sources of renewable energy. It will threaten water supply, agricultural production and biodiversity. This project going much further
45 down into the – down into the surface of the world, the extraction process is – during the extraction process, how can Santos guarantee no massive degradation occurring with that?

This is not good custodianship of our land. It will scar the landscape. Fossil fuel mining corporations do not enjoy a clean record of regenerating the land. It negatively will impact on the majority of farming and indigenous communities, neighbours in the area in which the mining will occur. The COVID-19 Commission
5 proposes CSG as a suitable transition to sustainable energy sources. How can CSG, along with other fossil fuels, provide a suitable transition to clean energy when there's a global glut of gas, and low prices will continue for more than eight years?

Should prices rise and on-selling of gas to overseas customers occur, will Australia
10 continue to miss out on royalties or taxes? I can't see how that can benefit Australia even in an economic sense. Has the price of this gas been fixed for New South Wales usage? Maybe it has. I don't know. Does New South Wales have a policy which favours domestic users? Producing new gas on the eastern coast is apparently very expensive. As cleaner energy sources become available, what will happen to
15 the remaining gas and its stranded structures? It will leave very ugly scars on the landscape. We're pleading with you not to approve this proposal. That's all.

MR O'CONNOR: Thank you, Mary. Thanks for your presentation.

20 MS BUSTEED: Thank you.

MR O'CONNOR: Next speaker, please.

MR BEASLEY: Simon Wells. Mr Wells, can you hear me?
25

MR S. WELLS: Yes. I've got the headphones in my phone, and I've got a little mike, so I hope that's adequate for you to hear me, otherwise I guess I'll pull it out and put the phone to my ear.

30 MR BEASLEY: No. We can hear you loud and clear, so go ahead.

MR WELLS: Right. Okay. I'm Simon Wells. I'm a part-time school teacher in Queensland. I've been a pro-environment campaigner for over 40 years. I won't reiterate all the economic, environmental heritage and other arguments which will
35 have been adequately presented by numerous other speakers. Instead, I'd like to talk about motives and tell a story. In 2014, I participated in civil disobedience of the White Haven Coal Mine, east of Narrabri, as part of the so-called Maules Creek campaign. I locked myself to a large excavator several hours before dawn on the mine site, and was later removed by police after five or six hours.

40
Once my presence had been discovered by mine employees early in the morning, security staff came up, and one of them, a fellow called Peter, was assigned to stay with me until the police arrived. He was pleasant and engaging and was prepared to help me if I became distressed or uncomfortable. We got to talking about the issues
45 of mines and developments in the region. And he remarked at the nearby Pilliga Area. It was absolute rubbish. And then it all should be knocked down. I was quite

shocked by the extremity and vehemence of his opinion. I didn't react and I didn't debate the point with him. I knew – we both knew that we had agreed to disagree.

5 But what struck me about his comment was his complete dismissiveness of the
Pilliga's value. It may not be everyone's cup of tea as a landscape, but as we all
know, it is the unique and very hospitable environment. Peter, like the mining
companies, had a vested interest in verbally trashing such areas which stand in the
way of profit or in Peter's case, in the way of a secure full-time job on a mining site.
10 Not only do the developers not appreciate the heritage, habitat and wilderness values
of places such as the Pilliga, they actively belittle the opinions of those who would
protect them. And why, because it stands in the way of their profit. I absolutely and
vehemently oppose cold stream gas development in the Pilliga. That's all I wish to
say. Thank you.

15 MR O'CONNOR: Thank you, Simon. We'll take a break now and we'll be back at
11.20 am. Thank you.

20 **ADJOURNED** [10.39 am]

RESUMED [11.20 am]

25 MR O'CONNOR: Good morning and welcome back. We'll have our next speaker
please.

MR BEASLEY: We have Dr Jared Field. Dr Field, are you there?

30 DR J. FIELD: I am, yes.

MR BEASLEY: Please go ahead, we can hear you.

35 DR FIELD: Wonderful. So, hi, I am Dr Jared Field, as mentioned. I'm a Gomerioi
Man from Warriwei. A – also a scientist. I have a doctorate from Oxford in both
mathematics and biology and I'm deeply concerned about this project proposal, I
suppose, in every capacity. I'm worried about the deep cultural losses that will ensue
if it's allowed to go ahead. In particular, in my culture all trees are special but some
are sacred. Some are passed from generation to generation. And one such tree
40 actually belonged to my grandfather and his grandfather before him and one day it
might have been mine. But in 2015, for a very similar project, this tree was cut
down. And so too was this pre-colonial connection to it. I cannot tell you how much
that hurt. And I ask you to prevent that from happening to anyone else.

45 I am equally, however, concerned about the short-term economics in this proposal.
Both David Kitto, the government representative, on Monday, and the CEO of
Santos, repeatedly stated that they're increasing supplied, there will lower prices and

thereby aid small businesses that rely on gas not only for electricity. They neglected, however, to mention though one may reduce prices not only by increased supplied – which they admitted would be a very small amount – but also by reducing demand, that is of course can be done with renewables the viability of which on this very land
5 has been studied by Dr Sven Teske.

In his 2018 report he found that on four per cent of the proposed land more electricity may be produced creating three times as many jobs for a longer period of time and using no water. I feel one does not need a doctorate from Oxford to see that
10 this project proposal simply does not add up. It is, at best, short-term opportunism. Finally, however, I would like to express my concern generally as a young person. I ask, Commissioners, that in making your decision you consider the collective negligence of your generation in providing a world that is fit for the future. You individuals have the privilege or power to right some of that wrong, but you do. So I
15 hope that you make the right decision, not least because we will remember you. Thank you.

MR O'CONNOR: Thank you, Doctor, for your presentation. Our next speaker please.
20

MR BEASLEY: We have Ruth Sykes on the phone. Can you hear me, Ruth?

MS R. SYKES: Yes, I can.

25 MR BEASLEY: Please go ahead, we can hear you.

MS SYKES: Thank you. I'm from the Shoalhaven area and pay my respects to the local Wodiwodi People and to the Gomerioi People of the Narrabri area. Thank you, Commissioners, for this opportunity to oppose the Narrabri Gas Project. I thought of
30 Banjo Patterson's verse when I heard a description of an overflow body of water near a CSG outlet in the Narrabri area. Dead animals were lying around and the water seepage into the forest had killed trees in 2011. It is still a dead area. My friends and family have joined me to write this poem:

35 *I had written them an email which included lots of detail
Sent to Santos CEO in Sydney, months ago,
said people are not willing to countenance the drilling
in the heartland of the Namoi where the floodplains overflow.
And the answer as expected said my claim may be rejected
40 and I think the song was written by someone from PR,
twas all about the dollar while no science or no scholar
should halt the march of progress and that's just how it are.*

45 *Giant Santos has expended a truckload of investment
to explore, explode, exploit for a profit not to share,
leaving twisted stunted landscape with water running dry
big business boom and bust leave community coffers bare.*

*Unconventional gas extraction is expensive and polluting
the night sky alight by the mine head flare
obscuring observatory gaze of our beloved universe
Narrabri's view of Clancy's everlasting sky.*

5

*It's a fact that isn't heeded that this gas is just not needed,
there's a glut already out there and renewables stand tall,
the forest and farmland wrap the landscape like a garland
an extractivation nightmare spreads its foulness over all.
The farmers and the townies, young, old and in between,
businesses and drovers from Wee Waa to Boggabri,
see greenhouse accruing and toxic gasses spewing
through the open window floating on the plains of Narrabri.
..... of custodian First Nations is deep time profound entwinement
with this land demand respect, and resulting salination under leached
contamination landscape that is hollowed out, an aquifer that's wrecked.*

10

15

*They have no time to walk along the tracks of Galambrai
where people live with nature, dreams and stories, dingos and all,
their marks are on the landscape and their stories in the air
with a home and the not mad Barking Owl.
And in the place of lowing cattle I can hear the fiendish rattle
of the drilling rigs and pipelines and community despair,
and the threat that we are facing to the Great Artesian Basin
to the green and clean alternatives this fracking can't compare.
As I sit and ponder memories grow fonder
of trees our mining companies cleared for gain,
for the bush creates such pleasure that it's difficult to measure
and our hearts and minds are lightened when we reach the Western Plains.*

20

25

30

*The bush has friends to save it and our kindly voices praise it
in the murmur of the sheoak and the rivers when not dry,
And we see the vision splattered of the old ways protect and at night the
glorious beauty of the peaceful countryside.
In the words of Dorothea that have made our vision clear
we love our sunburnt country and adore her sweeping plains,
but rulers have been forgetful and have been so neglectful
and rather than protect her, they treat her with disdain.*

35

40

*Now we've a chance to create something needed, something great,
a chance to weave new stories as we reflect with clear insight,
at a crossroad we are standing from our government we're demanding
stand with honour, do what's needed, do what's caring, do what's right.
And I somehow rather fancy that this drilling is too chancy,
it's time to say no, the western drill rig's got to go.
They send them all a packin,'
put an end to all this frackin,'*

45

for the country life has value, ask Clancy of the Overflow.

Thank you.

5 MR O'CONNOR: Thank you, Ruth. Next speaker please.

MR BEASLEY: Next speaker is Sonia McKay. Can you hear me Sonia?

MS S. McKAY: Yes, yes.

10

MR BEASLEY: Please go ahead, we can hear and see you.

MS McKAY: Thank you. I have a PowerPoint so I'm going to try and attempt to put that up. My name is obviously Sonia McKay, I do have educational background but that's not why I'm actually speaking today. I'm speaking in relation to being a mother and also a person who's majorly concerned about disaster risk reduction. So I'll be focusing on disaster risk reduction in terms of Agenda 2030, in terms of Sustainable Development Goal 13 on climate action, and Build Back Better.

15

20 My major concern is that the intergenerational opportunity cost of what is occurring now, it is too great. Even now after the bushfires in the last two fire seasons, even now when we've had so much loss, we are still here talking about new fossil fuel ventures instead of focussing on adaption, mitigation and prevention. We should be focussing on the younger generations and their needs in terms of education and
25 implementation of disaster risk reduction measures with locked-in impacts still to come. We are past the point of efficient pollution, or triggering some precautionary principle that we already know exists, or even foreseeability, because we can already foresee, we can already touch, we can already smell, with what was happening with the bushfires. We know that the burning of fossil fuels impacts on the climate due to
30 global warming through increased levels of atmospheric carbon dioxide.

30

Now, we are one of 193 countries that signed the Agenda 2030 document. We pledged that no one would be left behind. There is an intergenerational equity issue that should be paramount regarding the climate crisis. And we also have, as already
35 stated, the climate action goal number 13, Sustainable Development Goals. There's also the inclusion of the Sendai Framework for Disaster Risk Reduction which calls for four principles which mean that we need to understand the disaster risk before us and Build That Better.

40 Now, why do we know that there is a disaster that can prevail in coming decades? Not even that, anymore. Because the industry itself predicted it. Exxon made numerous research documentations on it. And they showed the prediction of what we are seeing now coming to fruition. We're talking about the level of carbon dioxide concentrations in the atmosphere compared to temperature rises, as you can
45 see from the diagram on the right. Now, we know that because we can see it through the concentrations which are monitored and we're up to, now, 416.39 parts per million as of June this year. We also had Shell undertake a document – a

documentary style video that was entitled Climate of Concern, which discussed the interaction between fossil fuels and a warming planet. The industry knew about this. And there was also a reluctance within Exxon, within their employee who was a physicist, he didn't want to say that the magnitude was short of catastrophic. He
5 didn't want to say it was short of catastrophic. Maybe in 2030, but not beyond 2030.

So what are we actually looking at? As I already suggested, Greg Mullins has already talked, he's already suggested how there's irrefutable empirical scientific data in his submission to the bushfire inquiry. And so we should listen to the – we
10 should listen to the big disasters. They're natural disasters that we're already seeing and that will increase into the future without adaptation, mitigation and prevention. Things that can be so dire that the army, defence, and intelligence agency and NASA contributed to a document which, as you can see, basically infers a collapse not only socially, economically. We are talking about something that we need to address
15 now. The here and now. Even Exxon Mobil, still on its website, is saying, "We believe climate change risk warrants action". It warrants action, not inaction.

Senior Counsel advised the following – this is on – or can be obtained through Clayton Utz website:

20
*We indicated that in our view, company directors who fail to consider climate change risk now could be found liable for breaching their duty of care and diligence in the future. Indeed, we considered then that the negligence allegation against a director who had ignored climate risk was likely to be only
25 a matter of time.*

Only a matter of time. Even the person that was – that was chairing the Climate Change Council that was appointed by the New South Wales Government, even stated that it was:

30
Just a matter of time. Not just for company directors but also for governments, because they had a duty of care to protect the community.

This is the chair of New South Wales Government appointed Climate Council. It –
35 it's something that shouldn't be ignored. And it's not being ignored. We're seeing insurance companies already saying that risk is too much. It's just too much. "We're not going to provide insurance for farmers with CSG infrastructure on their land". They can see the risk. When we're talking about ecologically sustainable development, we know that it's encompassed within the legislation that we're
40 looking at, Environmental Planning and Assessment Act. We have to go through to the Protection of the Environment Administration Act to actually get an overview of what that means. And we know that includes the precautionary principle and the intergenerational equity issue. This relates to facilitating ecologically sustainable development within the objects of the Environmental Planning and Assessment Act.
45

So we're looking at this proposal before us. How is a proposal that produces a product that the fossil fuel industry itself predicted would have a significant impact

on the climate be considered ecologically sustainable development? Or even utilising the precautionary principle. Matters for consideration, as you know, relate to any submissions and the public interest. It is in the public interest not to go ahead with this proposal or any proposal relating to fossil fuels. We already have seen the
5 Rocky Hill Coal Mine decision. In short, it's in the wrong place at the wrong time. The wrong time because emissions of a coal mine – not just coal mines but also gas wells – increased global total concentrations at a time when what is now urgently needed in order to meet generally agreed climate targets is a rapid and deep decrease in emissions. These dire consequences, dire consequences, should be avoided and
10 the project should be refused. And so in this case it should also be refused.

Concerns have been related throughout the week relating to the economy, biodiversity, water and social. We already know the matters of consideration. And we also know the underpinnings of climate decisions which creates a precedent
15 which allows Commissioners to reject this proposal. The cost benefit analysis did mention externalities, but does that mean that Santos will be paying – or the industry – will be paying the cost of bushfires, floods, droughts, coastal erosion, coral bleaching, impacts on farming production and more that is attributed to the climate crisis?

20 We need to focus on emergency plans. We need a dedicated disaster risk reduction person in every council to see every availability of what can be done in terms of vulnerability. We need that now. We need direct funds to go toward that. And we need the educational opportunities towards these and other measures. But above all,
25 we need far reaching, accelerated transition away from fossil fuels. We need a plan to institute this. And we need to promote the United Nations Making Cities Resilient Campaign.

30 MR O'CONNOR: Could you wrap up now please, Sonia?

MS McKAY: Commissioners, this is your moment in time. This is your moment in time. There – you don't want to have to say at the end, "I regret what I did" because it's not just your regret, it's not just your impact, it's going to be the impact of
35 younger generations and, maybe, if there's a liveable planet for future generations. But we have to make sure there is a liveable planet for them to be able to have some sort of existence. And that's the primary motivation that I have, and every parent that I've spoken to also has, the best for their children and the best for younger and future generations. This is - - -

40 MR O'CONNOR: Thank you, Sonia, we'll have to wrap that up now.

MS McKAY: Thank you.

45 MR O'CONNOR: Thank you. Next speaker.

MR BEASLEY: Next speaker is Catherine Burgess. Can you hear me, Ms Burgess?

MS C. BURGESS: Yes, I can.

MR BEASLEY: We can hear you and - - -

5 MS BURGESS: Great.

MR BEASLEY: - - - we can see you as well.

10 MS BURGESS: Excellent. Okay. Firstly, I would like to state that I object to this project. There are so many reasons to go to being against this project it's hard to understand how it has even got this far. I obviously can't speak on all areas, and I'm not an expert in any area of importance to this project. But as a human being, I have a right to object and I also believe that I have a duty to object. Even if there were no biodiversity issues, insurance issues, hydrological issues, fire, chemical spills issues, etcetera, so even if the – the project was perfect in all of those other areas – which
15 clearly it isn't – it still should not go ahead based on global warming. There should be no new fossil fuel projects. It's just – we just can't do it anymore. This has to be our first step in protecting the earth for our future generations. We have no right to destroy the future of the generations to come.

20 Every – every new fossil fuel project is a death from a thousand cuts. And the excuse that some other country is worse is not good enough and, in fact, it's a disgrace. Not that, to be honest, there are many that are actually worse than us. Or that we look at a project, as unfortunately I know you have to, just on its own and not
25 taking into account other new projects or the amount of emissions that we are already spewing out. I also want to talk about public interest and that this decision fails in all four counts on public interest. So when we talk about the principle of ecological sustainable development which can be defined as:

30 *Using, conserving, and enhancing a community's resources so that ecological processes on which life depends are maintained and the total quality of life now and into the future can be increased.*

35 This absolutely – there is absolutely no enhancement of community resources, of environment. It just – this project completely fails on ecological sustainable development.

The second principle is a precautionary principle which can be defined as:

40 *Protecting health, the environment and the future of our children.*

Again, if we employ the precautionary principle then, based on the very valid concerns of waste, water, in my mind the most significant, climate change, means
45 that this project, again, can't go ahead.

The third principle is the – is intergenerational equity and can be defined as:

In economical, psychological and sociological context, it's a concept or idea of fairness or justice between generations.

5 Quite simply, what we are leaving future generations. So in this case, we would be
leaving future generations no and/or polluted water, waste we can't get rid of and,
again, rampant climate change. The fourth is the polluter pays principle. Which is
the commonly accepted practice that the cost of pollution should be borne by those
who cause it. In other words, prices should be based on the full lifecycle of goods
and services. From view, if we actually asked Santos to truly pay for the
10 lifecycle of this project then, again, it would not go ahead.

That would include the true cost of the pollution that they cause, the loss of
biodiversity in the Pilliga Forest and, of course, the cost of what the emissions will
contribute to climate change. So in conclusion, there is no good reason to approve
15 this project. The damage to the environment, the society that will be directly and
adversely affected by it, and future generations that must live with its consequences.
Thank you.

MR O'CONNOR: Thank you, Catherine. Next speaker please.
20

MR BEASLEY: We have Carol Horton on the phone. Can you hear me, Carol?

MS C. HORTON: Yes, I can. Can you hear me?

25 MR BEASLEY: Yes, all good. Please go ahead.

MS HORTON: Good afternoon and thank you for the opportunity to speak today.
Firstly, I honour the traditional owners, particularly the Gomeroi traditional
custodians and pay my respects to all elders, acknowledging that sovereignty was
30 never ceded. My name is Carol Horton and I live at Kyogle. I have been involved
with the Kyogle Group Against Gas since 2012. But this is a personal plea on behalf
of the people of Pilliga and all of New South Wales for you to reject this project.
The following are my own experiences and observations of this industry.

35 In 2012 we were near the site of a CSG test drill, five kilometres from our home.
The drilling had just been completed. We were met by a farmer who lived opposite
the site. He showed us the bubbles in the potholes of the gravel road. Rain had
fallen in previous days. It had the appearance of water on the verge of boiling.
Many of us witnessed this and none of us have ever seen anything like it. Never in
40 our creeks, or our dams, or on our roads. Later, this farmer told us there was similar
bubbling in his dam.

He reported that the colour of his groundwater changed and that he found many dead
turtles and fish. No one could give us answers about this, but some neighbours did
45 methane testing and found it to be higher in his dam than in others in the area. A few
years later our farmer friend fell ill with leukemia and has now passed away. We
have a lot of questions that have never been answered. We did learn – what we did

learn was that CSG mining produces large scale fugitive emissions of methane, a potent greenhouse gas, into the atmosphere. We were seeing proof right before our eyes at Doubtful Creek just west of Kyogle.

5 That year the people of Southern Queensland came to warn us, “Don’t let this happen”, they said. We visited families in the Chinchilla area who tearfully told us of the bathwater burning their children, of cancer clusters, of being able to ignite their tap water. We saw photos of damage and pollution on their farms. Many sold out to the company, their dreams dashed, and their homes were bulldozed. I cannot
10 see why it would be any different in the Pilliga. What happened in the Northern Rivers is now history. All the documentary and scientific papers are available to you, so I am speaking about the people who are forced to live in gasfields. In other words, the collateral damage.

15 Here are just four reasons I am fearful for the Pilliga. Their water supply will be jeopardised. Drilling right through the Artesian Basin is one of the most risky things I can imagine. I spent the first 20 years of my life in North Queensland where we relied on the GAB for our water supply and I know that people in inland Australia could never survive without it. The insurance companies, having read the Chief
20 Scientist’s report, are reluctant to insure landholders. No amount of compensation paid by the companies can ever repay landholders for the contamination of their water, soil, air, disruption to their farming operations, and effects on their health. Economic risks, for example, land values will plummet. During the time test drilling was carried out in our area, a local farmer researched land values and the general
25 consensus from real estate agents was that it had already fallen 25 per cent. They soon rose again once the gas licences had been bought back by the State Government.

30 Something that is largely ignored by gas companies and politicians are ethics and morals. There is no profit that can justify damaging the systems that sustain life. When considering this project, please consider your responsibility to the people of New South Wales, in particular those who face raising children in an industrial area where the impacts on their health and their livelihoods will last for generations. The consequences of your decision will impact on generations to come and on the land
35 for all time. Please demonstrate your empathy and concern for others by rejecting this development. Your decision will be your legacy to the people of New South Wales. Thank you, Commissioners.

40 MR O’CONNOR: Thank you, Carol. Next speaker please.

MR BEASLEY: We have Kathleen Wild. Ms Wild, can you hear me? You might need to - - -

45 DR K. WILD: Thank you.

MR BEASLEY: - - - turn your microphone on.

DR WILD: Can you hear me now?

MR BEASLEY: Yes, all good now. Go ahead.

5 DR WILD: All right. Hello, thank you to the Commission for the opportunity to
speak today. My name is Dr Kathleen Wild and I'm a general practitioner in
Newcastle and a lecturer at the University of Newcastle. So my particular interest
for the last couple of years has been the impact that climate change has on human
10 health and I'd like to speak to that in the five minutes I've got today, about the
implications of this project for climate and the health of New South Wales residents.

So I know you've had multiple presentations over the past week regarding the impact
that climate change has on human health. The increased heat is going to have a
15 direct effect on people's kidney health, blood pressures, or causing mortality from
cardiac deaths as a result of natural disasters, which are going to increase in severity
and frequency which lead to, not just the direct sequelae such as the lung disease
from dust from the bushfires, but it also disrupts people's regular healthcare as well.

We have a projected increase in infectious diseases worldwide, as well as the mental
20 health toll that these changes on our natural environment have on us. And for further
information, of course, I would direct you to the Lancet Countdown Review on
Climate Change and Health which is published annually, as well as the submission
from my medical colleagues at Doctors for the Environment Australia that you
would have received, or you will be receiving shortly.

25 So this is not abstract to this application and this fossil fuel project. We know that
every ton of CO₂ equivalent greenhouse gas that enters the atmosphere increases the
severity of global heating. This increases climate change. This project releases CO₂
30 equivalent greenhouse gas into the atmosphere and it will increase the severity of
climate change. It then follows that this will increase the health effects on the New
South Wales residents. So the applicant has made multiple statements similar to
most fossil fuel extraction projects in the state, that their project is somehow unique
in that it doesn't have a significant effect on the health of New South Wales residents
and that, as it is primarily for export, it's someone else's responsibility to take
35 account of it anyway. I dispute that utterly in my objection to this project.

Now, I tell a lot of people to quite smoking and many of them have similar excuses.
They might say that they only take a few cigarettes, or that they smoke outside. And
40 this – the objections that a lot of export fossil fuel projects have to the climate change
– to the fact that climate change – that their projects increase climate change – have a
similar illogical validity to the argument that they're – if you smoke outside you
won't get cancer or lung disease. Unfortunately, whether that cigarette – where that
cigarette is smoked does not change its effect on your body. Where fossil fuel is
45 combusted does not change its effect on climate change and does not pertain to the
responsibility of us to assess this project in light of its effect on climate change and
the health of New South Wales residents. It doesn't matter if it's exported. It

doesn't matter if it's burnt here. There needs to be responsibility for this effect that the combustion of this gas will have on climate change.

5 Now, we cannot export that responsibility. The Paris Agreement is not a health
assessment tool. The Paris Agreement is not a tool for us to try and protect the –
integrity of our lived environment. It's not a tool for us to assess the health impact
on New South Wales residents. And yet it comes up continually in these
environmental impact statements as if it's some kind of magic word. We need to
10 assess these projects and their impact independently of these international treaties.
And that means that the responsibility to take the health impacts of these projects to
account is with the consent authorities of New South Wales. It is with the
Department of the Industry and Environment. It is with the IPC. It's not to be
exported.

15 We cannot trust the international governments or international companies to take
account of the health impacts on the residents of New South Wales. Once we export
that gas, the opportunity to protect the health of New South Wales residents from the
climate change impact of this project has been lost forever. And for that reason, I
say it is – because the department has abrogated that responsibility to take climate
20 change into account from the export of these things, does not mean that it is yours.
And I implore you to take the health impact of fossil fuel extraction and combustion
into account when making your decision. Thank you very much.

25 MR O'CONNOR: Thank you, Doctor, for your comments. Next speaker please.

MR BEASLEY: We have Sue Abbott on the phone. Can you hear me, Ms Abbott?

MS S. ABBOTT: Yes. Yes, I can.

30 MR BEASLEY: Go ahead.

MS ABBOTT: Thank you. I recognise the traditional owners of the land, trees and
rivers of Australia, and I pay my respects to Aboriginal and Torres Straits Islander
elders, past, present and those to come. I recognise that this land was never ceded.
35 Good afternoon, Commissioners and counsel assisting. My name is Sue Abbott and I
am a resident of Scone. I am also a councillor on the Upper Hunter Shire Council,
but today I present to you as Harriet's grandmother on behalf of Harriet and every
single child in the world.

40 I object to the Narrabri Gas Project and I urge you to reject Santos's ecosided –
ecocidal proposal. My submission focuses on climate change and the dire
consequences all life, including the human species, faces. With respect to climate
change, we are facing an existential threat that could annihilate most people on earth
in a matter of years. Only the strongest possible emergency emission reduction,
45 together with the drawing down of greenhouse gases from the atmosphere, can give
us any real chance.

According to Professor Will Steffen, even if the Paris Accord target of 1.5 degrees Celsius to 2 degrees Celsius rise in temperature is met, we cannot exclude the risk that a cascade of feedbacks could push the earth's system irreversibly onto a hothouse earth pathway. The scale of climate change is unprecedented. We need to
5 move into emergency mode as we would with a cyclone, as we did with the unprecedented 2019/2020 bushfires, as we are doing with COVID19.

The persuasive 2019 Gloucester Resources Limited v The Minister for Planning case – which I will refer to as Rocky Hill – makes the case that projects such as the
10 Narrabri Gas Project and others likely to cause ecocidal havoc need not be approved. When the Chief Judge of the New South Wales Land and Environment Court delivered judgment in Rocky Hill it was the first time an Australian court had refused a coal mine or any development on the basis of its climate impact. The court
15 concluded that the greenhouse gas emissions of the coal mine would increase global total concentration of greenhouse gasses at a time when what is now urgently needed in order to meet generally agreed climate targets is a rapid and deep decrease in greenhouse gas emissions.

Rocky Hill demonstrates that the climate change must be in the minds of decision
20 makers when assessing the impacts of greenhouse gas emissions on the climate, environment and people. And that decision makers are obligated to make decisions having regard to limit global warming to 1.5 degrees Celsius above pre-industrial levels. In a nutshell, most of the world's existing fossil fuel reserves – coal, oil and gas – must be left in the ground, unburnt, if the Paris Accord climate targets are to be
25 met. The Narrabri Gas Project must not be allowed.

The department's recommended conditions cannot condition away: the fact that emission of greenhouse gasses impacts the environment; nor that the Narrabri Gas Project is inconsistent with the carbon budget approach we need to take towards
30 climate stabilisation; nor that the Great Artesian Basin, one of the seven hydrological wonders of the world, is at risk of being destroyed; nor that fragmenting the largest temperate woodland in New South Wales, home to unique wildlife, would see Australia, inter alia, continue with our world record of the highest rate of mammalian extinction.

35 To conclude, our children are objecting to the burdens of fossil fuel projects. Burdens that are being distributed to their generation and to future generations. They are not as confident as the department that the benefits of fossil fuel projects outweigh the hideous costs. Children across the world have been eschewing their
40 education. Before the pandemic they were striking on Fridays and taking to the streets to protest against their leaders' wilful disregard of catastrophic climate change. Now they are doing this in digital townhalls. They are also seeking redress from the courts. Our children are fed up with the lip service we pay to intergenerational equity, distributed equity, distributed inequity, distributive justice,
45 the precautionary principle, ecologically sustainable development. What they want is urgent action from all levels of government, not approvals of fossil fuel projects. I

object to the Narrabri Gas Project and I urge you to reject this project. Thank you, Commissioners.

5 MR O'CONNOR: Thank you, Sue, for your presentation. Our next speaker please.

MR BEASLEY: Next speaker is Janene Theol. Janene, can you hear me?

MS J. THEOL: Yes, I can. Can you see and hear me?

10 MR BEASLEY: We can. Please go ahead.

MS THEOL: Great. The Narrabri Gas Project is the most controversial in the history of New South Wales planning. It doesn't suit what needs to be done in New South Wales in any shape or form. The living culture of the people living around –
15 the indigenous people living around the area of the Pilliga do not agree. They feel it is a dangerous issue to dig up their area. They haven't done proper surveys for the indigenous history of the area. Santos plans for 850 of these drilling holes and they then plan to undertake the detailed surveys after it gets the approval. Where is that any sense to show what protections there are for the indigenous heritage in the area?
20 Look what happened in Western Australia with Rio Tinto.

I find water is an enormous issue as well. The Pilliga Forest is critical in recharging the Great Artesian Basin. And seeing Australia is the driest continent in the world – apart from Antarctica, sorry – inhabitable content in the world, we can't afford to
25 gamble our water away the way we are at the moment by selling it off for mines and polluting it with fracking. Santos – sorry – Santos has used the most basic levels of groundwater modelling because of how little it knows about the deep aquifers and how – how they will de-water with the extraction of gas. You remove the gas, the water levels will change. And that will make a huge difference to the farmers who
30 rely on that, to the native animals that rely on that water.

Waste, there is still no adequate plan to the safety and responsibility that the disposal of the salt waste from the project, which is set to be about 117 tonnes which is an enormous amount. Sorry. The New South Wales Government approach is to
35 approve the gasfield and trust Santos to prepare a strategy to reuse and/or dispose of the waste before full development. But as the EPA has pointed out, councils who run the waste disposal facilities do not have to accept Santos's salt waste. So where will it go?

40 CSG is a risky product. Santos has recorded over 20 spills in its history, and that is just not practical. We can't afford to damage our land any more. The forests – it causes forest dieback that is unremediated for seven years later. The aquifer will be affected. The Chief Scientist has even said that this should not go ahead. This is a project that should be shelved. It should not go ahead. It should – I object to it, and
45 the Commission should also object to it so that the climate is protected, the indigenous people are – the indigenous heritage is protected, and our water supply is protected. Thank you very much.

MR O'CONNOR: Thank you, Janene, for your presentation. We'll take a short break and be back very soon. Thank you.

5 **ADJOURNED** [12.05 pm]

RESUMED [12.29 pm]

10 MR O'CONNOR: Welcome back. Our next speaker please.

MR BEASLEY: I think we have Anne Thompson. Can you hear me, Anne?

15 MS A. THOMPSON: Yes, I can.

MR BEASLEY: Please go ahead, we can hear you.

20 MS THOMPSON: Great. Thank you so much for allowing me to speak today. I'm an 82 year old grandmother and live in the Northern Rivers district of New South Wales. For the last nine years I've been fighting the coal seam gas industry, from the Darling Downs of Queensland to the Pilliga Forest and to my own region of Northern New South Wales. In 2012 I did a bus tour of the gasfields of Chinchilla, Queensland, to see for myself the toxic effects this industry is having on the
25 environment and the residents. I met Dr Geralyn McCarron on this tour and we later made more trips and got to know many of the families.

30 We could see the polluted creeks, the dying trees, and smell the gas in the air. It was obvious that the health of many of these people was suffering, and the need for health testing was discussed. With the help of a local musician I subsequently organised a fundraiser in my home town of Lismore to raise funds for these tests. And Frack Off the Rig Gig raised twelve and a half thousand dollars.

35 Dr McCarron organised urine testing and the results showed that 16 of the 17 residents' test samples contained hippuric acid, the main metabolite of toluene, along with varying combinations of phenol, cresol, PAH and methyl ethyl ketone. Tank water testing in some cases showed extremely acidic pH and concerning levels of heavy metals and radioactivity. These chemicals are all linked to gas extraction and can also be linked to neurological conditions and other symptoms such as bleeding
40 nose, eye irritation and breathing difficulties that are being experienced. Dr McCarron also reported cancer clusters in the district and her paper Symptomatology of a Gas Field is widely recognised and can be Googled.

45 The following year another \$10,200 was raised and was used to buy reverse osmosis filters for the residents' homes and to tanker in drinking water for them as the mysterious substance in the black rain that covers vehicles and all outdoor surfaces washes into the drinking water tanks and dams, making the water undrinkable.

5 Soon after these test results were made public, many of the affected families were relocated under strict confidentiality conditions. Those who were not so fortunate were left to continue suffering mentally and physically. I attended the Bender Inquiry in Brisbane and met George Bender, the well-respected Chinchilla farmer who took his own life just weeks later.

10 Queensland gasfield residents issued dire warnings to us in New South Wales who were, by then, under threat of the industry taking hold in our beautiful region. We soon mobilised and did all we could to stop Metgasco from turning our rolling green hills into an industrialised wasteland. We set up camps, protested, and blockaded at Glenugie, Doubtful Creek and, finally, at Bentley where over 3000 protectors amassed and the State Government made a last minute decision to stop the riot squad from raiding our camp as the drill rig was arriving, and offered Metgasco \$25 million to leave.

15 We had won the battle at Bentley, but the war against the CSG industry continues. A previous speaker, Dan Lanzini, said that, "If you give this project the go ahead there will be war". Well, I don't know if the photos have been shown, I did send some, but because I would like to show you how we fight our battles, with peaceful, non-violent actions.

20 The Santos project has been referred to as "A small, boutique gas project". An oxymoron if ever I heard one. One thing is certain, if it should go ahead it would only be a matter of time before Santos would have their acquisition officers approaching landholders in the broader community and putting pressure on them to have gas wells on their properties. "After all, they're on the size of half a basketball court and we'd make it worth your while". They certainly would not mention the compressor stations, holding ponds, heaving machinery traffic, fugitive emissions, the pipeline, and the continuous flaring, or the fact that no insurance company would cover them.

MR O'CONNOR: Could you wrap up now, please, Anne?

35 MS THOMPSON: CSG is certainly not compatible with farming. Please preserve our precious and limited food producing areas and the Great Artesian Basin by rejecting this project. Thank you.

40 MR O'CONNOR: Thank you, Anne. We couldn't see those photos, but we will make sure we get access to them and view them.

MS THOMPSON: I hope so, thank you.

MR O'CONNOR: Thank you for your presentation. Next speaker please.

45 MR BEASLEY: We have Stephen Terrey, Mr Terrey, can you hear us?

MR S. TERREY: I – I don't know how we're getting this double feed, but Anne's still going on my feed. Anyway, I'll – I'll go on - - -

MR BEASLEY: You – you need to turn your screen off.

5

MR TERREY: Sorry?

MR BEASLEY: You need to turn your screen off. You need to turn off the screen of the coverage of the Commission and hearings.

10

MR TERREY: I see. Right, okay, one second. That's better.

MR BEASLEY: Now, that's better, but you might need your mic on. No, we've got you, you're all right. Go ahead.

15

MR TERREY: Got it? Okay. Terrific. Good morning, Commissioners, thank you for the opportunity to comment today. I have listened to some of the speakers before me and concur that this gas extraction proposal is a danger to the Pilliga and beyond. I now live in the Northern Rivers but have lived in Coonamble and, for a much longer time, in Lightning Ridge. The points that I would like to raise include (1) the danger of contamination of the Great Artesian Basin (2) the catastrophic effects that point (1) will have to primary production and many small towns in the North West (3) the effect on the viability of the Siding Springs Observatory and, (4) the record of reliability of any gas mining company in Australia and the USA.

20

To point (1). There is a real contamination danger to the Great Artesian Basin by the chemicals used to drill and frack, also the natural chemicals in the coal seam itself including uranium, of which there has already been one spill. Such a contamination would have a far-reaching and long-term effects – would have far-reaching and long-term effects in the North West, most of which we won't likely see until long after the companies like Santos have packed up and left, having made their billions. The taxpayer gets to pay in one way or another. There is simply not enough conclusive knowledge of the hydrodynamics of the Great Artesian Basin to chance wrecking it. It is too important to even contemplate. Do we want to be the generation known to have wrecked this incredibly valuable resource?

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The effects of any contamination on the North Western area of New South Wales cannot be underestimated. This is point (2). Primary production relies heavily on artesian water for survival of stock. Any contamination of that water would be catastrophic if the animals could not be sold for meat production, wiping out a major source of income. Many farmers would also be severely disadvantaged, especially in drought times when there is no rainfall and have to rely on artesian water for household use. There are towns that rely solely on bore water, such as Lightning Ridge which is a few hundred kilometres to the north west. This town is world famous, not only for its unique way of life, but for being the only place in the world where the black opal is – Australian national – Australia's national gemstone – is found in commercial quantities. The effect on tourism is also a factor with millions

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being spent to build the first Australian Opal Centre Museum in Lightning Ridge. This would all be devastated if the sole source of water for the town and for opal mining is unusable.

5 Point (3) Siding Springs Observatory. I visited the Siding Springs Observatory when I was at the Pilliga for a protest against this mining proposal a couple of years ago. The public display there shows that this – there is already a growing light pollution problem which this project would exacerbate by the many flares that would have to be installed. The Observatory, an important and valuable centre, would be rendered
10 all but useless, throwing many millions of our dollars in astronomy investment down the drain.

As we have heard loud and clear this morning, Santos is not to be trusted. Short-term gain over the strong possibility of ruining a major water source cannot even be
15 contemplated. As for the Federal Government's almost maniacal obsession with power generation using gas as an environmentally safe power source, not only flies in the face of common sense but scientific knowledge. The methane given off with this type of gas extraction is damaging to the environment, not to mention the
20 adventitiously huge of gas from wells and pipelines as seen in the Queensland gasfields. This has been shown to cause all sorts of health problems, as you've heard from Anne, for anybody downwind, as well as the effects on the overall environment. To put these industries in jeopardy in this area is anathema to me. I respectfully ask the Commissioners to disallow this project. Thank you.

25 MR O'CONNOR: Thank you, Stephen, for your presentation. That brings us to our lunch break. We will resume at 1.10 pm. Good afternoon.

30 **ADJOURNED** [12.41 pm]

RESUMED [1.11 pm]

35 MR O'CONNOR: Welcome back. We're now into the afternoon session and our next speaker, please.

MR BEASLEY: I think we have Kathryn Teagle. Ms Teagle, can you hear me?

40 MS K. TEAGLE: Yes, I can.

MR BEASLEY: We can hear you and see you, so go ahead.

45 MS TEAGLE: Excellent. Thank you so much. Sorry, I just lost my whole thing. Sorry. Give me one second.

MR BEASLEY: That's all right.

MS TEAGLE: Cool. I wonder if somebody else might like to jump in quickly if I'm – I just managed to turn my document off instead of opening it.

5 MR BEASLEY: That's all right. We might just persist for a minute. How long do you think it will take you?

MS TEAGLE: It won't take me long, just my nerves are completely [expletive removed] me from remembering - - -

10 MR BEASLEY: All right. Just stay calm. Take a deep breath.

MS TEAGLE: Sorry about that. Here we go. Okay. Right.

15 MR BEASLEY: Well, I'm hearing you and seeing someone else now, so there's a major malfunction.

MS TEAGLE: Okay. Should I wait?

20 MR BEASLEY: You just hang on a second and we will work out – someone will tell me what they're doing.

MS TEAGLE: Great.

25 MR BEASLEY: Are we going with Rosie? Yes. Ms Kaplan, can you hear me?

MS R. KAPLAN: Yes, I can.

30 MR BEASLEY: All right. Excellent. We can see you and hear you, so you go ahead.

35 MS KAPLAN: Okay. Good afternoon, Commissioners. I live on the north coast of New South Wales, a long way from the Narrabri Gas Project, but I believe this mining has no social licence, so thank you for the invitation to speak against the Narrabri Gas Project. I am very happy that this has now come to an independent planning Commission and I have great faith in your independence.

40 I have serious concerns on many of the issues that arise from Santos' proposed scheme, but what I am going to focus on is climate change. I am aware I am telling you nothing new, but there is no doubt that our climate is changing at a rapid rate. There are more high temperature extremes, heavy precipitation events are increasing, glaciers and snow cover are shrinking, as is the ice. Seas are warming, rising and becoming more acidic. Flooding and out of control fires are on the increase.

45 Many lines of evidence demonstrate that human activities, especially emissions of heat-trapping greenhouse gases from fossil fuel combustion is primarily responsible for the climate changes observed, especially over the last six decades. The atmospheric concentration of carbon dioxide – the largest contributor to human-caused warming – has increased by about 40 per cent over the industrial era. This

change has intensified the natural greenhouse effect, driving an increase in global surface temperatures and other widespread changes in Earth's climate that are unprecedented in the history of modern civilisation. Humans are adding carbon dioxide to the atmosphere at a rate far greater than it can be removed by natural processes.

I create the newsletter for an organisation called The Climate Foundation, whose remit is to find the best way to suppress the carbon in the oceans. Giant kelp is a wonderful sequestration tool, but the ever-increasing ocean temperatures, due to all of the above greenhouse gases, is killing off the kelp. The Climate Foundation, with the help of universities around the world, are finding new ways to regrow vast amounts of ocean kelp in the current climate. But wouldn't it be wonderful if they didn't have to do this? Unfortunately, the remediation they are trying to achieve through their considerable work is just a drop in the ocean compared to what we have already done to the climate and the oceans.

If Santos' gas mining goes ahead, it's going to add to the destruction, through both the mining and the scope 3 emissions generated from burning the gas mine in Narrabri. We should not be starting any new fossil fuel projects. The UN Environmental Programme's 2019 Production Gap Report says with average lifetime of 20 years or longer for pipelines, terminals, wells and platforms, the time to begin planning for a wind down of gas production is, as with other fossil fuels, already upon us. Their report found that to achieve the Paris Climate Agreement goal of keeping average global warming well below 2 degrees, global gas production needs to peak by 2030, just 10 years away, and decline after that.

And to meet the safer 1.5 degree warming limit, gas production needs to peak this year. The very first thing we can do to ameliorate greenhouse gases in the air is to stop mining fossil fuels and stop burning it so we can stop adding it to the atmosphere. I believe that COVID-19 has brought the world to a crossroads. We have an opportunity to use this to get off our planetary destructive path. The United Nations Secretary-General says we need to run the recovery into a real opportunity to do things right for the future.

Inger Andersen, the head of the UN Environment Programme calls for a profound systemic shift to a more sustainable economy that works for both people and the planet. We have an opportunity for a major directional change. In no one's world does mining, with all of the accompanying problems, equate to this fabulous opportunity to create a sustainable world. I implore you to make the non-radical, sensible decision to not allow this gas mining to go ahead and thank you very much for your attention.

MR O'CONNOR: Thank you, Rosie, for your presentation. Our next speaker, please.

MR BEASLEY: We have Jennifer Granger on the phone. Are you there, Ms Granger?

MS J. GRANGER: Yes. Good afternoon, Commissioners.

MR O'CONNOR: Please proceed.

5 MR BEASLEY: Please go ahead.

MS GRANGER: Thank you very much. I would like to apologise with regard to the submission. A computer glitch meant I actually lost my original one and I have rewritten it this morning rather hurriedly. I would like to acknowledge the traditional
10 custodians of the land on which we live and pay my respects to their elders, past and present. I would also like to acknowledge that my family and I have been long term shareholders spanning many, many years in Australian energy based companies, including AGL, Santos, Origin and Woodside. I currently own properties in the Manning catchment, New England Tablelands and Snowy Mountains and I'm a
15 founding member of a wonderful group of nonviolent direct action environmental protest ladies called the Downstream Knitting Nannas.

These later forged into the Gloucester, Great Lakes and MidCoast Nannas. These groups were formed due to the direct threat to our water catchment of a proposed
20 AGL gas field and later on proposed expansions to mine, so we have a basic background in coal seam gas knowledge. I will admit that my credentials of actually being a nanna are not really valid as I'm not one and, as to my knitting skills, well I don't think – if I could try to attempt to knit a scarf, I'd have more holes than an unconventional gas field. My actual prior background is in administrating and
25 accounting.

What is no joke, however, is being labelled again, and this time as a NIMBY, that is, a not in my backyard property owner. If I am brutally honest, when I first discovered that two of my properties had PELs, my initial thought was a Beverly Hillbillies
30 scenario of black gold and Texas tea, but that was a very short term analysis, as my sister, a geologist, sat down and explained I needed to do my homework, that these PELs were a whole different ball game to what I was imagining, and that is they are high risk and unpredictable. There was no way considered being involved and it was a time when the LNG plants in Gladstone were being pushed ahead. So my
35 journey began and I have chosen to divest in these companies any pursuing unconventional gas, even though I have been fortunate that my properties are no longer under direct threat, but they absolutely remain under indirect threat through climate change challenges.

40 In regards to New South Wales, I found it outrageous at the claims seeing – seeming that the great – there is a great gas shortage to keep the lights on. It is a state that has always had ample gas and hyde from the Bass Strait and Cooper Basin. What changed to the detriment of so many is, on an accountability front, was the shortfall in gas for export for the LNG plants for – yes, sorry, for export, which should never
45 have been allowed to happen without a at the Basin in place. This has been what has raised prices and detrimentally affected not only individual gas users, but also our Australian manufacturing industries. Even if you look at the fact that the

majority of the Chief Scientist's recommendations are not close to being finalised, then you would have to question why is this push for this project going ahead so prematurely? The science is not in, the risks are incredibly high. Even if you just take on board one of the risk scenarios happening – even one single one happening,
5 is it worth it?

Climate and water. Where I live in the Manning Valley, this past summer I have witnessed a major river system providing 70,000 people's water turn to pools. I witnessed aquatic life decimated, putting at further risk of endangered species. Our
10 region suffered terribly in regards to massive fire fronts. The weeks that happened and then it was encroached and then followed by flooding, the emotional toll was immense and many people have suffered and many have not recovered, nor likely will. For farmers already battling in proposed gas field regions, it's even worse. The
15 Journal of Environmental Psychology in 2016 outlined farmers in the CSG stressed and globally stressed profiles exhibited clinical signs of psychological morbidity; a further rise in suicide.

Climate change is occurring. The science is there. Humankind, through projects such as this, is contributing to it. Extreme weather events, ones thought to occur
20 rarely, are now happening annually. It's imperative that we act now to keep to the Paris Agreement and not exceed the 1.5 degrees full stop. Freshwater in Australia is limited and if we, as a population, mean expansion into our water catchments more and more, the Great Artesian Basin is also being put at risk more and more, even
25 without these projects. The coal beds themselves are aquifers, containing highly soluble toxins, such as BTEX, that won't preserve – can affect freshwater aquifers. This actually occurred at Gloucester. We saw that a freshwater aquifer was actually
30 – had toxic chemicals after they fracked that area. Hydrology is not a certainly, even with the technology we have today. There is no guarantee something will not go wrong.

Will the air quality of flaring, global emissions, ground and surface water, possibility of contamination, or the social licence via risk and toxic waste safe distribution be okay? Will standard assets be a very real likelihood? The forest clearing and the
35 danger to flora and fauna, our economic ability not just locally, but globally and the possibility of a gas pipeline and wells leakage, they're all risk analysis that I don't think have been properly covered by Santos.

MR O'CONNOR: Could you wrap up now, please, Jennifer?

40 MS GRANGER: Yes. In conclusion, thank you, Commissioner, for your time and effort. To be honest, it seems like an incredible, difficult task you have in front of you. I sincerely hope that you do not underestimate every single person who has taken the time and effort into learning about this project and made a submission, orally or written. For many of us, it's not an easy thing to attempt to do. Some are
45 more experienced than others. But on a final note, I would like you to consider this. There has been literally thousands upon thousands of hours contributed in looking into this project by so, so many.

As you are aware, the majority of submissions are against the project for good reason. Experts have come forward from many backgrounds with not only sincerity, but at possible cost to themselves. That is, they are so concerned that they are putting their reputation on the line with no thought of possible gain. Can the same be
5 said for any party putting forward submissions to push for this approval - - -

MR O'CONNOR: You need to close now, thanks, Jennifer.

MS GRANGER: All right. I hope you consider all of that and Australia has the
10 opportunity to alternative, truly renewable forms of energy that, without the risks involved, this project could provide jobs and opportunities to forge ahead as a leader in renewables. Thank you very much.

MR O'CONNOR: Thank you for your presentation, Jennifer. Next speaker, please.
15

MR BEASLEY: I think we're back to Kathryn Teagle. Are you there, Kathryn?

MR O'CONNOR: You need a mic.

20 MR BEASLEY: Microphone?

MS TEAGLE: How's that?

MR BEASLEY: Better. Thank you.
25

MR O'CONNOR: You got the right button this time. Well done.

MS TEAGLE: Great. I'm so sorry about that before. It's amazing what nerves do to a person. So firstly, I would like to acknowledge the traditional owners of this
30 solemn land we call Australia and acknowledge that the privilege I enjoy has come at the expense of this nation's people. I am Kath Teagle. I am the director of a medical practice in Newcastle. I have two grown children.

During this week, we have both heard about the Great Artesian Basin and fouling its
35 water from here to perpetuity, the compromising of food security, the imminent danger of many spills and that the land that suffers from these spills does not recover, the destruction of culture about tens of thousands of years old and the extinction of endemic species. We have heard that the numbers behind this project are abysmal and that massive government subsidies will be needed. There are good and valid
40 reasons why over 97 per cent of Pilliga locals do not want this project to go ahead.

I am speaking today because I strongly object to the Narrabri Gas Project. I am presenting not as an expert, but as a layperson with an avid interest in the future of
45 my world. The impact of your decision on this project will affect me personally. As an average Australian, it is reasonable to assume that what affects me will affect me. Hence I see my personal presentation to you as a representative to a higher extent. The Narrabri Gas Project is a symptom of an extractive economy that values money

above all. It is a fact that this project will exacerbate climate change, bringing us closer to an unliveable world. It impacts us all, but it is a fresh hell for our youth, who are right now, at best, confused but more likely terrified as to how to ensure they will have a liveable future. Right now, we can help by stopping this project.

5

In 2017, four days after his 17th birthday, I awoke to a live Facebook feed of my son atop a bamboo tripod blocking the passage of coal trains. My son was not a rebellious teenager. Quite the opposite. He is and was quietly spoken and intelligent, offering considered opinions in conversation. To this day, he is not a radical individual. He is understandably very fearful for his future. Whilst I may not condone the action that he took, it has informed my perspective towards direct action. At 17, this child understood that climate change is the most pressing problem for humankind. He had spent the majority of his life aware that we are facing issues of catastrophic proportions and trying to reconcile this with the fact that those with power, the grown-ups, were continuing on with life as normal. We send our kids to school where they learn of the issues that face them and the environment and then push them into a neoliberal value system that does nothing about it.

My son's action had a far-reaching effect on me, waking me up to my own inaction, my hypocrisy as a recycling, conscious consumer. I now spend around 85 per cent of my time working with various grassroots environment and social justice groups and alliances. I am not about to get in front of a train, but I can see the frustration and the lack of alternatives that directed this action. We live in a world where our youth are faced with potentially short and difficult futures. The choices to prepare for their future life are impacted heavily by the dire, predicted reality of that future. With one-third of Bangladesh currently underwater, I wonder what choices are available to their youth.

Everything that we are asking to protect in the Pilliga is precious and integral to the ongoing wellbeing of the constituents our governments are sworn to represent. Food and water security, connection to country, relics and places that hold tens of thousands of years of culture and knowledge, reduction of impact and climate change like wildfires and rising waters, these are reasonable expectations. It is unreasonable that such effort is required to protect these basic needs. Hours and money spent on this hearing alone and the 11 years fighting prior. How many citizens in the last decade has been severely impacted just by this fight, one of the fights which shouldn't be necessary? It's unreasonable that we're driven to things like direct action to achieve reasonable outcomes.

This is a worldwide problem. Australia has such opportunity – or rather, responsibility to position itself as a leader, for change for a better future instead of a spoilt kid at the party, scratching for the last of the lollies. This proposal should be rejected. Imagine a world where we are all striving for our future, doing our very best to come up with solutions, rather than scrambling for short term gain. This is the world that we could have and is the world that we are responsible to provide for our children and theirs. The only way to achieve this world is by making it

impossible for the extractive economy to continue and that is currently up to us and rests upon processes such as this.

MR O'CONNOR: Can you wrap up now, please, Kathryn?

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MS TEAGLE: Sure. We need to show our young people that we will invest in their future, rather than in profiteering, climate and future-wrecking projects. The more decisions against projects like this by Commissioners such as yourselves, the more likely our leaders will stop backing them and industry will stop investing in them, turning to projects where win-wins may be achieved instead. I sincerely thank you for your time and sincerely hope that your final decision is a step to achieve this. Thank you.

10

MR O'CONNOR: Thank you for your presentation, Kathryn.

15

MS TEAGLE: Thank you.

MR O'CONNOR: Next speaker, please.

MR BEASLEY: Our next speaker is Sharyn Munro. Can you hear me, Sharyn?

20

MS S. MUNRO: Yes, I can.

MR BEASLEY: You're good to go. Thank you.

25

MS MUNRO: Okay. Well, thank you, gentlemen. I speak from experience of this industry's impacts, gained from several years' research and personal interviews nationally for my book, Rich Land, Wasteland; from the many ensuing invited visits and public talks in impacted communities, including about six here in the northwest, and from my closer involvement with places like Gloucester. So I know that pursuing a CSG industry is as short-sighted, dangerous and disrespectful of the people, our land, our water and our future as keeping us tied to coal. And, for the sake of my grandchildren, I am appalled that this Narrabri Project has not only been so far approved, but deceitfully touted as better for their future, when we know methane has greater global warming impact from the industry's fugitive emissions.

30

35

Many locals and experts have spoken to you here of the risks to our most critical resource, which isn't gas, but water – especially the gift of the Great Artesian Basin. The choice is so simple, since aquifers can't be fixed and no guarantees are possible. Water or CSG? Insult is added to injury by an assessment process that people soon learn is not about deciding whether a project should go ahead, but how to allow it to go ahead. The triple bottom line is too often rearranged to put profit above people and planet, under the excuse of being in the public interest. And no CSG project should have got this far without all of the Chief Scientist's recommendations being implemented, an act which justifiably increases community cynicism, frustration and their sense of injustice. We must rely on you, the IPC, to bring balance and truth to the process.

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I saw rural people and communities suffer the most tragic impacts from proposed, as well as operational project, in what was like an industrial invasion backed by governments who should have protected their people. To allow such serious and human and social impacts by ignoring or trivialising them is incomprehensibly callous. I will elaborate in my written submission, but here, I just want to touch on the entrenched, systematic disrespect to people and community, their lives and livelihoods, their mental and physical health, their wishes and concerns. The Department's assessment is a model of the parallel paperwork that the government and the resources industry have constructed, where often irreversible impacts are dismissed and empty assurances freely given in a flurry of meaningless phrases and deliberate loopholes.

The Department glibly pronounces that the project would not result in any significant impact on people or the environment. Why? Well, because they have imposed strict conditions and there will be a robust, regulatory regime with rigorous endorsement. I would laugh if it wasn't so frightening that anyone might believe such familiar jargon, so please don't. And the Department is satisfied that any negative impacts can be appropriately minimised and managed. Well, the community is clearly not satisfied. How about no negative impacts or no project?

The reality of what occurs makes these empty phrases highly offensive. The Gloucester AGL project also approved with inadequate information under adaptive management proved to be a disaster. Too often, the conditions here leave it to Santos to take reasonable and feasible measures to remedy a problem, which means only as far as it won't hurt their profit line. It's not good enough.

The expert review on social impact found much detail lacking in Santos' plans and a lack of acknowledgement of the wider community anxiety about so many real concerns highly worthy of their attention, from water and air to lost sense of place and social cohesion. The 2011 Senate Inquiry recommended a moratorium on the CSG industry while studies were being done, yet here we are. The chair, Senator Heffernan, said that committee members were just blown away with the absolute despair at the people we met and their sense of helplessness during the Queensland hearings. Why wish this upon the people of this region? Denying it won't stop it happening.

Yet Santos have been allowed to dismiss as unlikely or not significant, with no data given as to why, all that I have seen happen elsewhere. The community division, still palpable in Gloucester and an issue already here for some years. The FIFO impacts on local services, such as medical. The change in demographics as more of the population have no local social connection. Or higher wages causing a drain on local tradespeople and agricultural workers and the inevitable rise in rent, making housing unaffordable for the most vulnerable and for those on lower wages. Santos must supply all of the missing information beforehand, including plans for and approval of the pipeline integral to the project and also impacting the rural community.

The current conditions allay none of these well based fears. This fact scenario that Planning and Santos have concocted bears no relation to the reality of what would happen and should be rejected. As a matter of respect, this is the very least this community deserves. They also deserve that the New South Wales government
5 defies federal political blindness and acknowledges that locking us into methane pollution from CSG is not in the public interest. I thank you for your time, Commissioners.

10 MR O'CONNOR: Thank you, Sharyn, for your presentation. Next speaker, please.

MR BEASLEY: We have Carol Bennett. Ms Bennet, can you hear me? I think you need your microphone on.

15 MS C. BENNETT: I have put the microphone on. I will – just hold on. Can you hear me now?

MR BEASLEY: We can – yes, we can hear you. There's a bit of interference.

20 MS BENNETT: Okay. Shall I go ahead?

MR BEASLEY: Yes, go ahead, I think.

25 MS BENNETT: Good afternoon, Commissioners. I would like to thank you for the opportunity to speak to you and congratulate you on your fortitude in sitting through so many days of presentations, which are surely an indication of the concerns held by so many. I would like to acknowledge the traditional custodians of the land from where I am speaking, the Warramine Birpai People, as well as those of the land where this project is proposed, the Gomerai People, and pay my respects to elders past, present and emerging.

30 Speaking on day 6 of this hearing, most of my concerns have already been raised. I am not an expert, but – sorry, as a concerned individual and spokesperson for the Gloucester loop of the Knitting Nannas Against Gas and Greed, I am committed to preserving the land, air and water for future generations. The idea that this project
35 could possibly be allowed to go ahead - - -

MR BEASLEY: Yes.

40 MS BENNETT: - - - - - -

MR BEASLEY: Ms Bennett, you have got a – there is a problem with your mic. We can barely hear you. I don't know if you can adjust the volume somehow or - - -

45 MS BENNETT:

MR BEASLEY: We might have to come back to you, because we really are struggling to hear you. No, it's not working. We have Helen Hunt on the phone. Ms Hunt, can you hear me?

5 MS H. HUNT: Yes, I can.

MR BEASLEY: All right. We can hear you better, so you go ahead.

10 MS HUNT: Right. Thanks. Good afternoon, Commissioner. My name is Helen Hunt and I am a farmer and grazier in the Coonamble district. We do not have a permanent source of water supply and my cattle are totally dependent on bores sunk into the Artesian Basin for water. I have many concerns about the Narrabri Gas Project, but especially about the possible irreversible damage it may do to the Great Artesian Basin. Santos has failed to implement all of the recommendations of the
15 Chief Scientist and cannot guarantee there will be do no hydrological, environmental or agricultural adverse effects of their proposed drilling for gas. Even the slightest risk to the water supply for stock and country towns is unconscionable.

20 If the water level in my bores were to recede, I would not be able to run stock or have a sufficient water supply for my home. This would be the position for thousands of farmers. Drilling for gas can no longer be supported by claiming to be a clean energy source, as it has been recently proven that the industry is spewing much, much more methane into the atmosphere through leaky pipelines and oil and gas wells than previously thought, contributing equally to global warming as fossil
25 fuels. Moreover, the state's planning department has contradicted Santos' promise that gas prices will fall if the Narrabri Gas Project goes ahead by saying that the development would not reduce tariffs.

30 Clearly, this project has nothing going for it other than financial gain for Santos and some, mostly in the construction phase, employment in the Narrabri region. I would like to think that the Commission will see the short term gain is far outweighed by the probable catastrophic outcomes if this project goes ahead. Thank you for the opportunity to speak against this project.

35 MR O'CONNOR: Thank you, Helen. Next speaker, please.

MR BEASLEY: Next speaker is Michelle Webb. Ms Webb, can you hear me?

40 MS M. WEBB: Yes, yes, I can. Can you hear me?

MR BEASLEY: Yes. Go ahead.

45 MS WEBB: Hello, my name is Michelle Webb and I would like to start by acknowledging the Gomeroi People, the custodians of this land, and pay my respects to the elders past, present and emerging. The majority, 63 per cent, of the 470 submissions from the local, immediate area were objections. One of them was mine. Today I will explain why and implore you to reject this project yourself. As a local

resident of Coonabarabran, I had the privilege of growing up on the western slopes of the Warrumbungle Mountains. As a teenager, I witnessed the construction of Siding Springs Observatory. The observatory operates on the frontiers of astronomy, observing very faint objects at very great distances. The dark skies in our area are something to behold and the envy of many visitors from the cities and overseas who would visit our farm.

I remember the pride I felt when I realised that others would now see that this area was and is a unique place. Scientists could now explore the deep universe and the dark and undisturbed skies above. Now we are confronting the prospect of a light polluting industry invading this dark sky. The flaring of the gas wells will be a major light pollutant that will have negative effects on the viewing capacity of the telescopes. While the local community works to prevent any light shining up into the sky, it would appear that Santos and this proposed development can work outside these regulations.

I currently work as an educator. I have taught agriculture in the area for 20 years and dedicated my spare time to Coonabarabran Residents Against Gas initiative for the last seven. As a result, I am acquainted with the EIS and what I have read is deeply disturbing. Specifically, I found the report's analysis of risk when observing the impact of deep gas wells on groundwater to be erroneous and, frankly, dishonest. As an educator, I teach my students about hazards to the environment and workplace. Any hazards that pose significant consequences to human health and safety are given high risk ratings, as opposed to low risk ratings, like tripping over, for example.

The EIS awarded a low to moderate rating to drawdown and contamination of underground sources, an utterly perplexing notion, when we consider that these wells are drilled a kilometre into the earth. How is this possible? The only explanation is that the statement refuses to see the inherent risk involved in such activities, painting them as harmless, as no cause for concern. Moreover, the assessment report from the Department of Planning deemed this project to pose no significant risk to human health and the environment. However, the report uses a GISERA study – a serious study of Queensland gas fields, which examined a mere six wells out of 19,000. This miniscule sampling size demonstrates a gross bias and a manipulation of statistics. It represents a complete lack of rigour and poor scientific methodology that my year 12 students would recognise.

Despite this, the Department of Planning continues to refer to this report. The lack of scientific merit to this report should surely cast a shadow of doubt across all of Santos' assertions. In fact, the tone of the DPIE, throughout the entire report, seems to accept the inherent high uncertainty and risk the project poses, a thinly veiled attempt at assuaging our concerns. As I have lived in this area for a long time, I have witnessed significant degradation of our local ecosystems. I have also been fortunate to live abroad for some time and realised that although climate change has affected this area, it remains one of the last places without mostly undisturbed natural environments. We have a responsibility to protect these ecosystems. In his interim report of the independent review of the EPBC Act, Professor Graeme Samuel said:

The environment and our iconic places are in decline and under increasing threat.

5 Nothing could be truer. You can see it with your own eyes. The death of trees, the declining diversity of flora and fauna, worsening droughts and all this occurred without the damaging clearing of the Pilliga Forest that this project aims to enact. I am extremely aware of this – the effects that this project will have on future generations. I am unsure how I will be able to look the younger members of this community in the eyes if I do not take this opportunity to speak out against this
10 injustice. As a mother and farmer who is reliant on groundwater sources for my stock and family, I am not prepared to accept the flawed arguments and biased reports that say that there is no significant risk to our water quality and quantity, no risk to our air, no risk to our night sky, no risk to the biodiversity and natural habitats of the Pilliga Forest.

15 This project will jeopardise the liveability of a vast area of the northwest of New South Wales that many of us call our only home. It is incumbent on us as humans to speak and act for those who cannot, for the native flora and fauna who struggle every day in a damaged climate, every minute of every day. You have already heard from
20 many speakers about the effects of ongoing droughts which only seem to leave us with short reprieves. They are a huge environmental, social, physical and emotional strain. I have heard them described by one farmer as a belt that slowly tightens and never lets go.

25 MR O'CONNOR: Could you please wrap up now, Michelle.

MS WEBB: We need – we do not – yes.

30 MR O'CONNOR: Thank you.

MS WEBB: We do not need this project. It will only help to accelerate global warming and make this beautiful place uninhabitable for our children and generations to come. We need to look to the future of renewable energy. Listen to your hearts as well as your minds when you are making this decision and reject this
35 destructive project. Thank you for listening.

MR O'CONNOR: Thank you, Michelle, for your presentation. Next speaker, please.

40 MR BEASLEY: Next speaker is Zoe Pedashenko. Can you hear me, Zoe? You just might need to put your microphone on, Zoe.

MS Z. PEDASHENKO: I am unmuted.

45 MR BEASLEY: I think you just need - - -

MS PEDASHENKO: Can you hear that now?

MR BEASLEY: Yes, we can hear you now, yes.

MS PEDASHENKO: Okay. Perfect. Great. Well, firstly, I would like to
acknowledge the Gadigal of the Eora Nation, the traditional custodians of the land on
5 which I stand, and the Gomeroi People, on whose land the project is proposed. So I
wish to pay my respects to elders both past, present and emerging. So I grew up in
Armidale and my mother and her partner now live southwest of Willow Tree on a big
property in the Liverpool Plains. I am extremely concerned about the potential
impacts of the proposed project for numerous reasons, but today, in this short amount
10 of time, I will focus on the potential health impacts on the local community, as this
may have a direct impact upon my family, the local community as a whole, both
current and future generations.

So as an allied health professional with higher study in public health, I was alarmed
15 to read the lack of recommendations related to health in the Chief Scientist's report
in 2013. If you type control F and search for key words in the Department's final
assessment report for the Narrabri Gas Project and you type in health, not one search
item is returned, suggesting that such a crucial factor for consideration of a project of
this type has been completely omitted. The community, as I am sure you are aware,
20 have raised serious concerns related to health, including those that have been
reported in other CSG areas, such as Queensland. These concerns include
contamination of drinking water from fracturing fluids, unnaturally occurring
chemicals in coal seams, air pollution by fugitive gas emissions and dust, noise
pollution and the effects that living in a gas field will have on mental health and
25 wellbeing.

Studies such as those by Werner and McCarron carried out in Queensland and
published in 2016 and 2018 support a large body of international evidence into the
negative health impacts of CSG on local residents. Documented health issues
30 include acute respiratory and cardiac issues, blood and immune disorders, neoplasms
and neonatal issues, such as low birth rate and pre-term births. Therefore, I think the
lack of health related recommendations in the Chief Scientist's report and the lack of
health in the Department's final assessment is negligent.

35 In addition to this, the lack of a thorough health impact assessment despite a
recommendation from the CSIRO's industry funded gas industry and social and
environmental research alliance, the Australian Medical Association and Doctors for
the Environment is especially concerning. Without a thorough assessment of
potential health impacts or even just baseline monitoring of water, air and soil, how
40 can the community weigh up whether or not this project is going to be a good thing?
This lack of health impact assessment suggests that the New South Wales
government and Santos do not care about the health of the local community and want
to bury their heads in the sand in case the information they find is not to their liking.

45 In public health, we talk about equity and social justice and how these concepts are
key to the health of a population. What is happening here is extremely inequitable
and socially unjust. The communities of the northwest were surveyed in 2016 and

97.6 per cent rejected this industry in the northwest. When such a high percentage of a community is against a project going ahead that might have detrimental effects on their health, livelihood and community as a whole, they have a right to stand up and be heard and their wishes respected.

5

The Gomeroi People, the traditional owners of the land on which the project is planned, are already exposed to existing health inequities caused by intergenerational discrimination and cultural displacement. Exposure to CSG risks may make them even more vulnerable. They have also been very clear that they do not want the project to go ahead. Don't they have a right to have their opinions and concerns over the health of their people and their connection with the land heard and respected too?

10

The New South Wales Department of Planning report, Impacts of Underground Coalmining on Natural Features in the Southern Coalfield Strategic Review, published in 2008, recommends the application of the precautionary principle, which requires risks associated with other options and socioeconomic facts to be taken into account. To date, there appears to be little application by the governments of this precautionary principle regard a range of impacts, including health. Currently, without an extensive health impact assessment, the Narrabri Gas Project is not adhering to this precautionary principle recommended by the Department themselves. So the message is clear.

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Ill health is actually a burden on us all and instead of approving a project that may jeopardise health. We need to work towards maintaining good health, rather than creating further inequities for the generations to come. This project should not be approved. Instead, it should be replaced by projects that respect equity, social justice and the health of current and future generations. So please do not approve this project. Thank you for your time.

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MR O'CONNOR: Thank you, Zoe, for your presentation. Our next speaker.

MR BEASLEY: Tom Grimshaw on the phone. Mr Grimshaw, are you there?

MR T. GRIMSHAW: I am.

35

MR BEASLEY: Go ahead.

MR GRIMSHAW: Thank you. Many previous speakers live local, so are up close and personal with the issue, so can provide a micro level view. Despite me living a 10 minute walk from the CBD, far from Narrabri, I eat. My two children and their spouses eat, as do my four grandchildren. I have a small health food manufacturing business. So the infinite continuance of good quality, nutrient dense and abundant food supply at an affordable price is very important to me. Over my 50 plus working years, I have learnt one advantage of an external consultant is they bring a different experience set and a wide angle lens to the discussion.

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If we were to have the luxury of an intergalactic planetary consultant specialising in resource management, the ultimate macro view, what would they say? If they were to do a thorough job, they would presumably do an analysis of many things, not the least of which being man's ability to predict risk and competently plan and execute
5 harm minimisation strategies. The consultant would note the sun's historical and predicted future effects on our climate and agriculture and see we are due for a mini ice age in the next decades which will lead to a reduced percentage of the world's existing farmland being arable and lower yield from that land, nothing that has not happened previously.

10 Our consultant may learn that geneticists recently concluded in the not too far distant past our planetary population was reduced to a mere 10,000 souls. Mapping the history of man's development, the consultant may learn that eight of the nine strongly traded and independent civilisations extant at the end of the Bronze Age,
15 about 1200 BC, at the eastern end of the Mediterranean were destroyed due to drought, famine and war – in other words, inadequate planning and provision of water and food preserves. And man, collectively, has not learned that lesson and nobody is taking responsibility to implement the solution. If the consultant were really top notch, they might also note the hardest illogic to spot, the missing elements
20 that should be there or not, like the Bradfield and other schemes that, if constructed, would divert water to the west of the Great Dividing Range sufficient to the Murray Darling to reliably grow enough to be the world's food bowl.

25 As the consultant looks at the present, they will learn that this week, the UN estimated that at our present rate, we have less than 60 years left of arable farmland. In the scheme of things, 60 years is not a long time to extinguish a potentially species level extinction risk. So I am loathe to lose any arable land. And some might say, "It's only a little bit". Well, the French executed their condemned with one cut via
30 the guillotine, whereas the Chinese used death by a thousand cuts. Ecologically, one small, single cut – one Narrabri – is easily counted. A thousand of them, not so. I mean, you look around the planet at depleting levels of aquifers, arable land and food reserves. We are losing vital assets at an extinction level pace.

35 The consultant may even look, as I did some time ago, at the sale of much of Australia's agricultural land, water resources and good production to China and wonder how that would pan out if China had a food crisis and our Chinese owned food production was all shipped offshore. Unfortunately, with the present drought in northern China and the floods in the south and west, we may not have to wait too long to find out.

40 The recommendations would need to factor in the collective gross mismanagement of our human and environmental resources, assessing man's engineering and quality control with specific regard to the environment. They would note an impressive list of failures. Chernobyl and Fukushima from nuclear power, oil spills from tankers,
45 offshore rigs and pipelines and many tragedies of aquifer and soil pollution resulting from fracking. They would conclude that man does not have a passing grade in being able to accurately forecast risk and competently execute measures to prevent it.

Furthermore, he either does not have the technology or cannot be trusted to properly clean up any mess a disaster makes.

5 On reviewing all of the data, our consultant may conclude that pockets of individual
brilliance and genius have contributed to a long list of man's accomplishments, but
in man's current state, his collective greed, effort level, responsibility and technology
is inadequate to preserve or restore a safe, clean environment. As a group, we have
failed on a grand scale. We cannot be trusted until rehabilitated. Our consultant may
10 remind us that food was the top item on Maslow's list of hierarchical needs and
harken back to the eight civilisations that perished three thousand years ago, ask:
"Have you progressed a long way technically without a concurrent level of advance
in our foresight and planning?"

15 Unless we can improve the planning and utilisation of our resources such that we can
answer that question confidently and resoundingly in the negative, then our
grandchildren potentially face a much bleaker future than I would like to leave them.
An American Indian once said, "When the last tree has been cut down, the last fish
caught, the last river poisoned, only then will we realise that we cannot eat money."
20 He must have been a sane, ethical man, for the insane and criminal cannot predict the
future. Every decision we make and every step we take writes our future history.
Let not our epitaph be: "Here once lived man. He died by a thousand self-inflicted
cuts to his environment." Thank you for your time.

25 MR O'CONNOR: Thank you, Tom, for that presentation.

MR BEASLEY: All right. Well, we're going back to you now, Ms Bennett. Can
you hear me?

30 MS BENNETT: Yes. Is it working now?

MR BEASLEY: It is. We can hear you. Go ahead.

MS BENNETT: Excellent. Sorry about that.

35 MR BEASLEY: That's all right.

MS BENNETT: Right. Good afternoon, Commissioners. I would like to thank you
for the opportunity to speak to you and I would like to congratulate you on your
fortitude in sitting through so many days of presentations, which are surely an
40 indication of the concerns held by so many. I would like to acknowledge the
traditional custodians of the land from where I am speaking, the Warramine Birpai
People, as well as those of the land where this project is proposed, the Gomeroi
People, and pay my respects to their elders past, present and emerging. Speaking on
day 6 of the hearing, most of my concerns have already been raised. I am not an
45 expert, but a concerned individual and spokesperson for the Gloucester loop of the
Knitting Nannas Against Gas and Greed. I am committed to preserving the land, air
and water for future generations.

The idea that this project could possibly be allowed to go ahead causes me great distress. I am not local to the Narrabri area, but I believe that the issues raised by the project affect all of us in New South Wales and indeed globally. I have witnessed firsthand the devastation wreaked by the coal seam gas industry in the Surat Basin of Queensland and I would hate to see that in New South Wales. I have also visited several of the sites in the Pilliga, where spills have occurred and which Santos, despite years of effort, have been unable to remediate. My main concern is water – water is life – and this project has the potential to cause irreparable damage to the Great Artesian Basin and the significant recharge area. It has the potential to reduce the pressure in bores and to contaminate the water. This will make it impossible to irrigate crops or feed livestock and renders our food security questionable.

Many speakers have mentioned that wells fail with resultant methane emissions. According to Dr Anthony Ingraffea, the distinguished professor of engineering at Cornell University, industry records show that 6.5 per cent of well casings fail initially, 60 per cent fail over 20 years, but all fail over time. I have grave concerns regarding the health issues allied to living in or near a gas field, having spoken with affected people in Queensland, as well as some from AGL's Camden project near Sydney. Apart from the mental health issues, known health effects include headaches, nausea, dizziness, vomiting, dermatitis, nose and throat irritation, coughs, difficulty breathing, burning and irritated eyes, nosebleeds, skin rashes, seizures, genetic defects, heart issues and cancers. Children and the elderly are particularly at risk. I would refer you to Dr Geralyn McCarron's report published in April 2013.

I question the economic value of CSG to Narrabri and the creation of jobs based on Queensland's experiences. In four years, Chinchilla, a similar sized town to Narrabri, went from being a prosperous rural town to a booming gas mining town to a welfare town with high levels of unemployment, crime and drug addiction. Currently, houses there are being sold for less than a third of the build cost. How many jobs for locals would actually be available? AGL made similar claims to Santos regarding job numbers in relation to their proposed CSG project here in Gloucester and the numbers were subsequently shown to be hugely inflated. I suspect that while there may be a few jobs for locals, most will either be short term or go to experienced workers brought in from elsewhere. It's likely that any jobs created will be largely offset by the loss of jobs in other sectors, which the Queensland experience puts at 1.8 jobs lost in agriculture and .9 of a job lost in the service sector for every job created in the CSG industry.

Siding Springs Observatory outside Coonabarabran is located in Australia's only dark sky part and hosts many overseas projects. The light pollution from the flares from the gas wells will effectively destroy any dark sky. Santos have failed to come up with any plan for the disposal of the enormous quantities of salt waste they generate. Apparently, one ludicrous proposal is to use the salt to create a new baking soda industry in Australia. Well, I can assure you that this knitting nanna won't be using it. The financial viability of the project has been addressed by experts and I am sure you will take this into consideration when making your decision, as well as the question of whether this gas is actually needed.

I haven't mentioned the biodiversity of the Pilliga Forest and the possible effect on threatened and endangered species, both flora and fauna; the total disregard of the local aboriginal culture and heritage sites; the failure to implement the Chief Scientist's recommendations or climate change, but these have all been spoken of at length by others. In closing, I would simply say that I believe that the threats posed this project far outweigh any possible benefits and I hope and trust that you will come to the same conclusion and reject it. Thank you for your time.

MR O'CONNOR: Thank you, Carol, for your presentation. Our next speaker, please.

MR BEASLEY: Next speaker is Andrew Grogan. Mr Grogan, can you hear me?

DR A. GROGAN: I can hear you, yes. Thank you.

MR BEASLEY: Go ahead.

DR GROGAN: Thank you, Commissioners. Your endurance, again, at this point, to be commended. I hope you can see the screen, which has a presentation, and you have a paper copy of it on which you can make some notes. I would like to address two key gas project assertions that are made by Santos and by others that are not based on any evidence and which subjectively distort the perceived benefits and the costs of the Narrabri Gas Project. First, I would like to address the claim that NGP gas will lower prices for New South Wales. This is wrong. The price of gas on the east coast is set by the price the LNG plants in Queensland are willing to pay to meet their 1400 petajoules a year of contractual obligations.

This was forecast, acknowledged and understood by New South Wales' IPART in 2014 and subsequently by other commentators, who correctly observed that a LNG train will result in the linkage of the east coast gas price to the global LNG price, which is itself linked to oil prices. You can see on the plot in the presentation how quickly the LNG netback price and the short term trading market – STTM – price rapidly converged after the LNG plants started using gas from the east coast. This market dynamic is simple and unarguable. It's actually rarely acknowledged. Unless there is more gas available than is needed by the LNG plants and for domestic use, the east coast gas price, the clearing price, is simply set by the alternative market for gas, the price of LNG.

Currently, and under any reasonable forecast scenario, the LNG plants will continue to remain under supply and the NGP is simply too small to fill this continuing LNG supply gap, and so it cannot conceivably reduce the price of gas in New South Wales or the east coast. As the NGP gas volume is inadequate in volume to reduce the price of east coast gas, which is effectively the same as a homogenous market on the east coast, I have detailed in the presentation a number of ways in which the price of gas could be reduced, as this seems to be the goal to which gas consumers and politicians at federal and state level alike are committed. There are two practical ways in which this could be achieved. One or two of the LNG trains in Queensland

could be shut in, which would result in the required excess of production over demand, which would reduce domestic gas prices.

5 MR BEASLEY: Well, what do you mean by “shut in”? Do you mean kept for the domestic market?

DR GROGAN: If an LNG train was shut in, that would free up two to three hundred petajoules a year for the domestic market.

10 MR BEASLEY: Right.

DR GROGAN: Or – and/or if an LNG import terminal is deployed in New South Wales – I happen to pick Port Kembla as the best location – that would provide a cap on prices that producers could chart to the east coast gas market. Currently, one to 15 three year gas contracts in New South Wales, you need to pay \$9 to \$10 a gigajoule or at the clearing price of LNG is only seven. We’re paying a \$2 to \$3 premium to the LNG clearing price and that would actually make an import terminal quite reliable. Given time – and all of this is actually set out in detail in the presentation. I can take some questions from you at the end on the market. It’s actually very simple. 20 You’ve just got a very big buyer that can’t be filled and upsets the price for the market.

Secondly, I would like to address the claims that Narrabri Gas has low CO₂. The well data in Narrabri available from 1998, when the first well was drilled, up until 25 2014 – 40 wells and 1000 samples. I was requested to do the analysis on this. I spent years in the oil and gas industry looking at well head samples and subsurface samples, so I am qualified to do this. I analysed the thousands of samples and the 40 samples – over 40 wells in the NGP area. The data there in the formation – you can see that, basically, if you go to the slide, the average CO₂ content over the whole 30 project area is about 25 per cent. It’s about 33 per cent on the Hoskinson’s formation, which interestingly, Keith Spence at the AGM for Santos said they weren’t interested in producing from.

This is very interesting, because it actually forms the plank of Santos’ EIS for the 35 project and so if they are not going to produce from the high CO₂ Hoskinson’s formation, then the EIS needs to be done again. The Maules Creek formation, which Santos did say they were taking at the AGM, they claimed that 250 samples, which no one is allowed to see, show that it’s 5 per cent CO₂, when the thousand samples that I, with 30 years of experience, looking at this data analysed, show that the actual 40 CO₂ percentage was at least 25 to 30 per cent and there are some scenarios in which it could actually be considerably higher. The data is all available. I can make it available to the Commission.

At the very least, what we think should be done, since there is a claim that Narrabri 45 will be cheap, low cost gas and it will be clean gas – it won’t be cheap and it certainly won’t be clean at a CO₂ content of 30 per cent CO₂ and I believe that a condition of any further consideration of the project would involve Santos making

available the 250 samples that it says show low CO₂ when all of the other data shows something quite different. And that's actually assessed by a competent, independent petroleum, oil and gas engineer - - -

5 MR O'CONNOR: Could you please wrap up now, thanks, Andrew.

DR GROGAN: Right. If you would like a question, I can very quickly answer.

10 MR BEASLEY: Yes. Can you just go to the page 4 of your presentation. Yes. Can you just – sorry, just let me get mine in order. Sorry, go to page 3, if you wouldn't mind. Can you just explain that table to the Commissioners, where it – the table that commences with "Demand at 2025". What are you - - -

15 DR GROGAN: Yes.

MR BEASLEY: - - - pointing out in relation to that table – through that table?

20 DR GROGAN: Okay. The point of that table is that the entire east coast demand and the Queensland, New South Wales, Victoria and – act as one market, effectively.

MR BEASLEY: Yes.

25 DR GROGAN: That whole market is comprised of 1300 to 1400 petajoules a year which have to go to LNG - - -

MR BEASLEY: Yes.

30 DR GROGAN: - - - and there's about 500 – 530 petajoules a year which go to the domestic users. So you can see that three-quarters of the gas produced in the eastern states needs to go to fill LNG plants. That's what that table is. Santos currently is short 1.8 million tonnes per annum of LNG. That requires - - -

MR BEASLEY: Right.

35 DR GROGAN: - - - about 100 petajoules per annum. That would explain why they're so keen to try and get Narrabri, because the commercial cost to them is \$9 a gigajoule if they don't meet their contractual commitments. So LNG is taking 1300 to 1400 petajoules a year and that sits there, taking gas at the price that LNG might be structured at under the contracts, and so sucks all of that gas out of the market; effectively sets the market price.

45 MR BEASLEY: Right. And can I just ask you, on pages 6 and 7, where exactly are you getting the CO₂ content data for the Hoskinson seam and the Maules Creek formation, 33 per cent and 22 per cent.

DR GROGAN: Okay. I went through every single well. You – basically, the digs, the Geological Survey of New South Wales makes appraisal well data available if it's more than five years old.

5 MR BEASLEY: Right.

DR GROGAN: Okay. So all the appraisal well data that has gas samples available on there. From my training, I go through, I pull out the depth in the wells, use the Well Completion Reports. Everything is actually conveniently there on the
10 geological survey. Then you look at the gas samples and the depth, and I've actually – there's other detail I plotted up by depth, the CO₂, it's just a question of finding the sample that was taken in the coal, plotting it up, and analysing it and averaging it. It's just, you know, laborious, methodical, and annoying, but when you do it, you know, the data is actually pretty incontrovertible.

15 So there's a Well Completion Report, there are gas sample reports, there are gas composition analysis. These are all there. You can actually look at them. And we've actually collected them in one place and can provide them. There's – I have a website. There's a summary table you could pull down now with every single well
20 setting out what the samples were, the numbers of the samples, and the data. It's just a data exercise.

MR BEASLEY: All right. Thank you.

25 MR O'CONNOR: Can I just ask a question given your years of working in the industry. Have you got any comments you would like to make about what the potential fugitive emissions might be if this projected proceeded.

DR GROGAN: Based on – yes, based on the correct – use of the correct CO₂ which
30 is about 25 or 30 per cent, and I think that's being charitable, I think that's been higher. But Santos has two cases. They have one in which they use their own gas for fuel. Now, you get into a tail chasing, the higher your CO₂ the more fuel you have to use to actually get rid of the CO₂ because you have an energy intensive amine process that does that. When you properly account for that energy and you
35 properly account for fuel use, if the project had its own fuel use it would have an emissions intensity for electricity generation from gas, from the project, of about 1.7 – about seven to eight – .7 to .8 tonnes per megawatt hour of electricity.

If Santos propose they use electricity from the grid to actually remove the CO₂ from
40 the gas, so they get more sales gas, the overall intensity from the – the overall intensity would actually rise up to about one. That's actually a plot on page 5, the emissions intensity correctly incorporating the CO₂ which is actually in the formations, would be exactly the same as coal. There would be no benefit. It would be putting about two million tonnes of CO₂ a year into the atmosphere because they
45 take the CO₂ out of the gas, they put that – remove that and put that up a stack, then the CO₂ goes to a generator, is burnt and puts more CO₂ up the stack. When you add those together you basically get the same as coal emissions.

MR O'CONNOR: Thank you, Andrew. I think Snow might have a question.

DR GROGAN: Yes.

5 PROF BARLOW: Mr Grogan, back to CO2 levels, you stated that you have analysed the publicly available figures which are up to 2014, I think you said, something like that.

DR GROGAN: Yes. Data after that is confidential, yes.

10

PROF BARLOW: Yes. Those – now, from your experience in the industry, those roles have probably been, you know, drilled at slightly different places but still into the same seams, so what's the possibility that the wells that Santos have drilled, which we can't get the data for, have actually got lower CO2, or are they likely to be
15 the same CO2 as were reported in the 2014?

DR GROGAN: That's a very good question. There were actually only two wells drilled after 2015, so the – it's where the 250 samples come from, I don't know. There are channels and tracks. If you go to page 7 of the presentation you will see
20 how the CO2 is mapped. There are areas within the project area that do have low CO2. If you look down the south-west corner there's, you know, a few wells quite low. Whether Santos is only producing those because they're making gas for the Narrabri Power Station, and if they're producing the low CO2 wells and sampling them, well, of course, they will get low CO2 samples, but when you drill appraisal
25 wells you drill them over the whole area, and if you look at page 7 of the presentation those are wells over the whole project area.

You then – if you're selectively producing – if I look at that I can see some low CO2 areas maybe 20, 30 per cent of the area. That has to have major implications for the
30 size of the resource that is actually low CO2, but without knowing about these samples that – the provenance, the location, the timing and what these samples are of Santos, I'm forced to discount them because there's just actually no detail behind them. I can only look at wide aerial coverage, on slide 7. I can only look at what the data says, and I go as an experienced engineer, that's over the whole project area.
35 Yes, there are some good areas.

In the main it's looking pretty unfortunate. You know, if – Mount Kaputar is a mountain near Narrabri. I grew up in the shadow of Mount Kaputar, funny enough. It's an igneous volcanic plug, and any geologist will tell you that if you have igneous
40 rocks under shallow coals they now probably have very high CO2. The reason is that igneous rocks emit CO2 and coal absorbs it. The geology is actually quite simple.

PROF BARLOW: Thank you.

45

MR BEASLEY: Sorry - - -

DR GROGAN: So the easiest way around this would be for Santos to make public data after 2015, and these 250 samples.

5 MR BEASLEY: That – you’ve anticipated my question. Andrew, what justification is given for the CO2 content after 2014 or ’15, whatever it is, being confidential?

DR GROGAN: There’s no justification. The way that exploration data works under most regimes is that data before a certain time becomes publicly available. That usually applies to well data. Production data is usually always confidential. Whether that’s in the public interest or not is another issue; I believe that it should be available. And I think that it’s convenient in this case to hide behind the veil of commerciality enduring confidentiality on the production data, which I contacted the Geological Survey, and they’re not allowed to make it available without Santos’ permission which was not forthcoming.

15 One wonders why. And the well data – as I say there were only two wells drilled after 2015, and I can’t see how two wells stacked up against 40 could actually make a difference in the analysis. So there’s, you know, there’s a lot of missing information which if it was brought out transparently and assessed by someone who knew what they were doing, we could have some knowledge. Right now we only have the knowledge from the 40 wells and that says it’s 30 per cent CO2.

MR O’CONNOR: Andrew, we have a question from Jack as well.

25 DR GROGAN: Thank you.

MR HANN: Yes, Andrew, we’ve heard from a number of presenters over the last couple of days in regard to differing views on the cost of production, and that the Narrabri Gas Project is either a low cost or a high cost facility. With your industry experience where would it sit on the cost curve?

DR GROGAN: Well, there’s two answers to that question. The cost of gas is one thing, the price of gas is another.

35 MR HANN: Understood.

DR GROGAN: And that’s actually – if you go slide 4 you will see that I have plotted where Narrabri sits in terms of the marginal cost curve, and I have plotted – that’s the wrong slide 4.

40 MR HANN: Yes, thank you.

DR GROGAN: Okay. Top right-hand, it has the clearing price of LNG, which is the red dot and where the NGP gas would sit.

45 MR HANN: Right.

DR GROGAN: And it has the contract price that we're currently seeing right now at that oil price, which is the \$9. You can see that at the AEMO costs of \$7.40, which I believe is probably reasonable, and the reason is it's a greenfield development with no existing infrastructure, it needs another pipeline and the resource quality is not that high. Those numbers are pretty reasonable, and they could be assessed by someone else, but I doubt very much that it's cheap gas. My – I've looked at the numbers, \$8 seems reasonable, if nothing else.

You can see that \$8 is under the value to Santos of \$9, and that's due to some effects in terms of non-performance under LNG contracts, but it doesn't change the fact that if any producer – whatever the cost of the gas – and Santos is producing some gas from the Cooper Basin, at, you know, a dollar a gigajoule, it's kind of irrelevant, but the fact is that they sell that gas at \$9 a gigajoule, so what's most important is how the price is set and not the cost of the gas. If Santos – if the costs of the project is \$10 a gigajoule and Santos wants to proceed with it, that's really a matter for Santos' shareholders, we shouldn't be concerned with that.

What we're concerned with – all it means that, you know, the profits and the royalties and the taxes would be, you know, considerably reduced, of course, but what appears to be the prime focus is the price of gas and that remains at, sort of, \$9 when their clearing price is seven and it will be at \$9 unless the volume is higher. The principle issue here is volume, it's not the cost to produce, but as in any marginal cost curve you will see on the one in green as you start to produce the least desirables they have the highest cost and eventually you get to a point where you just cannot satisfy the market at the price that the market will pay.

MR HANN: Thank you, Andrew.

DR GROGAN: Thank you.

MR O'CONNOR: That concludes our questions, thanks, Andrew. We move onto our next speaker.

DR GROGAN: Thank you very much.

MR BEASLEY: We have Margaret Vickers. Ms Vickers, can you hear me?

MS VICKERS: Yes, I can hear you. Can you hear me?

MR BEASLEY: Yes, go ahead, please.

MS VICKERS: Okay. Thank you very much. I would like to thank you Professor Snow, Mr Hann and Mr O'Connor for hearing my presentation. To begin I would like to acknowledge that I sit on the land of the Wangal People of the Eora Nation, and whether we're in here or in Narrabri or wherever we are this is Aboriginal land never ceded. I speak as an Emeritus Professor and a science educator, but mostly as a concerned citizen. I want to register my objection to the Santos Narrabri Project,

and I'm asking you, please, to decide against it. My objection could be supported – or our objections are being supported by numerous arguments, the contribution to global warming, the increased risk of bushfires, the destruction of precious habitat, and the lack of an economic case for the extraction of more CSG when we already seem to have a glut of unsold gas.

But given the time limit I want to focus on just one issue, and that is the tangible risks of depletion and pollution of surface water and ground water which will have significant impacts on the Pilliga Forest and on local agriculture, and in addition more broadly speaking impacts on the Murray-Darling river system and the Great Artesian Basin itself. The Santos CSG Project poses unacceptable risks to the surface water and ground water resources of the region.

According to modelling provided by Santos and various technical reports delivered through GISERA we appear to have nothing to worry about; however, expert advice supported by the recent legislative council review indicates that the Santos models do not meet the standards we should expect. They do not meet standards that the Chief Scientist in her review of 2014 stipulated. And so the risks that I'm going to outline now cannot be ruled out. Recommendation number 13 from the Chief Scientist's 2014 report states that companies seeking to extract CSG should identify impacts to water resources, and establish baseline conditions and their risk thresholds before activities start. Appropriate ongoing monitoring should measure changes to these baseline conditions as pilot tests begin. Now, unfortunately, it appears that this recommendation has not been fully implemented according to the Legislative Council review.

Speaking to this meeting, the Legislative Council meeting I mean, the Lock the Gate Alliance found that Santos had flatly refused to commit to installing ground water monitoring bores that would be needed to respond to that recommendation. In other words they weren't prepared to conduct ongoing measures of groundwater pollution. The Department of Planning, Industry and Environment has described Santos' modelling as having a high level of inaccuracy. DPIE asserts that the Santos model may well have poor predictive capacity in relation to the impact on the Pilliga area and the surrounding water resources.

Now, if Santos is allowed to go ahead it will extract 37.5 million litres of water from deep below the Pilliga. This extraction is necessary to cause depressurisation thereby releasing the methane from the coal seams and it would seem CO₂ as well from the last presenter. But this depressurisation in turn is likely to cause loss of water from the Pilliga sandstone which, as you know, is the southern recharge of the Great Artesian Basin. There is a risk that cannot be discounted that beneficial ground water from the overlying aquifer will be lost through enhanced leakage through the course of the semi-permeable rock layer that separates the upper and lower sediments.

As hydrologist Andrea Broughton presented a couple of days ago – pointed out in her presentation to you, Santos' assumptions about the impermeability of that layer

are optimistic. Santos has used a simplified model, she said, that ignores the effects of temperature gradients as one moves to lower strata. She argued that leakage from the Pilliga sandstone recharge could have substantial effects on the Great Artesian Basin. If this occurs it cannot be reversed. Santos may make some payment
5 indication to local farmers, but the damage will be permanent, like Humpty Dumpty, you can't put it together again.

As Doug Anderson and others have argued in their report to the Chief Scientist in 2014 further risks that cannot be discounted include leakage along or through the
10 CSG well casing, if the casing does not achieve a perfect seal with the aquifers, or if the well casing shrinks, or if well construction materials break and become permeable with time. I don't know whether in 20 years time when these still stuck in the ground what kind of leakage but polluted water and methane will continue to flow through them. Depletion of the ground water and the beneficial
15 aquifer may lead to low pressure which will prevent farmers and ground water dependent ecosystems from receiving or accessing what they need. In other words all the local ground water flows towards the CSG aquifer with no ground water left for the environment or for agriculture.

20 MR O'CONNOR: Professor, could you please wrap up now.

MS VICKERS: Sure, sure. I have referred to water loss but I'm going to say that water contamination is an equally serious risk. Very briefly, there is poisoned salts in huge volumes that will be brought to the surface. Where do they go? In shallow
25 dams that are lined with plastic and the rain squalls will wash into the Bohena Creek and down into the beautiful Namoi River. I'm appealing to you, please, to find against the Santos Narrabri Project. The last thing we should be doing is risking clean water into the southern recharge of the GAB, or depressurising our beneficial aquifers. In our often drought-stricken land where the Darling no longer flows as a
30 continual river it is water that we need, not gas. Thank you.

MR O'CONNOR: Thank you, Professor. We now move to our next speaker.

MR BEASLEY: Yes, we've got Florence McCarthy. Ms McCarthy.
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MS McCARTHY: Yes, I can hear you.

MR BEASLEY: Please go ahead.

40 MS McCARTHY: Good afternoon, gentlemen. I would like to acknowledge the traditional owners of the land present, past and future, however presented by the lands of the people participating in these hearings. I'm a development sociologist whose professional career has been as an academic and as a consultant in policy and planning work for international government, the UN, foundations and NGOs,
45 exploring the effects of economic, social and environmental change on the lives of people, particularly rural communities. I am deeply concerned with, and oppose the proposed Santos Narrabri CSG Proposal, and have chosen to focus on the social

impact of the drilling of these wells on the lives of the community people who will also be affected by these developments. I will focus on the people in the local communities, the social life in the area and the long term consequences of these mines on the region as well as on farming families.

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A number of points. First, you can't separate the environmental impact of development activities from the social and lived experienced people. What happens to the environment and those people, it affects their health and wellbeing, the community spirit and their outlook for the future. It affects who lives in the community, the demographics, and the employment structure. Second, oil and gas accounts for only 29,000 employed people in 2015/16 as reported by the Office of the Chief Economist. This is less than one quarter of one per cent of the total Australian workforce. Third, Santos has already had a waste water spill in the Pilliga Forest in 2011, and the rehabilitation of that site is ongoing. There has been also a contentious uranium contamination incident of Narrabri aquifers in 2013 near the Santos Tinsfield ponds.

I raise these points to suggest that Santos' input to faithfully deliver safe development to the Pilliga Forest and surrounding region, and that the proposal should not be approved. To focus my comments I want to use the concept of a resource bank and its effects on regional development, particularly in its social consequences. I believe this is the model development Santos has for the Pilliga CSG mines. A resource bank is a type of economic development such as CSG extraction that causes some rural regions to function merely as support for development beyond the region. In such model the purpose of extraction is capital creation outside the local area, profits for shareholders, marketing of the product abroad or in other parts of the country.

As an example of this the two pipelines proposed by Santos will run one to Sydney and the other to Newcastle. Nothing is said about delivering cheaper gas to the Narrabri region. In the Santos proposal are the types of planning social services, housing and infrastructure that are planned for the region focused on supporting a wider regional economy or is the focus only on the expediting of some of capital out of the region. I believe the Santos model is the latter. Promises to the contrary they may have made for community inputs. So what does this mean for the Narrabri region and its local communities?

If we look at the other kinds of studies that have been done on local communities and the effects of CSG mining on them, such as that in the Western Downs community in Queensland we find that among the population three of the four communities, as you've already heard, 50 per cent of the people living there have reported resisting, not coping or barely coping with the changes that CSG mining has brought. Only six per cent thought the changes had been positive. And of concern to local people across the region were issues related to environmental management, especially the overall management of the natural environment for the future, and the management of the underground water quality.

There was great dissatisfaction among local people with the overall – how decisions were made by the CSG companies that affected their communities. Local people were not involved. And of particular concern were the condition safety and amount of traffic on all local roads. Roads were heavily used but not improved. Trust levels
5 for regional bodies such as regional councils, the State Government and CSG companies were all unfavourable.

MR O'CONNOR: Could you please wrap up now, thanks, Florence.

10 MS McCARTHY: Yes, I will. Most significant is that in all communities the majority of the participants expected their future to be worse off than what they currently experienced. So what guarantees do we have that these situations won't arise in the Narrabri region? How can the IPC justify approving the Santos proposal knowing that the environmental, social, cultural and economic cost involved. There
15 already exists an oversupply of gas already. Santos has said that they will make the changes necessary and the New South Wales Government is willing to approve stage 1 of the proposal, but this is not good enough - - -

MR O'CONNOR: You'll have to end up now.
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MS McCARTHY: - - - having a pipeline Thank you for your time.

MR O'CONNOR: Thanks for your presentation. Next speaker, please.

25 MR BEASLEY: The next speaker is Adrienne Shilling. Ms Shilling.

MS SHILLING: Yes, can you hear me?

MR BEASLEY: Yes, go ahead.
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MS SHILLING: Thank you. Thank you, Commissioner. I am a member of several community groups but speak today as an individual citizen. I live in Sydney's inner west, in suburbs that are hardly recognisable as the traditional lands of the Gadigal and Wangal People of the Mighty Eora Nation. I can only guess at the bewilderment
35 and horror the First Nations people felt as they experienced their lands being so impacted upon by the early colonisers and those following. So as a non-Indigenous person it is ironic I find myself feeling huge loss of connection to my own municipality where I've lived for over 35 years.

40 As I speak the WestConnex continues its destruction of the built and natural environment in large swathes of Sydney, parts of which will soon be unrecognisable to those who lived here even 10 years ago. 100 year old homes and long-established businesses have gone. Masses of already diminished tree canopy and bird habitats have been mercilessly cleared, and three huge unfilled demolition stacks were firmly
45 built in a dense residential area, while B-doubles criss-cross our inner west roads to dump excavation spoil elsewhere, following tunnelling under people's homes.

Allegedly its purpose is faster traffic flow. The current time savings are estimated at approximately five minutes along parts of it.

5 Meanwhile poisonous emissions from excavating vehicles were being inhaled by our children, young and old residents. Not forgetting the vehicular emissions that will spill into the atmosphere when it's finished. Our governments have told us we must have it, a tollway soon to be totally privately owned, and on which tolls will rise by four per cent per annum, or in line with inflation, whichever is greater. And this, despite the more than seven years of thousands of opposing petitions, letters, 10 submissions, public meetings, and meetings with local politicians, government and WestConnex representatives raising concerns about increased traffic congestion, air pollution, loss of amenity, constant night time construction noise, mysteriously appearing cracks in dwellings, loss of access to local roads. The list goes on. It was approved anyway.

15 Most concerns are minimised or ignored by relevant authorities, with little or no compensation for damage and loss incurred. I have witnessed the mental and physical health deterioration of so many directly affected residents, and know individuals and families who could no longer stand it and so moved away, sometimes 20 out of Sydney. Collateral damage. Sound familiar? But how is this relevant to the Narrabri Gas Project? Well, WestConnex is a State Significant Project backed by our State and Federal Governments and the opposition in a mutualistic, symbiotic relationship with big business.

25 While many might think it's a big city feature, I want to be clear this massive motorway is no more appropriate in Sydney than the many other State sanctioned projects, including hundreds of intrusive high-rise concrete hills being pushed by developer mates, and the recent approval of a long wall coal mine extension under Sydney's Woronora Reservoir, part of Sydney's water supply. These are all 30 contributing to the rapid deterioration of our built and natural environment, and, of course, our climate.

35 So at the risk of offending any Narrabri residents who wonder why outsiders like me are making submissions on this Santos project I believe I have much in common with those who have been affected directly by it, and what's happening in Narrabri is similar to what has already happened in the coal and CSG industries elsewhere in Australia. We are all in this together, insists our Prime Minister, Scott Morrison. The cumulative environmental impacts on this beautiful country of many such projects are increasing daily, and alarmingly, all contributing to rising levels of 40 global heating, depleting our carbon budget, and threatening life as we know it on this planet in the foreseeable future.

45 In 2017 I wrote an individual submission to the EIS for this project, one of the 97 per cent objecting. My opposition stems from my own research, from hearing evidence of farmers and towns people in the affected areas, and my experience of hosting people here who have been directly affected by unconventional gas, including cattle farmer John Fenton from Wyoming USA, and the daughter of a Queensland farmer

whose property and surrounding community were ruined by nearby CSG operations. I am astonished we must continue to oppose this project. I have been watching these IPC proceedings all week. I cannot improve on the knowledge, experience, research, expert opinion and association with their lands of those opposing. Above all - - -

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MR O'CONNOR: Adrienne, can you please wrap up now. Thank you.

MS SHILLING: I just have a couple more points, please. Above all, the Gomeroi People who stewardship over millennia has been so disrespected and frequently ignored, but I can emphatically add my voice to the groundswell of recent opposition. If it proceeds in a way this would be our legacy, and as Gomeroi elder, Maria Polly Cutmore, pleaded with you earlier this week, and I quote, "How much more do we have to put up with this in our country? We've had this done to us for over 250 years. Please can you just stop it. We want" - - -

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MR O'CONNOR: Can you please finish your presentation now, thank you.

MS SHILLING: - - - "to live and enjoy life in our country. We can't have this anymore." Thank you.

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MR O'CONNOR: Thank you for your presentation. Next please.

MR BEASLEY: Bryce Kelly. Mr Kelly.

ASSOC PROF KELLY: Hello, I'm Bryce Kelly. I'm Associate Professor at Environmental Science at the University of New South Wales. Thank you, Commission, for listening to me today. I specialise in the measurement of greenhouse gas emissions. Currently, I am part of an international team undertaking the largest combined airborne and ground study to date of methane emissions from coal seam gas and agricultural developments in the Surat Basin. This project is part of a global methane science studies managed by the United Nations Environmental Programme. Although I present data from the Santos CIS and the Australian Government it demonstrates that the Narrabri Gas Project, if approved, will be one of the top 100 emitters of greenhouse gases in Australia.

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In the recent Narrabri Gas Project State Significant Development document the authors worked really hard to make the greenhouse gas footprint look small. At the most absurd level on page 105 at point number 527 a comparison is made between the Narrabri Gas Project and the total global greenhouse gas emissions. This is just an irrelevant comparison. Although I placed the greenhouse gas emissions for Narrabri Gas Project in better context. On the Australian Government National Greenhouse and Energy Reporting web pages annually is a listing publish title Corporate Emissions of Energy Data. There's a file there Greenhouse and Energy Information by Registered Corporations 2018-2019.

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There were 418 organisations listed. Considering scope 1 emissions I highlight two. The largest submitter of scope 1 emissions is AGL Energy who generated 42.7

million tonnes of CO2 equivalent. The 20th was Santos who reported 5.8 million tonnes of CO2 equivalent emissions. The Narrabri Gas Project option 1 will produce approximately one million tonnes of CO2 equivalent per year. As a single entity this will make the Narrabri Gas Project the 54th largest scope 1 emitter of greenhouse gases in Australia. The project 2 option will produce approximately 620,000 tonnes of CO2 equivalent per year, making it the 63rd largest scope 1 emitter of greenhouse gases in Australia.

10 The physical laws of nature control global temperature rise. Accounting tricks cannot diminish the true impact of the Narrabri Gas Project. All of the greenhouse gas assessments for the Narrabri Gas Project have used outdated emission factors which relate to a 100 year timeline assessment. For example, in the Santos EIS the 100 year global warming potential used for methane was 25, but more recent research shows that it is actually 28 or 34, so the modification has been understated. 15 While on a 20 year timeline it is 84 to 86, and that would be a better assessment timeline for the Narrabri Gas Project.

The true impact of the global warming contribution has been underestimated. I leave the Committee to consider does Narrabri Gas Project really assist with limiting the 20 global temperature rise in alignment with the goals of the Paris Accord Climate Agreement. Methane that is emitted to the atmosphere takes approximately 10 years to be removed. If you approve the Narrabri Gas Project you will be approving one of the top 100 scope 1 emitters of greenhouse gas emissions in Australia for the next 25 years, with a global impact that will actually extend to 35 years. That is all I wish to 25 present today. Thank you for this time, and listening to my comments.

MR O'CONNOR: Thank you, Bryce.

30 PROF BARLOW: I have a - - -

MR HANN: Bryce – sorry, you go ahead, Snow.

PROF BARLOW: Bryce, maybe this is outside your remit, but what was your estimation of the fugitive emissions, I mean, methane – fugitive methane rather than 35 CO2, from the Narrabri Gas Project.

ASSOC PROF KELLY: I can't actually work out the true emissions, because all the base data is not in the EIS to allow you to do that, so you have to trust some of the figures that is presented. I – at this point, we're doing an enormous amount of work 40 up in the Surat Basin and we're trying to better quantify the true emissions that are coming from the coal seam gas developments in Australia. I don't think we actually have the hard data for anyone to make a comprehensive statement. The survey work which is being done by CSIRO to date is statistically invalid, and has not analysed enough well heads. We are doing the actual first airborne survey of a large coal 45 seam gas well system now.

PROF BARLOW: Thank you.

MR BEASLEY: Bryce, one of the things that's said in the assessment report, I don't know if you have a comment about this, but it – I mean, in simple terms what is said is the gas demand in New South Wales is going to stay the same whether this project is approved or not - - -

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ASSOC PROF KELLY: Yes.

MR BEASLEY: - - - so greenhouse gas emissions associated with gas use in New South Wales will stay the same whether or not Narrabri is approved or not; do you have a comment in relation to that?

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ASSOC PROF KELLY: I haven't looked through all the calculations. That would depend on where you source your gas from. Whether you're sourcing it from a conventional gas field, or whether you're sourcing it from additional coal seam gas fields up in Queensland. That is a very complex question that I can't answer quickly. I – what we're doing is we're hooking ourselves on gas for another 25 years, aren't we, with an impact through to 35 years. I would – there are so many better alternatives for our energy production. Why not move in that direction today? I don't see why we should say that we have this demand. Yes, there will be a gas demand, but we can also move away from the gas production. This is hooking us on gas and creating the demand, isn't it?

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MR BEASLEY: Thank you.

MR O'CONNOR: Thank you, Bryce, for your presentation and answering those questions.

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ASSOC PROF KELLY: Okay.

MR O'CONNOR: Next speaker, please.

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MR BEASLEY: Next speaker is Susan Kilminster. Susan, are you there? You might have to put your microphone on.

MS KILMINSTER: Unmute myself. Is that it?

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MR BEASLEY: Yes, we can hear you now. Go ahead.

MS KILMINSTER: Lovely. Good afternoon, and thank you to the Commissioners for this opportunity to speak about the Narrabri Gas Project. We acknowledge the traditional owners of the land. My name is Susan Kilminster. As city dwellers we take for granted our wonderful constant food supply, clean water and fresh air, yet when we hear and see our country communities protesting about the intrusion and steady march of powerful industries it is time to understand their reasons and concerns through research and visiting the area. We have all experienced water restrictions and having to be careful with our most precious life-giving resource, water. During the prolonged drought, which is still ongoing in some areas, the media

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gave us glimpses of the devastation, destruction and heart break of the affected communities so it is then very difficult to understand the reason why a huge new industrial project such as Santos CSG Project at Narrabri would be allowed near any creek, river or aquifer.

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Surely common sense tells us that such large amounts of water being extracted by Santos from any water source would have a severe impact on the local and farming communities who have depended on the same source for generations. We must also take into account the environment which has also depended on the same water for thousands of year. Many scientists warn about likely contamination and draw down of the ground water, threats to the Great Artesian Basin, connectivity between aquifers, disposal of salts, soil contamination, etcetera, etcetera.

10

As we are all consumers of gas and electricity we have been shocked by the steep price increases in a very short period of time. Even the ACCC comments that these prices are far too high for the consumers. Imagine our surprise and confusion when hearing comments over the years from economists that there is enough gas available in New South Wales without any need for the Santos project at Narrabri. The issue that hurts is the fact that West Australia has gas reserve for the domestic market before the export market is satisfied and met. Why wasn't this a requirement for New South Wales before any contract was signed, and why isn't it now a requirement before any new agreement is signed. Where are the safeguards for the consumer?

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We later learn that the domestic market is paying more for its gas than the export market. Then comes incredible news of a discussion that it is cheaper for the domestic consumers to import gas from overseas. In the past we learned of food miles with transporting food around the country, so this must be a first for gas miles for shipping gas forwards and backwards across the seas.

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The Pilliga Forest with its wide diversity has adapted to the specific conditions over thousands of years. It too will be affected by the loss and contamination of water, and damage to the land with installation of infrastructure. When viewing the footage of the horrendous bushfires earlier this year it was a shock to learn that Santos said that the gas flares will continue to burn even during total fire bans because of the risk of methane leaks the Rural Fire Service's grave concerns about fighting fires in the area of the gas wells. There appears to a steady advancement of the industrialisation of north-west New South Wales with proposed coal mining at Boggabri, Whitehaven, Shenhua Watermark at Liverpool Plains, proposed exploration of petroleum in coal gas seams from south of Dubbo way up to the Queensland border and extending into the Galilee Basin.

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It is the small local community groups who are left arguing and fighting for their survival and ultimately the environment as well. They have displayed great resilience over their many years of protesting, up to 10 years and counting. These country communities have an emotional attachment to everything they do and see, living and working with the provision of nature, and simply enjoying the beauty of

the land. Some are already suffering from the trauma of seeing their familiar landscape destroyed. It seems that the coal gas industry has no such an attachment to the land, since its outcome will be to destroy much that is dear to these communities. We have witnessed this with the Whitehaven Coal mining industry in Boggabri, and
5 the Hunter Valley, to name a few.

The book title The Town that Said No to AGL: How Gloucester was Saved from Coal Seam Gas by John Watts gives us a glimpse into the social and devastating impact that a large corporation has on a community. I've seen evidence of this in
10 Narrabri. How can one compare and justify profits gained from this short term 25 year mining project with the long term impacts on people's lives, the environment and particularly the loss of the most precious resource in the world, water. I join with many others in opposing the Narrabri Santos CSG development. Thank you for your time.

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MR O'CONNOR: Thank you, Susan, for your presentation. Next speaker, please.

MR BEASLEY: The next speaker is Barry Laing. Mr Laing?

20 MR LAING: Can you hear me okay?

MR BEASLEY: Yes, go right ahead.

MR LAING: Good afternoon, Commissioners O'Connor, Hann and Barlow, and
25 counsel assisting Beasley. I'm Barry Laing, physically distant and speaking from my home on Gadigal country and I acknowledge the Gomeroi People, traditional custodians of the area of this project I'm excited at the chance to help you make history and save my grandchildren by not approving Narrabri Gas Project and rejecting this gas extraction in New South Wales. Let's cut to the chase about the
30 problems the panel has with the NGP Assessment Report. I would like to share my screen, if I could? Sorry, I've got to go back and press share screen. Getting there, sorry. Can you see that now?

MR BEASLEY: Not yet. Sometimes it takes a moment.
35

MR LAING: Should be a slide saying Ideas. Have I not got it shared, I'm sorry.

MR BEASLEY: That's all right. It's not coming up at the moment.

40 MR LAING: I'll have to go on this other view, and see whether that works.

MR O'CONNOR: You can always include your slides in your submission, and we'll take them into account when we receive them, but you can make your points
45 right now.

MR LAING: Okay. Look, it's quite difficult to make my points without knowing – knowing that you can't see what I'm saying. It's not the window.

MR BEASLEY: Hang on, something is happening now.

MR LAING: Okay.

5 MR BEASLEY: Yes, your slide has come up now.

MR LAING: Okay. Thank you.

MR BEASLEY: So go ahead.

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MR LAING: I want to do some fact checking, DPIE says the gas is profitable, but BP, Shell and Woodside say it's not. See what Santos wants to do to renewables. We've got that are being not constructed in the States. Florida and Tucson Electric Power Company is phasing out gas generation by 2027.

15 Despatchable renewables are easy and New South Wales is sidelining gas, 10 gigabytes of renewals coming in through the coal shutdown. And the assessment report's unaware that Santos is devaluing its gas. It happened on Tuesday. You guys weren't told anything on Monday about the fact that Santos now is going to write down a billion dollars on the value of gas. The CEO of Santos knew on Monday; he didn't say a thing to you about this write down, he chose not to tell the panel. Any reasonable observer would say that it was a lie by omission to this panel about an extremely critical factor in assessing the value of this project.

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The shortage in supply to New South Wales have been attributed by authority respondents to cartel behaviour by Santos and others in the Queensland gas market. So to believe the CEOs assurance that Santos will direct non-NGP gas into New South Wales would be A fact check about public interest. Santos makes political donations to the Liberal and National Party. Santos also donated to Narrabri. The New South Wales Expert Panel on Political Donations said in 2014, "This has the potential to influence policy in 2018 and so has the potential to undermine public interest." This company persists in taking process by making donations to Narrabri and to the political parties involved. It's failure to use approval conditions open follow them.

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35 So it's a no-brainer. This panel is the repository of the up-to-date information relevant to this project. The NRAR has basically been deemed to be irrelevant. The experts say the risks requiring no. This week's hearing has shown unprecedented community resistance. It's likely that if it was approved the New South Wales Government would have to buy out the project at – costly to Santos' benefit as it has had to do with another gas project – coal project. This panel is the community's chance to turn the political tables over, and not only should this project be rejected, but the rejection should be found on grounds and amid evidence that was invincible. You guys have the skills and commitment to truth to do that for the sake of your dependents. Please make this rejection invincible so the NGP never happens.

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45 You can refuse this because cheap renewables will prevail anyway, so let us get on with it, undistracted by NGP and similar projects. Thank you for listening. Please choose our future wisely.

MR O'CONNOR: Thank you, Barry. Next presenter, please.

MR BEASLEY: Next presenter is Elizabeth Boyd. Ms Boyd, are you there?

5 MS BOYD: I am. Can you hear me?

MR BEASLEY: We can. Go right ahead.

10 MS BOYD: Thank you. Good after Commissioners and Counsel. Thank you for the very important work that you are doing. I'm a retired history/English teacher of teenagers. You wouldn't do that to yourself for decades unless you cared about the future of young people. We, the relative few, will make decisions that will affect, and, indeed, afflict, to varying degrees the many who follow. We don't want to invert Churchill's seminal words to become "Never in the history of human conflict
15 has so much been owed by so few to so many". A little illustration of a student's perspective – well, one of my ex-students was sending himself deaf using earplugs. "Johnno, take out the plugs?" "What Miss?" says he. I gestured to remove the plugs and he obliged. We went on to the ear's anatomy and why we should not bypass its structure. "Oh, Miss, they wouldn't make things that hurt us" he said. The other
20 students let out a collection of groans, sighs, gewgaws, and sniggers. "Sure" said one, "like cigarettes." The ensuing brain storm came up with a list of nasties, including sugary drinks, junk foods, alcohol, leaded petrol – that was me – and fossil fuel.

25 This classroom anecdote indicates the level of distrust most young people feel about corporate ruthlessness and the lack of government regulations. The role of a democratic state is to represent the many elective not just too few in big business. Alas, the Department of Planning's report on the Narrabri Gas Project dismisses the people's concerns with the glib statement, "No significant impact on people and the
30 environment." There is no definition of significant, a word that leads itself – lends itself generously to all blurring of meaning. The significant impact on people is already palpable from the many responses and submissions to this hearing. Moreover to conclude that 850 gas wells are not damaging to the environment is not to be dignified even with the pejorative words "green wash". It is blatant hogwash
35 and deeply disrespectful.

Let's follow the money. Santos does not demonstrate a concern for bringing down the price of gas for the people of Eastern Australia. I'm informed that renewables are already at 23 per cent and gas is struggling at nine. Australia overtook Qatar in
40 January 2020 as the world's biggest exporter of LNG, and Santos is in there. The royalties paid in this country are dwarfed by those demanded by the Qatar Government. Will we allow the beautiful Pilliga to be despoiled so that Santos, the too few, can export and prosper. Santos would be permitted to destroy the surface of the land to reach what lies beneath. For those who are there can be no
45 compensation big enough.

And what of the great employment furphy. Well, Santos is a company. It's there to make money out of the rest of us. One of the biggest outlays for any commercial enterprise is labour which the bosses will make sure is kept to a minimum. If the skills are not found nearby then it's FIFO. Even as rural numbers of jobs may be
5 local, and those people will miss out. If the project has to be subsidised because insufficient funds come from private investment it's quite obviously, to use a cockneyism, a leaner or a loser.

10 New arrangements in the EU propose border tariffs on imports from countries that lack a carbon tax. We're in there. And it's going to start in January 2021. I have no doubt that this will extend to all greenhouse gases. A standard access will be dumped in the form of the Narrabri Gas Project if it's allowed to go ahead, and the Australian Tax Payers, including the Tax Payers of the future, the young of today. What are they trying to do to them? It was eye watering to read the department's
15 report that the Pilliga Project would add only – only .09 per cent of Australia's total greenhouse gas emissions, at a time where we need to reduce those emissions, ten-fold that figure per annum.

20 We have no right to make decisions that may damage future generations, yet the government report does not embrace the precautionary principle. It is an inter-generational obscenity. On August 20 of 1941 at the height of the Battle of Britain Winston Churchill addressed the Parliament, "Never in the history of human conflict has so much been owed by so many to so few" in thanking the brave airmen who averted invasion. We are at a watershed. There are three of you. You are our few
25 today. Thank you for your attention.

MR O'CONNOR: Thank you, Elizabeth. Next speaker, please.

30 MR BEASLEY: We have Felicity Davis. Ms Davis.

MS DAVIS: Yes, hello.

MR BEASLEY: Hi. Go ahead.

35 MS DAVIS: Thank you for – I'm very well, thank you. Thank you for the opportunity to speak to you today. I live in the northern beaches of Sydney, and I represent the Pittwater Knitting Nannas. My background is that I was married to a chemical engineer and an education film producer who was passionate about preventing catastrophic climate change, and I learnt a lot from him about global
40 warming caused by burning fossil fuels. Tragically he was killed in a helicopter accident whilst filming an open-cut coal mine in the Hunter Valley in 2015. This has made me even more determined to carry on his mission to prevent catastrophic climate change.

45 I've been a climate activist since 2010. I started up the – our own branch of Knitting Nannas in 2014. We have heard much about the problems associated with the coal seam gas mining, and I can only echo the advice of experts. We do need natural gas

as a transition to clean energy, but the experts say we have a huge supply of gas which will take us well into the next decade. Something is coming up, “I’m going to turn off”. I hope not. So we don’t need this extra gas. We know this form of mining is very destructive and dangerous, and would destroy prime and cultural farmland and their water supply, while raising our carbon and methane gas levels in the stratosphere.

This will jeopardise our targets in the Paris Agreement of staying below 1.5 degrees of warming. In the last 10 years we have had, and still have, governments, both State and Federal, that are climate change deniers, one under the influence of the fossil fuel industry. The only government that did anything to reduce the carbon emissions was Julia Gillard’s. She got cruelly bullied and bumped out of office in two years. We have been swindled out of our own gas supply by the governments not making provision for domestic use. We have allowed foreign companies to come and take our gas for a mere pittance from petroleum resource rent tax and royalties. It is a scandal that we must pay the export price for our own gas.

We’ve already had extremes of weather as predicted, along with spouts, floods, hottest summers and catastrophic bushfires. A terrible loss of life of the young firefighters, and many other people. People still living in tents. A loss of billions of trees, domestic animals and wildlife. We’ve nearly annihilated the koalas. My conclusion is this project must not go ahead. Gas mining must peak by this to stay below 1.5 degrees of global warming by 2030 or at worst two degree by 2050.

The Narrabri CSG Project will become a standard asset, and will have done all – we will have done all this permanent damage to our land, water and air for nothing. Right now we are the world’s biggest exporter of fossil fuels. That makes me really proud to be Australian. We should be leading the world in clean energy as we have the most and best clean energy resources. We can have a continuous supply of electricity using concentrated solar thermal storage, wind and hydro. We can make much more than we need and sell clean energy to other countries via subsidy tables. Josh Frydenberg, you need not worry about unemployment when you say Net Placium have a million jobs ready to go. We could all be really, really busy making clean energy with support from investors and big business. So let’s get on with it and stop this fossil fuel madness.

We can give our grandchildren, and future generations, a happy and liveable climate. They should not live in fear of the future. We have wasted the last 10 precious years, and not building enough renewable energy. We do not have another 10 years to waste. So let’s get on with it. And now I’m going to sing you a little ditty, just to lighten the atmosphere a bit. Just one verse, it goes like this:

A mine on the land will be quite detrimental ‘cause carbon is the world’s worst friend. A mine may be planned but it will drive you mental, make you quite irate, so quick, mate, Lock the Gate, Santos’ land that it but we’ll all lose our farms in the end. No forest for the clearing when solar is so endearing, and carbon and methane are the world’s worst friend.

Thank you and goodbye.

MR O'CONNOR: Thank you for that humour, and thanks for your presentation, Felicity. On that note, we'll take a break and we will return at 3.25 pm. Thank you.

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ADJOURNED

[3.09 pm]

10 **RESUMED**

[3.26 pm]

MR O'CONNOR: Welcome back to the public hearing. Our next speaker, please.

15 MR BEASLEY: The next speaker is Prudence Wawn.

MS WAWN: Must be speaking.

MR BEASLEY: Can you hear me, Ms Wawn?

20

MS WAWN: Hello.

MR BEASLEY: Hello. Can you hear me, Ms Wawn? Obviously not.

25 MR HANN: Should do now.

MR BEASLEY: Can you hear me, Ms Wawn?

MS WAWN: Hello.

30

MR O'CONNOR: We can hear you.

MR BEASLEY: Might have to go back to - - -

35 MS WAWN: Can you hear me?

MR O'CONNOR: We can.

MR BEASLEY: Yes, we can.

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MS WAWN: Can anyone hear me?

MR BEASLEY: Yes. This is going to look great in the transcript. I'll give you one last go, Ms Wawn, can you hear me?

45

MS WAWN: I can't hear anything.

MR BEASLEY: Okay. That's an answer. We might need to go to the next – she can't hear us so telling her to put the volume up won't help. Okay.

5 MR O'CONNOR: We might just take a short break so we can fix that technical problem. Thank you.

ADJOURNED [3.27 pm]

10 **RESUMED** [3.29 pm]

15 MR O'CONNOR: Welcome back. Let's move on to our next speaker. Cathy Merchant, are you there?

MS MERCHANT: Yes, I am.

20 MR O'CONNOR: That's a great relief. Go ahead.

MS MERCHANT: Thank you, Commissioners, for an opportunity to present today. I raise particular concern about the serious threats posed by this project to the Great Artesian Basin. I do not feel the department has demonstrated necessary rigour in its assessment of these risks or provided a meaningful set of consent conditions. GAB
25 waters are a precious Australian resource that has underpinned human occupation of New South Wales dry inland for tens of thousands of years. It's water integral to Australia's unique inland ecosystems. I am not an hydrologist or even someone with a science background but there is a significant amount of information available to the general public which contrasts and contradicts statements made in the assessment
30 report. For example:

35 *There is no significant recharge zone affected by the project with little connection to the rest of the GAB or that no direct water extraction will occur, just some insignificant indirect loss of water.*

From my lay person reading there seems emerging understanding of the GAB and its waters as more complex than originally conceptualised by the broader public. An intricate but in parts discrete series of multilayered basins was inconclusive but recognised connectivity with surface and groundwater sources. Recent geochemical
40 modelling suggesting more significant interconnectivity between GAB and Lower Namoi Alluvium than previous water balance estimate models.

Uncertainty around the Pilliga recharge rate seems especially vexed as arid inland New South Wales confronts a changing climate. The temporal and spatial of the
45 GAB are arguably beyond the scope of planning approval consent conditions and 10 year water sharing plans. An impact identified as negligible under those plans could be dismissed in the short term but have dire longer term impacts. The uncertainties

and knowledge gaps about real potential impacts of the Narrabri proposal on the GAB should I feel have triggered application of cautionary principle and outright rejection.

5 I would argue that assessment of such unknown complexities is one of the reasons why the principles of BSD are written objects of both environment planning and water laws in New South Wales. I am not assured as a lay person to read statements in the assessment report such as:

10 *Impacts on the highly valued aquifers will be minimal and would not occur until many years after mining commences.*

With the shrinking shelf life of a proprietary limited company to an average of 18 years, Santos may not even be around for the duration of the proposal, let alone
15 around to rectify subsequent damage to the Pilliga Sandstone aquifer. I have no confidence the so-called comprehensive list of recommended conditions will ensure the early detection of any adverse or unpredicted impacts on GAB waters. B37 relates to groundwater modelling but uses weak words that must consider leakage from the GAB to the Lower Namoi based on predictions to feed into a groundwater
20 model which must be periodically updated. I feel this is unsatisfactory given the complexity of GAB function and its importance to all Australians.

B38 manages the required water management plan. However the performance measure compliance for monitoring and evaluation is directly linked to table 6 at
25 B35. B35 provides a set of performance measures which are unquantified and unqualified and based on a vague notion of negligible change. B35 also links to the no exceedance of the minimal harm considerations of the aquifer interference policy 2012 yet this policy is based on a risk management approach where the level of detail required by a proponent is proportional to a combination of the likelihood of impacts
30 occurring on water sources. If the department has not recognised any significant impact on GAB waters, it is arguable whether there will be any rigorous monitoring under the aquifer policy and evaluation of negligible change becomes extremely contentious.

35 The aquifer policy relies to some extent on provisions in water sharing plans for the benchmarking and variations in aquifer water table pressure and quality. It is my understanding that Santos will require water licences for access to the Surat and the southern recharge GAB water resources and this will involve the GAB groundwater sharing plan. In 2018 the NRC undertook its statutory review of the 2008 GAB plan.
40 It recommended to government the need for a new transparent plan based on improved knowledge of how the GAB functioned. The new GAB groundwater plan commenced in July replacing the 2008 plan but government did not adopt any of the NRCs core recommendations.

45 Government did however increase the permitted amount of take within the southern recharge zone based on what I would argue is spurious interpretation of recharge rates given what seems a high degree of uncertainty around them. Overall, I have no

confidence the assessment report recommendation can protect GAB waters. The consent conditions are weak and poorly integrated with the critical but inadequate underlying plans that will guide future monitoring and evaluation. Whilst 19th century overstocking and grazing quickly dried up many artesian springs, GAB water
5 still provides significant social, economic and cultural benefits today. I fear we will not be so lucky with CSG mining. Public interest concerns are justifiably broad ranging with this proposal and impact on the GAB just one of the important issues the department has failed to properly consider under New South Wales planning laws. Thank you.

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MR O'CONNOR: Thank you, Cathy, for your presentation. Next speaker please.

MR BEASLEY: Next speaker is Bronwyn Vost. Ms Vost, are you there?

15

MS VOST: Yes.

MR BEASLEY: Please go ahead. We can hear you.

20

MS VOST: Thank you. Thank you, Commissioners for this marvellous chance to speak today to this amazing Commission. I pay my respects to the Gadigal people from whose land I'm speaking today. I also pay my respects to the Gomeroi people whose sacred land is in the Pilliga the Santos project will desecrate if it's allowed to proceed. And to all First Nation people listening today. As an older Australian, I have had time to develop many ties to rural communities in New South Wales. I am
25 acutely aware of the crucial role that the Great Artesian Basin plays in many of these communities such that they would not exist without it. I am also acutely aware that if these communities cease to exist as a result of the destruction of the GAB, Australia's food security and its whole economy would be greatly damaged. On the 23rd of September 2014 my attention was caught by UN secretary Ban Ki-moon
30 announcing at the world climate summit:

30

Ladies and gentlemen, today we must set the world on a new course.

35

A week later my first granddaughter, Neve, was born and pretty soon after that I joined the Knitting Nannas whose determination is to protect the land, air and water for the kiddies. In other words, to uphold the principle of intergenerational equity. I will continue to fight for this principle for the rest of my life. For many years now Knitting Nannas have been appalled by the destruction potential of the Narrabri CSG project and have been talking to the public about it in Martin Place every Friday.

40

As an ex-infant school teacher, I thought a good way to inform people would be through pictures. I drew a poster, following closely the diagram in the 2017 GISERA fact sheet, "Impacts of CSG Depressurisation on GAB Flux". I will include this poster in my written submission but I just don't want – I'm not sure about screen
45 sharing so I won't put it up. But the poster includes a top arrow which shows the normal flow of water through the Pilliga Sandstone and the lower arrow shows the flow of water expected to be diverted downwards by CSG depressurisation. The

lower arrow looks as if it would drop the water table out of reach of farms bores.
And the associate text of this fact sheet clearly states:

5 *Due to the resulting pressure reduction in the coal seams over a period of many years, some water may flow from the GAB into deep formations.*

There are thick layers of rock formations between the GAB aquifer and coal seams that generally have low permeability. However pressures in the coal seams, resulting from CSG development, has the potential to lead some flow of water from the GAB. I wondered how I could find out what would happen to the water table once that water dropped into the deep formations as my 2017 fact sheet had said, unhelpfully:

15 *We don't deal with drop in water table in our report. This information will be available through the bio-regional assessment program which assesses cumulative water impact from CSG and coal mines. However, an examination of the assessment program for the Namoi region reveals that, since there is not yet any commercial production of CSG in the region, it is deemed that no assessment can be made of cumulative water impacts from CSG and coal mines.*

I continued to be intrigued by the apparent contradiction of water which flowed down through impermeable rock layers. My search led me to the GISERA research project, W19, entitled "Assessment of Faults as Potential Connectivity Pathways". Its project summary began:

25 *In the Narrabri region there are conflicting views on whether faults extend to the surface in the Surat Basin and whether they could potentially allow connectivity between deep coal seam gas target formations, GAB formations and shallow aquifers or surface water systems.*

The project summary promised answers to all my questions and concluded:

35 *The ongoing community concern and uncertainties relating to the presence of faults suggests that it is an issue worthy of more research.*

I heartily concurred. Fault zones can be potential pathways for the migration of fluids or gas. A huge risk for a contamination or wastage of pure GAB water. However, imagine my dismay when I realised that, far from being complete, this research has hardly begun and its proposed completion date, the 31st of December 2020, seems unlikely to be achieved. This is only one piece of investigation that should have been done long before this truly awful project came anywhere near the approval process.

45 MR O'CONNOR: Bronwyn, could you please wrap up now.

MS VOST: Commissioners, I profoundly hope that you will reject this project outright. You will be helping to ensure that in 2111, when Neve is as old as her great grandmother, there is still a Great Artesian Basin to feed her cousins and their peers. That would be true intergenerational equity. And there they are, if you can see them. I don't know.

MR O'CONNOR: Thank you, Bronwyn. Thanks for your presentation. Next speaker please.

10 MR BEASLEY: I think we have Peter Donley. Mr Donley.

MR DONLEY: Yes. Hello. Good afternoon, Commissioners. I'm Peter Donley. I'm a retired civil engineer. I'm speaking today in opposition to the proposed project but first I would like to recognise the traditional custodians of this land and pay my respects to the Aboriginal leaders, past, present and emerging. I live in Gweagal land of the Dharawal People on the southern shores of Botany Bay. I will be making a detailed written submission with references and calculations but today I would like to address some aspects of the proposal that I am particularly concerned about.

20 Firstly, there is the significant problem of the disposal of the produced water from the 850 gas wells over the life of the project. Santos' documentation estimates that there will be approximately 35 billion litres of salty water integrated from the coal seams. This translates into a quantity of 840,000 tons of solid salt waste. Now, that's a difficult quantity to visualise but I have undertaken some calculations and found that if the salt could be dried out and made into the form, say, of granular table salt, it would fill up Martin Place in Sydney all the way from Macquarie Street, down to George Street up to the height of the Reserve Bank building. It would fill Martin Place not once, but almost twice over. I ask the Commissioners when you are next in Martin Place to reflect on what that quantity of salt would look like.

30 I submit that even if it were possible to dig a hole somewhere and bury that amount of salt, it could not be done without significant danger to the environment. But of course it will not be possible to dry it out and so the salt waste would be concentrated in liquid form making it even more difficult to transport and contain Santos has not come up with a credible plan for the management of this waste other than to say that it will look to recover what it can from re-use, that is, without mentioning that the salt contains heavy metals and traces of uranium. Santos goes on to say that if repurposing is not possible, it will hand the waste over to an accredited waste disposal company. I submit that this is not acceptable and will merely transfer the resolution of the problem to future generations.

45 My second point concerns the physical nature of coal seam gas. Methane is over 80 times more potent than carbon dioxide as greenhouse gas over the timeframe of 20 years. As such it should be considered a dangerous physical threat to the world environment, not only because it is a fossil fuel that contributes admittedly slightly less carbon to the atmosphere than coal when burnt, but when leakages are considered it has the same resultant negative impact on global warming as if coal had

been burned in the first place. To say, as some politicians have, that gas is a necessary transition fuel away from coal to renewable energy is a fallacy. It's a fallacy designed to appease the powerful fossil fuel industry.

5 Burning one fossil fuel to replace another does not make sense. Instead we should be making the inevitable step directly into renewable energy. The supposed advantage of gas as a means of providing energy at night when the wind doesn't blow has been discredited. There has been significant advances lately in solar thermal new battery technologies, hydrogen production and fuel cells that generate electricity directly
10 from hydrogen without the need of combustion or any moving parts in the sharing. If we are serious as a nation we should be supporting and subsidising if necessary these alternatives to the burning of fossil fuel.

15 My third point concerns the other fallacious argument advanced by some politicians that New South Wales needs its own gas industry. Australia is the second largest producer of natural gas in the world. New South Wales is part of Australia and there is a world glut in the supply of natural gas so why do we need to produce more gas which would the process of coal seam gas that has proven risk to the environment and dangers to the health and wellbeing of humans. New South Wales
20 is almost entirely dependent on other States for a range of products so why the concern about gas. New South Wales doesn't have it's own iron ore mining industry, or its own uranium mining industry or it's own submarine construction industry for that matter. There are a whole range of industries so why does it need its own polluting, environmentally destructive and highly contentious coal seam gas
25 industry. I conclude with the request that the Commission side with the overwhelming weight of public opposition to this dangerous Narrabri Gas Project and find that the project must not proceed. Thank you, Commissioners.

30 MR O'CONNOR: Thank you, Peter. Next speaker please.

MR BEASLEY: I think we have Elizabeth Donley. Are you there, Elizabeth?

MS DONLEY: Ready to go?

35 MR BEASLEY: Yes, please. Go ahead.

MS DONLEY: My name is Liz Donley and I am in opposition to Santos Narrabri Gas Mining Project. With a massive global glut of gas supply, the environmental risks as far too high to proceed with this project. My major concerns related the
40 proposal Narrabri Gas Project are the risk to the Great Artesian Basin groundwater supply and to the Pilliga Forest and surrounding areas flora and fauna. This will be addressed in my written submission.

45 As for a profile of who I am, I am a resident of the Sutherland shire on the southern extent of the Sydney metropolitan region. I'm 65 years old and feel a deep connection to the land and our natural environment. This was instilled in me from an early age by living so close to bushland areas and bearing witness to the growth and

changes to that natural landscape to hot summers and bushfires, through heavy rain, water and wind damage and to the rich reward of new plant growth, animal and bird population. I respect what nature provides us. I volunteer in bush care to my local council area and to the Royal National Park nearby. I volunteer as an educator
5 through art, gardening and environmental issues. A small way to help our community.

As an artist illustrator of the natural environment, I have become an acute observer, small details rarely escape me. It has followed that from these observations I have
10 become alarmed at the negative impact on our natural environment caused by coal seam gas mining and land clearing, sand mining and destruction of foreshores, coal mining polluting air and water, destruction of indigenous sites. The list of
15 destruction goes on. When and if rehabilitation is ever done in these areas, it is to be acknowledged that those areas are never returned to the supportive natural environment which once sustained bird, plant and animal life. Certain animals move out or die. That's the reality of life for those that have no voice. They have lost their habitat.

In 2017 I visited the site of the Eastern Star Gas Bibblewindi Treatment Facility, now
20 Santos' responsibility, and witnessed the devastation caused to the area by the toxic, high saline waste waters that have spilled over and transferred by irrigation pipes on to the ground and poisoning the land. Repeated attempts have been made to revegetate these areas but the soil was not proving sustainable to future healthy
25 growth. It was a landscape of dead trees, struggling shrubs and undergrowth and potential scouring of soil. There was no topsoil. This had been removed during the clearing of the site.

The Santos proposal includes the clearing of well over 1000 hectares of woodland which are the habitat for glossy black cockatoo and 17 other species of bird. Land
30 clearance is the greatest threat to their survival. Australia is the global leader in the extinction of fauna and flora species. What an appalling attribute. We cannot continue ignoring this fact. There must be a value placed on our rare commodities, our flora and fauna, our water supply, our clean air. I refuse to be quiet or turn my head. I have no future. I have no family to continue with this fight but I do speak for
35 others. We must not be swayed by the promise of a couple of thousand jobs.

The future for energy is moving towards renewable and rejecting fossil fuels, the health of our planet and the lives of those depending on a cleaner, healthier,
40 sustainable planet. Jobs will come from investment in renewable energy. Our future populations will be sustained by the from clean water, clean air, clean energy and more jobs and opportunity. We, the public, have a chance to speak up against projects that will have a huge detrimental effect on the health and wellbeing of our planet and communities. I trust that the Commission will assess all the risks
45 involved in this project and similar proposals and will look towards a positive outcome for our future by refusing this proposal. Thank you, Commissioners.

MR O'CONNOR: Thank you, Elizabeth. Next one – next presentation please.

MR BEASLEY: Prudence Wawn, I think we're back with you. Hopefully you can hear me and we can hear you.

MS WAWN: Can you hear me?

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MR BEASLEY: Yes, we can. Go ahead.

MS WAWN: Okay. Hi, Commissioners. I'm a retired high school teacher and a member of a group called Water for Rivers and I would like to acknowledge that I am on Garigal land and pay my respects to all First Nations people, this land was never ceded. Climate change, weak environment laws and unsustainable practices are rapidly turning the country into a dust bowl. Rivers have been bled dry, land clearing in New South Wales has increased by over 300 per cent, billions of creatures were lost in the fires and we have the highest rate of species extinction in the world.

15

Even after all this, considering the cumulative impacts of previous natural disasters is not required in planning decisions. We really to drive this country like we stole it. I strongly object to the Santos plan to use an estimated 37.5 billion litres of water, free of charge, while also risking contamination of the drawing zone of the Great Artesian Basin. Meanwhile, First Nations people have been dispossessed of water access as a result of colonisation, water allocations and the water market, they hold less than one per cent of all water licences in Australia despite inherent rights to water on their country. This is really a grave injustice.

20

During the worst of the drought at the end of 2019, and before the fires, I travelled with the Yaama and Gunnebarka group to the Darling River towns of Walgett, Brewarrina, Burke and Wilcannia seeing first hand the devastation to the environment and the appalling situation for First Nation communities living without clean drinking water. It was a shameful eye opener and, I have to say, a strong warning about the consequences of water mismanagement.

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Over reliance on this proponent's recommendations will lead to expensive mistakes. Who would trust Santos with one of Australia's most significant environmental treasures after producing such a seriously inadequate EIS, after all these years not even bothering to meet most of the chief scientists recommendations. This is a company that pays no tax and whose disreputable business practices have contributed to the high domestic gas prices which have been so detrimental for the economy. If cross-contamination of aquifers occurs the leaking methane problem is so complex it can't be stopped. Yet there is a serious lack of capability and oversight by the EPA to address gas well integrity issues. There has been no standing body of CSG experts established. It is another un-met recommendation of the chief scientist. Therefore I have no faith in the government claim of strict regulatory controls being applied.

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Engineers say all gas wells experience a loss of structural integrity eventually, such as casings crack, the ground moves and we all know seismic – or we know now that seismic activity exists in this region. The cement shrinks, seals become defective, sustained casing pressures cause leaks, there is corrosion and blow outs. All of these

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would be creating fugitive methane emissions. And I have included a video by a professor from Cornell University, in my submission, talking about these problems.

5 The audacity of the fossil fuel industries attempt to sell this economically unviable stranded asset as safe if monumental. We are badly served by our useless environment protection laws, confirmed at the recent review with Graeme Samuel stating:

10 *The EPBC Act is not fit to meet current or future environmental challenges.*

10 With so many systemic failings such as poor monitoring, delays in listing threatened species and ecosystems, failure to implement recovery plans for species and habitats threatened with extinction, failure to list threats to species, failure to protect habitat and failure to address cumulative impacts are just some of the problems. I fear this
15 weak legislation will not protect the Pilliga, the last refuge for wildlife in western New South Wales, nor will it protect our water. Commissioners please, for our children's sake, heed our many objections and refuse this project. Thank you very much for giving us this opportunity to speak to you today.

20 MR O'CONNOR: Thanks for your presentation, Prudence. Next speaker please.

MR BEASLEY: Next speaker is Kar Yee Chiu. Can you hear me?

25 MS CHIU: Yes, I can. Can you hear me?

MR BEASLEY: Yes. Please go ahead, Kar.

30 MS CHIU: Okay. Thank you very much. I'm Kar Yee Chiu and I wish to voice my objection to this project. Sorry, I'm not sure – okay. I live in the leafy suburb of North Sydney electorate and I am not immune from the effects of climate change. The local, national and global impacts have to be considered as part of this project because this is physics and gas is a fossil fuel and there is a direct correlation between fossil fuels and the effects of climate change.

35 This recent summer that we just had, we had the worst bushfires in living memory. The 2008 Garnaut Climate Change Review stated that without intervention this nation would face more frequent and intense fires by 2020. The direct impact for me was the difficulty in breathing because of the smoke. And we have to keep in mind that this was pre-COVID. We now have to consider this project with COVID. We
40 suffered weeks of terrible air quality.

45 The other impact was to my skin. I suffer from face and neck eczema and it flares up from time to time. This summer was the worst and the months following. With a weakened skin barrier, the smoke and the particles was a daily assault. It could not recover and it was immense. It took a toll on my mental state, affected me in my personal and professional life and affected my self-esteem. It was tortuous and this interminable summer made me feel I was experiencing exactly what Edvard Munch's

“The Scream” depicted. Climate change will make such fires increasingly commonplace.

5 In my area of work I do business analysis for an analytic software firm and in my day to day I am solving problems but also having to make decisions and recommendations. So putting my analytical hat on, I just wanted to say my bit in how the Narrabri Gas Project simply does not stack up. I will attempt to share my screen. Let me know if you can see it.

10 MR BEASLEY: Yes, it’s coming up now. Yes, we can see it.

MS CHIU: Okay. In terms of business analysis, what we do it weigh up the pros and the cons. The pros, we have been told, are that there will be plenty of jobs, cheaper gas and it’s a transition fuel to a renewable future, as well as firming up the
15 intermittency of renewables. However, there was a UTS Institute for Sustainable Futures 2018 report which found that with solar and wind projects we could get up to 30,600 construction jobs and 2800 jobs ongoing just for renewables whereas only – for Santos it would be 1300 construction and 200 ongoing with only 105 of those supposed to be local jobs.

20 Given the impact to other local jobs as well as the impacts to agriculture jobs, I do not think there will actually be a net gain as such. We also know that we won’t get cheaper gas. It will in fact be expensive gas as other people have detailed this week. And we simply don’t add a more expensive product to get cheaper ones. It doesn’t
25 make sense. In terms of whether it’s a transition fuel, AEMO have modelled the scenario to renewables and it does not include having an increase in gas. With battery technology increasing in innovation and efficiency of renewables, this case also does not stack up.

30 As for the they are plentiful. And I am not going to go into any particular one in any great detail because many others who are more learned than I have already done so at length. But I will mention that, as others have mentioned, that Santos is a tax dodger. It doesn’t play nice with the community and just this week it had one billion in write-downs. And I fully suspect that they will look at this as a future loss that
35 they will add to their future write-downs in order to pay less tax as well.

In terms of insurance, there are actually direct and indirect impacts. Okay. I was to wrap up a bit. But as we can see, all these cons are a cost and the cons overwhelmingly outlay the pros. Therefore the project is in fact extremely
40 expensive. I do not want a future where climate change creates more summers like the ones that we’ve just had where every day was – did bring to mind, for me, “The Scream”. I want to say that this project may have made sense 20 years ago. But in 2020 the case for it doesn’t stack up and many experts this week have already said so.

45 It is also important to note that the public objection to this project is strong. The fact that you have got seven days of scheduled hearing when you expected that there

would only be five is very telling and you have to take that into account. It is the wrong project in the wrong place at the wrong time. Please take that into account and reject this project outright. Thank you.

5 MR O'CONNOR: Thank you, Kar, for your presentation. Next speaker please.

MR BEASLEY: We have Michael Oldfield. Mr Oldfield. Hello, Mr Oldfield, can you hear me? Just not sure you've got your microphone on, sir. We will come back to you, Mr Oldfield. Mr Vaughan, Hugh Vaughan, are you there?

10

MR VAUGHAN: I am here.

MR BEASLEY: We can hear you so go ahead.

15 MR VAUGHAN: Okay. Thank you. Good afternoon and thank you for the opportunity to speak. Before I begin I would like to acknowledge the Dharawal people as the traditional custodians of the land from which I speak and to pay my respects to their elders, past, present and emerging. I also acknowledge the Gomeroi People as traditional custodians of the affected area.

20

I will predicate my remarks on acceptance of the science of climate change and in particular the conclusion that no new fossil reserves can be exploited if we are to avoid catastrophic warming. With this in mind, I would like to consider the reasons to approve this project laid out in the assessment report, specifically the first two paragraphs of the conclusions on page 19 of the executive summary. I hope to show just how flimsy and illusory they are.

25

The first paragraph proposes that the project is necessary for energy security and reliability in New South Wales. Previous speakers have debunked this and I will except to point out that the the project's production takes us well into the final decade before 2050, a time by which we must have long since stopped burning fossil fuels for energy. The final statement in that paragraph asserts that the project will put on gas prices. A number of previous speakers have disputed this. Even Mr Kitto seemingly contradicted the assessment on this point when he acknowledged that his department was certainly not saying that the project will bring reduced gas prices.

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Whatever the case may be, I would like to make one simple observation. If we are concerned with reducing emissions and if we seek an economic signal in pursuit of that end, then falling gas prices is not that signal. On the contrary, constraining supply leads to the desired effect. We do not constrain supply by opening new gas reserves. The second paragraph of the conclusions concern the purported economic benefits. Previous speakers have questioned the claimed benefits in detail. But on the other side of the coin, I would like to consider the cost of the carbon emissions from the project against which the claimed benefits must be weighed.

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Now, it is an absurd proposition to attempt to put price on the future liveability of the planet. But what the hell, let's give it a whirl anyway. A recent study by researchers at the University of Chicago sought to estimate the ultimate cost of carbon over a one million year time scale. It arrived at a best estimate value of about \$100,000 per
5 tonne, that's US dollars. Okay. So I accept this is very speculative but it does serve to remind us of the gravity of the situation we are in. Nevertheless, I did the maths using the calculated scope one, two and three emissions of the project in paragraph 522 of the assessment report. For the record, the answer was over \$12 trillion, that's a 12 followed by 12 noughts and it's US dollars of course.

10 But let's try another approach. Using a typical carbon price, in 2008 the Garnaut Climate Change Review recommended a price between 20 and \$30 per tonne, increasing at a rate of 4 per cent per annum. Starting with the middle value of \$25, that brings us to a price of a little over \$40 per tonne today. Even if we accept the
15 department's heroic estimates for fugitive emissions, this yields a cost of around \$5 billion for the lifetime of this project for carbon emissions alone. Of course a carbon price does not purport to represent the true present and future social and economic cost of emitting carbon. So the true cost perhaps lies in that gulf between five billion and 12 trillion. In any event, it clearly throws into disarray the purported economic
20 benefits of this project. Presently our economic system imposes no emissions cost so it is not borne by producers, nor by consumers. But it is a real cost that will be borne by our society for generations to come.

In concluding, I find myself perplexed and bewildered that this project has reached
25 this stage of consideration. Failure of politics and failure of our institutions of government have led to this frivolous misdirection of the time and energies of so many. Individually and collectively, we are our choices. Although just one among many, this project has the potential to be a pivotal choice for our nation. Our kids and their kids and generations that follow will judge us on the choices we make now.
30 Let us not demand their forgiveness. I urge you to reject this proposal and thank you for your attention.

MR O'CONNOR: Thanks for your presentation, Hugh. Next speaker please.

35 MR BEASLEY: We're going to try Michael Oldfield again. Mr Oldfield, can you hear me?

MR OLDFIELD: Yes, I can hear you. Can you hear me?

40 MR BEASLEY: Yes, we can now so go ahead.

MR OLDFIELD: Thank you. Thank you for giving me the opportunity to speak today. I would like to explain why I believe that the proposal Narrabri Gas Project should be rejected. During the last few days I have watched some of the
45 presentations to the Commission which also ask that the project be rejected. I will doubtless repeat valid arguments that the Commission has already heard but I will

specifically base my comments on some of the statements in the assessment report provided by the Department of Planning, Industry and Environment.

5 The report was long and, in many places, flawed so I would like to spend the little time I have available to address two of the topics that it covers. I'm not an expert in any of the technical areas related to the project and must assume that the science reported in the assessment is correct. Though I believe that the interpretation of that science has led to the authors of the report – has led the authors of the report to the wrong conclusions. At a local level, the project endangers local groundwater and water systems thus threatening the farm communities in the Pilliga. Further, the project threatens sources of the Great Artesian Basin, vital in supplying fresh water to large regions of central and northern Australia. The assessment report says:

15 *Despite some uncertainties, mostly due to a lack detailed information about the geological strata as a result of its limited development potential to date, these experts agree the geology and hydrogeology of the area is generally well known at a regional scale. There is no evidence of any geological structure that could create a pathway between the shallower aquifers and the coal seams so the risk of regional-scale water impacts is generally low.*

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It goes on to say:

Some localised impacts could still occur due to minor faults in structures.

25 Which is really just saying that knowledge of local geology is limited. There might be some damage but what we don't know won't hurt us. Will we know whether there are adverse effects? The assessment also says:

30 *Santos would be required to carry out extensive monitoring during operations and following the abandonment of any gas wells to ensure the actual impacts of the project on the shallower aquifers is negligible and consistent with current predictions. Santos would also be required to prepare and implement a detailed trigger, action and response plan for the project and to take prompt action to address any risks of adverse impacts identified during this*
35 *monitoring.*

In other words, when something does go wrong it will be too late to do anything about. While the assessment report does threaten closing all or part of the operations, historical evidence shows that pollution or destruction of water resources results in financial penalties of the order of only a few tens of thousands of dollars. The threat to groundwater is clear and has been fulfilled a number of times in New South Wales and in Queensland.

45 The project plan is that the operation will be for a period of around 25 years. That is just a fraction of the cycle time for water flowing into the Great Artesian Basin. Again, because the local geology is poorly understood, contamination of water flowing into the basin is entirely unpredictable and may not even be measurable over

time scales of decades or more. The authors of the assessment report and the missing companies will be well beyond any liability they may have earned.

5 The abilities of the New South Wales government in water management have received a great deal of negative publicity in recent times. Rejection of the Narrabri Gas Project would demonstrate that the government takes water management seriously. At a global level, the question of carbon emissions is also addressed by the assessment report. The document begins with some comments about the energy market and says that the Australian energy market operator forecasts gas use in New
10 South Wales is likely to remain strong. That is not necessarily surprising. The task of AEMO is analysis not planning. The assessment report follows this analysis with the statement:

15 *Consequently, the greenhouse gas emissions associated with gas use in New South Wales are likely to continue whether the Narrabri Gas Project is approved of or not.*

This statement is unacceptable both in ethical terms and in policy terms. In any context it is claiming that because somebody else might act in some way, I would be
20 justified in undertaking exactly the same action. The statement trivialises the serious consequences of climate change that are already being experienced in Australia and around the world. Australia has committed to the reduction of carbon emissions by 2030 to 72 to 74 per cent of 2005 levels. It is unlikely that this target will be reached. Suggesting that carbon emissions are acceptable because they will happen
25 as a matter of course is highly inappropriate from a government department in New South Wales.

The department should be assisting the New South Wales government in its stated policy of encouraging the growth in renewable energy systems. It should also see a
30 duty to contributing to the emissions reductions promised at a national level. On Monday the Commission heard the chief executive of Santos say that the project would provide a clever, low impact way of producing clean energy from coal. The assessment report - - -

35 MR O'CONNOR: Could you please wrap up now, thanks Michael. Could you please wrap up. Thanks.

MR OLDFIELD: I beg your pardon?

40 MR O'CONNOR: Could you please wrap up now. We're running out of time.

MR OLDFIELD: Yes, of course. Yes. The assessment report says quite clearly that the energy is not clean and tells us that it is merely cleaner than burning coal. Renewable energy is cleaner still. Countries in Europe and North America have
45 made far greater strides in renewable energy production than Australia. I urge the Commission to reject the project and provide encouragement to companies like

Santos to redirect its vast resources into renewable development. Thank you for your attention.

5 MR O'CONNOR: Thanks for your presentation, Michael. Next speaker please.

MR BEASLEY: Next speaker is Naomi Hogan. Ms Hogan. Ms Hogan, can you hear me?

10 MS HOGAN: Yes, I can. Thank you, Commissioners.

MR BEASLEY: Go ahead.

15 MS HOGAN: I would like to start by acknowledging the Awabakal people, whose land I call in from today, and also acknowledge the Gomeroi, Gamilaroi People who have been standing up for the country for time immemorial. They have fought hard and proudly, lost lives and shed blood, sweat and tears defending Gamilaroi country and the waterways there from destruction and mismanagement for the past over 200 years and it continues now.

20 I acknowledge the enormous burden this proposed coal seam gas project places on people living in the region and connected to the Pilliga and surrounding areas. For local people who rely on the groundwater this project is not an interesting or controversial idea but a deep threat and I acknowledge the stress people have been under for the past 10 years due to this project and their inspiring determination. For
25 my own part, the days and nights I have spent camping in the Pilliga watching the emus dashing by and wild flowers springing up near the sandy creek beds, these have been some of my most treasured moments.

30 I have a Bachelor of Science Communication from ANU, had a role with the Bureau of Rural Sciences in Canberra, worked for the New South Wales government in the then Department of Environment and Climate Change focusing on private land conservation and biodiversity offsets. I loved the work and the team yet grew disenfranchised by the way that our work and the recommendations were often
35 sidelined by other departments and subject to the table thumping of the New South Wales Minerals Council who often got their way. I left after two years.

I have spent the last 10 years or so working for environment-focused charities. I note the wealth of information shared already by traditional custodians, businesses, farmers and experts and I thank the Commission for the opportunity to state my
40 objection to this project. One matter of the many that I believe deserves your further attention is the significance of the project area on the Great Artesian Basin's southern recharge. Through reading the department's assessment report, I am concerned the proponent may be aiming to downplay the significance of the project area to the groundwater recharge and somehow state that the Pilliga is of low value to the
45 recharge of the Great Artesian Basin.

My two major concerns with this is that the high permeability of the soil profiles through the project area may not have been assessed to respect the risk of spills impacting the Great Artesian Basin and localised aquifers and the potential risk of depressurisation of the Great Artesian Basin and localised aquifers due to the coal seams being dewatered below. I would just like to share my screen with you, Commissioners, if that's okay. I have got a brief few slides here that represent the point that I was trying to make on that one.

MR O'CONNOR: Yes.

MS HOGAN: You can see that?

MR O'CONNOR: Yes.

MS HOGAN: Great. Thank you. So we've got there, pulled from the department's assessment report, on the left-hand side, some grass – and we hear in the department's report statements, like at point 231 says:

The project area is not a major recharge area for the Great Artesian Basin.

And at point 321:

The water expert panel accepts that the project area is not a significant recharge zone for the GAB.

However, nowhere in that WEP panel report is the phrasing “not significant used”. They do observe that the volume of water that provides the recharge in the NGP area to be developed by Santos is relatively small compared to that of the dominant recharge in the south. Now, these observations were based largely on a report and a Q & A type document that Santos had responded to the department with in 2018, which you can see there on the right-hand side of the screen, and the department have just used that diagram.

I went back and had a look at the references that Santos provided for that diagram and you can get much more context when you look at the big picture. So from the actual report, the Surat Basin report there, you can see that that area is mapping the recharge zones of which there are only relatively few recharge areas across that Surat part of the basin. And then when you go to the full assessment of the Great Artesian Basin, you can see that those areas are tiny. Those recharge areas are so significant. There are not many places where the Great Artesian Basin recharges and all of those areas are – for which are recharge areas, including the entire project area for the Santos proposed project, are of significance. And so I was quite concerned to see how it was downplayed.

I note that, in contrast, the New South Wales Department of Planning, Industry and Environment's own southern-eastern recharge groundwater sources literature review does identify that the majority of groundwater recharge for the GAB in New South

Wales occurs along the elevated eastern margins of the GAB where sandstone aquifers, predominantly the Pilliga Sandstone and permeable layers of the Keneally beds, outcrop or sub-crop. So that is to say that the Pilliga Sandstone, including areas impacted by this project supply the majority of the GAB recharge in New South Wales.

MR O'CONNOR: Could you please wrap up now, thanks, Naomi.

MS HOGAN: Pardon?

MR O'CONNOR: Could you please wrap up now, thank you.

MS HOGAN: Yes. My next and final points can be that I am concerned that Santos are saying that the recharge is reduced in the area by the poor transmissivity of soils. And I will just show my next slide quickly now. There is a report which I will table with you, so you can look at in your own time, that goes and actually field assesses the areas. And while it does find that the majority of the project area is that not very permeable sort of soil, you've actually got some very sandy tenna soils making up approximately 15 per cent of the project area. And those areas can be very significant. Soils are highly permeable and tend to be groundwater sinks.

Certainly those areas and the sandy creek beds in the Pilliga are absolutely flowing into that groundwater system and I believe need very careful attention when we're talking about both the risks of surface spills and infrastructure from the gas field. But also the significance of that area if there was to be depressurisation of any of the coal seams below, if there was any connectivity whatsoever with the above lying aquifers, it could lead to depressurisation which would have enormous impacts on farms in the region which we've already seen in Queensland with hundreds - - -

MR O'CONNOR: Thank you, Naomi, we will have to wrap it up there. Thank you.

MS HOGAN: Thank you, Commissioners.

MR O'CONNOR: Next speaker please.

MR BEASLEY: We have Leonard Tesoriero. Leonard, can you hear me?

MR TESORIERO: Thank you, Commissioner. Yes, I can.

MR BEASLEY: Go ahead.

MR TESORIERO: Okay. Well, I'm a plant pathologist and I have been motivated to speak today because I have got some concerns about the health of the trees, and the plants and the soil ecology in that region. I have spent most of my career looking at diseases of agricultural crops but I have also spent some time looking at native ecosystems and recognise how important they are.

The Pilliga has Cypress Pines which comprise part of the flora and that flora has an intimate relationship with some fungi called mycorrhizal fungi that move into the plant and help the plant in a number of ways. And any interference with that sort of relationship can actually throw the whole ecosystem out of balance. In particular, the

5 Cypress has these endophytic mycorrhizae and they provide the plant with certain nutrients. You just heard that some of these soils are reasonably poor in Australia and that, in particular, phosphorous nutrition is a major concern both in agriculture and for native plant species.

10 In this case the rhizosphere, which is the region around the root system, is quite susceptible to environmental change and in particular where there has been some change in, say, salinity levels or hydrology, in the water around the plants and the like, that can really interfere with that intimate relationship of those mycorrhizal fungi and the plant species. These mycorrhizae also have been shown in more recent

15 years to be a primer for the plant defences against diseases and that is where a lot of work is currently being undertaken globally. And once those systems have been disrupted, that can actually lead to plant decline and, in effect, make the plants more susceptible to diseases, insects and other attack.

20 So my view is that moisture relations, salinity, all of these things are going to disrupt as well as building roads through these areas. And you only have to look at other issues with Australian native ecosystems where things like – you may have heard of the fungus or the oomycetes phytophthora has caused decline problems in Western Australian forests, in the New England and even the Wollemi Pine, once

25 discovered, within a few years phytophthora found its way into that region. So it's a delicate balance and by interfering with it in any way we run the risk of diminishing that flora. And of course that has a follow on effect to the endemic fauna as well.

30 That's basically all I wanted to say but I don't think that has been considered in any of the documentation that I've read today and I think it is something that needs to be thought through because it demonstrates the vast interrelationship between microbial systems, the flora and the fauna and thus the whole ecosystem that is disrupted by these sorts of interventions. Thank you very much.

35 MR O'CONNOR: Thank you, Leonard. I think – Snow, do you have a question? Go ahead, Snow.

PROF BARLOW: What do you think the impact of the network of access roads to the individual wells might have on – if phytophthora were to become infested in the

40 Pilliga, what do you think the impact of those network of roads to access the wells would have on that?

MR TESORIERO: Well, it's very clear that any sort of intervention like that would help to spread it. I know that, say, for example, the road systems in New South

45 Wales, when they're upgrading things like the Pacific Highway, they take these sorts of things into consideration and they do testing prior to and after any of those sorts of soil movement. Obviously in some cases where they're bringing material in, blue

metal or whatever, all of these things are potentially going to be a source of contamination for that native ecosystem. So - - -

PROF BARLOW: Okay.

5

MR O'CONNOR: Yes. Thanks again, Leonard. Next speaker please.

MR BEASLEY: Wayne Riley. Mr Riley, are you there?

10 MR RILEY: Yes. I'm just going to share my screen, if I can.

MR O'CONNOR: Sure. Yes. Go ahead. Okay. We have something up now. You might need to blow up your slides.

15 MR RILEY: Can you see that now? It has come up quite big on my screen. Is that - - -

MR O'CONNOR: Not on ours.

20 MR RILEY: I will open it up.

MR O'CONNOR: Yes.

MR RILEY: Well, look, I will just read through the slides if that's okay and - - -
25

MR O'CONNOR: That's fine.

MR RILEY: - - - we will get going.

30 MR O'CONNOR: Yes.

MR RILEY: Firstly, I sincerely want to acknowledge the traditional custodians of the land at Narrabri and beyond. The first – I'm sorry. This just jumped in front of my slide. I will just narrow it down. Sorry. The first significant matter of concern.
35 With all due respect to the IPC Ministers attending the inquiry, I will highlight the one law written in the Environmental Protection Act that I have become aware of. I believe it is unconstitutional, undemocratic and stuck in an era protecting the aristocracy. If taken seriously, my concern should stop any further development in New South Wales until this law is changed or repealed to reflect a law that is written
40 for the common good of all Australians.

Unfortunately I believe the other matters that I will raise has also out serious question to the integrity and legitimacy of this process of assessing developments. My past experience, I spoke at a meeting in approximately 2007 in Singleton
45 addressing an extension of Warkworth Mine with all sincerity appealing to the ministers that this mine was to proceed that all land owners within the vicinity of the

mine would have their homes and equity protected. The next is an extract from the mine determination by the ministers:

5 *As raised in the submission, the Commission accepts that property values could
be negatively affected by the proposal and that the encroachment of mining
would make it more difficult for land owners to sell their property.
Nevertheless, any adverse impact on private property values is not a relevant
consideration under section 79(c) of the Environmental Planning and
Assessment Act.*

10 There's some very significant points I want to highlight. The ministers at the time
did not reveal their clear position on this matter. In earlier agreements, a ministerial
agreement was set aside that was meant to be in perpetuity. The New South Wales
15 Government court knocked back this particular development twice and then the
government moved the goalposts in favour of the mine. I just believe Australia
needs laws to adequately protect them against, for the best part, these foreign
invasion of multinational companies and countries. Our soldiers died in battle to
achieve this, sacrificing everything. I believe these facts equate to nothing more than
20 inadequate laws, political manipulation and corruption at every level. These laws
need to be revoked and changed before any planning application are even considered.

 What does this have to do with Santos Narrabri Coal Seam Project? The simple
answer is everything. How does this impact the residents of Narrabri, Liverpool
25 Plains and beyond? In every way. Lifelong endeavours and family homes seriously
affected by devaluation. When the water, air and farming land is polluted, then many
years of blood, sweat and tears become worthless. Rural Australia has had a gut full
of being the sacrificial lamb of irresponsible, short sighted government support of
these industries. If rural Australia had been given the same support by government
30 by securing water supplies and appropriate regulation, the bush would be in a much
healthier, happier, prosperous position today. They have long been the background
of Australia.

 This is just a map of the coal seam gas and oil area. The coal seam gas is by every
account a dirty, destructive, dying enterprise. This industry has already caused
35 catastrophic ecological disasters elsewhere and is very unpredictable. I don't know if
you can see these flags on this school are at half mast and you ask, "well, why?". It's
because there are no children left in this town of Bulla – or Bulla. The mine has
bought just about everything out that's only two valleys away from the town and
everybody's chosen to leave.

40 There is a viable alternative to fossil fuel and that is hydrogen. It is already being
widely used for powering electrical generation and combustion engines and this
industry is growing exponentially every day. I believe the IPC got it right for
Bylong. Please get it right for Narrabri, the Liverpool Plains and beyond. Please be
45 part of the global solution. Please reject the Santos CSG project for the future of all
Australians and effectively the rest of the world for generations to come. And that's
pretty much all that I want to say. Thank you.

MR O'CONNOR: Thank you, Wayne. Thanks for your presentation. Next speaker, please.

MR HANN: Jeanette Matchett. Are you there Jeanette?

5

MS MATCHETT: Yes. Yes. I can hear you. Can you hear me?

MR O'CONNOR: Yes. Go ahead.

10 MS MATCHETT: Afternoon to the Chairman and the IPC panel. My name is Jeanette Matchett. Our family are fourth generation grain and beef producers. We strongly oppose the Narrabri gas project. The reason for my speaking today is to try and persuade you to save the Greater Artesian Basin from any risk of gas mining. Water is life and without water we have no life. No plants, no creatures. We all
15 need water. Both my husband and I have been fortunate enough to live and raise our family above the wonderful GAB, a gift we appreciate daily. There are alternatives for energy but there are no – there is no replacement for good quality water.

The Narrabri project or any gas mining is not worth the risk to land or water.
20 Biogas: something we don't talk about very much. Could it be an option to capture the methane from abattoirs, landfill, human waste treatment? The history of the Queensland gas industry gives enough evidence that New South Wales does not need or want it in our region or our state. The health issues, the social decline, the farmers' land rights, the noise pollution, water pressure decline in the Greater
25 Artesian Basin aquifers, chemical contamination for their river – of their rivers and their aquifers are all well documented. Please take all these things into consideration and do not repeat them, the same mistakes again and again.

In 2004, and again in 2007, we were part of a government cap and piping scheme, 60
30 per cent privately funded and 40 per cent government assisted. It has been the best intergenerational investment ever and lots of artesian water saved. If the Narrabri project is allowed to extract billions of litres of water, that undoes all that water saved. There are so many ambiguous causes in the Department of Planning, Industry and Environment Narrabri gas project. I highlight the section on water, page 17. It
35 has no accountability. Santos have not corrected all the recommendations set out in the chief science report 2014, six years ago, and the department of planning is assuming Santos will be good citizens and will do the correct environmental protection now. Please can someone with some common sense put the breaks on this out of control madness.

40

Pollutants to the waste from gas mining have not been addressed and until a solution is found, leave the basin alone. It's not going anywhere. It's not harming anybody. It is in complete balance. We Aussies are a creative lot and I'm fully confident and excited by the new technology that is coming with the renewable energy sector.
45 Some good examples is the Queensland Uni – the university's solar energy farm at Warwick, the Inverell abattoir's biogas plant and there are many more small and

large enterprises creating their own energy solutions all from a need and a desire for a more environmental energy source.

5 The gas line – the pipeline, we have many objections to the underground high pressure gas pipeline from the Queensland gas fields to the Hunter dissecting private land, the risk of leaks, diverting flood water from its natural courses, access – making access difficult for heavy farm machinery crossing the pipeline. I'd like to thank you for your time. The future is in your hands. Treat it wisely. Thank you.

10 MR O'CONNOR: Thank you very much, Jeanette, for your presentation. Next speaker, please. Helen Kvelde. Are you there, Helen?

MS KVELDE: Yes. Can you hear me?

15 MR O'CONNOR: Yes. Go right ahead.

MS KVELDE: Okay. Thank you for allowing me to speak. First of all, I'd like to acknowledge the land I'm on, which is Birpai land. I live in Wingham. We were recently affected by drought – well, drought that went on for nearly a year and then
20 the fires. So I'm feeling very concerned. I was already concerned, but now I'm feeling even more concerned about our environment and the risks that we're already facing and that are only going to get worse with climate change. We've tried speaking to our local member and Dr David Gillespie and talked to him about his view on climate change, which he said that the climate is always changing.

25 So he doesn't seem to accept what 99 per cent of the world's scientists are saying. And then we asked him about this issue in the Pilliga and he said, "well, a CSIRO scientist said it's fine" and that really concerned me because I've got great respect for CSIRO and I thought, you know, there's a good scientist, why would they say it's
30 okay when it sounds so dangerous? So I did a bit of research and discovered that the research that was done was done with CSIRO scientists and the gas company itself and that they only studied nine – sorry – six – six wells out of 19,000. Nineteen thousand wells, evidently in Queensland, and they investigated six of them. Six out of 19,000. And the wells were chosen by the gas company so they weren't – even
35 these six were not randomly chosen.

So evidently supposedly they found that the – with these six mines that there was no damage to groundwater, although they did actually find there was some damage to the soil. And I'm just left feeling – and, as I imagine most people would be, just full
40 of distrust. How can we accept or believe that this is going to be okay when we're told things that are ridiculous? Like, nobody's – as the article that I read, that was from the ABC, pointed out, if you were doing a test on the harm of tobacco, you wouldn't test six smokers out of 19,000. It would be pretty easy to find six people who aren't going to get sick out of 19,000 and then use that to argue that everyone
45 else is going to be fine. This – this actually shocks me. And what does this do to the reputation of CSIRO that they allowed themselves to get caught up in this?

So – I’m not a scientist myself. I’m not – you know, I’m very impressed by some of the other speakers and their knowledge. I don’t have that sort of knowledge. I’m trying to understand and read up. And I think this is the thing that I’d like the panel to take into account, that most of us are ordinary people. We do not understand all
5 this stuff. But we want our land to be protected. We want our water to be protected. We are going to need every drop of water we can have. I saw what it was like in the fires here. They were having to take those helicopters out to sea to get water. They could not get the fires out; there wasn’t enough water. And we’re going to need water for food. I mean, there seems to be so much emphasis on having – having
10 power, having electricity, gas, whatever.

It wouldn’t be very nice not to have it but we could live. We cannot live without water. We cannot live without food. So somehow we have to find a way to protect our most important resources first, then figure out the other stuff. We seem to be
15 doing everything the wrong way around and it’s – and it’s – it’s very upsetting. It’s very upsetting to – to see the land being destroyed, to see our water being contaminated. And these big companies don’t care. They don’t live there. It’s not their – they’re still going to have water wherever they are. So I’d really like the panel to take on board that this affects a lot of people. I don’t even live near the
20 Pilliga but I eat food and I’m sure some of my food comes from there and that would apply to lots of – or probably most of New South Wales.

MR O’CONNOR: Could you wrap up now, please, Helen?

25 MS KVELDE: Okay. Thank you. So I – I just feel that these are important issues and it shouldn’t all just be about profit and money. It should be about health: human health and the health of the land. Thank you.

MR O’CONNOR: Thanks for your presentation, Helen. Can we please have our
30 next speaker. Got Lisa Holley on the phone? Are you there, Lisa?

MS HOLLEY: Yes. You can hear me?

MR O’CONNOR: We can. Go ahead.
35

MS HOLLEY: Good afternoon, Commissioners. Thank you for the opportunity to speak. In planning, there are significant risks in this project which do not outweigh the short-term benefits. The contribution of greenhouse gasses and the effect that climate change will increase drought and bushfires must be taken into consideration
40 in the planning decision. The data must also be current and independent with transparency and this is the great weakness in the proposed planning approval.

The recent news that the New South Wales government had approved CSG in the area sparked my interest considering the devastating effect of the last three years of
45 drought. My background is as a health professional and we’re schooled in looking at evidence-based research to ensure best practice. I used those skills to look at what seems a political decision in response to a \$2 billion offer from the federal

government if the New South Wales government opened up the gas fields. Not a well thought out planning decision. The first point of call for research was the Gas Industry Social and Environmental Research Alliance which, as part of the CSIRO, is a trusted organisation, however, had industry funded partnership which included Santos, the main beneficiary of this project. I noted that this is a problem with vested interests. This signalled a red flag to me and reminded me of research funded by pharmaceutical and tobacco companies.

A survey of community wellbeing and attitudes to coal seam gas was conducted in the Narrabri Shire in March to April of 2017. The conclusion of the report was positive attitudes towards the gas project in the community. However, when I looked at the summary there was a clear bias as the responses were skewed to the positive with four out of five of the response options could be perceived as positive and only one negative. This led to a conclusion that only 30 per cent would reject it. The other four options were tolerate, be okay, approve or embrace allowing the authors to conclude a positive attitude towards CSG.

During the COVID-19 crisis, there is one thing that we have learnt and that is that food is an essential resource. We can't eat money. To provide food, we need water for farming activities. Despite the worst drought recorded in the last three years, it does not appear to have been used in the water modelling for this project. The last report the analysis of CSG gas and water balance was from 2018. In February 2020, the National Energy Emissions Audit Report concluded that the New South Wales Commonwealth Gas Field sets a dangerous precedent of pushing the state to extract more gas when gas supply on the East coast has already tripled over the last six years without resulting in more affordable gas generation. In fact, the opposite has been true. AEMO most certainly see no need for more gas generating capacity. The majority of the beneficiaries will be for a small group of overseas shareholders, a Chinese chemical company and a Cayman Islands financial company who both currently hold 30 per cent.

I'm also greatly concerned for the First People's sacred sites. I visited the Pilliga sandstone caves, 150 million years old, and have connections with local Aboriginals for 26,000 years which are located right next to the proposed site. Following the destruction of the Juukan Gorge cave, I have little faith in the government or industry to protect our heritage as historically they don't have a great track record. I also have concerns regarding the health impacts, both locally from the toxic gasses emitted and the release of methane and greenhouse gas.

Surprisingly, the health impacts do not appear to have had a lot of research, probably because industry funding the research would require compensation. Exploratory studies in Queensland did find higher rates of hospitalisation for circulatory, immune system and respiratory disorders in the Darling Downs region. The drought has been so severe and greatly reduced wildlife. The ecosystem is so fragile, the last thing it needs is a mine that will be using enormous amounts of free water. Why do we need gas when we can have renewables now at less cost as AEMO recommends? Thank you for your time. I greatly appreciate it.

MR O'CONNOR: Thank you, Lisa, for your presentation. Next speaker, please.

MR BEASLEY: Next speaker is Ian Hodgson. Are you there, Mr Hodgson?

5 MR HODGSON: Yes. I am. Can you hear me okay?

MR BEASLEY: Yes. Go ahead.

10 MR HODGSON: Thank you for hearing me. You can't stop progress, so they say, but of course people's definition of progress varies. So we, as a community, should define progress and who is entitled to receive what that particular form of progress offers. The old paradigm of progress was to dominate and often harm our environment. So now scientists tell us that if this paradigm continues, our support systems will inevitably collapse. It's just a matter of time. And, according to the
15 best science available, time is genuinely limited.

Who should be given the right to define what's expendable? Isn't it the community, not a select few? The majority of the Australian community don't want the industrialisation of the Pilliga Forrest. So who actually benefits? Are they the ones
20 who have the right to define progress? These developers have a right to literally – all our children and our children's children collateral damage. The sway of corporate influence in the political arena has beguiled our politicians. At present, there is an unrealistic perception of progress. Perpetual industrialisation of the type of the Santos gas field can in no way create genuine progress for the community and nation
25 or even our planet. The company's concern for the reasonable wellbeing of individual farmers and the community is, to date, far below acceptable for any company, especially one claiming to have a social licence for its operation.

Concerning the implementation of the recommendations contained in the New South
30 Wales Chief Scientist's independent review of coal seam gas activities in New South Wales, 14 of the 16 recommendations have not been fully met and two were not met at all. To me, the promise of a socially responsible gas mining operation in Narrabri is highly questionable when so many claims are proven – or – what guarantees are there under these operational standards that unsafe environmental practices will not
35 continue as have already eventuated? I suspect with such a sympathetic government the recommendations will not be met and further damage will occur into the future which could involve fracking and other damaging processes.

Furthermore, Santos has no clear plan for the disposal of thousands of toxic – tonnes
40 of toxic waste each year proceeding with the project without clear waste water management plan, it's absolutely foolhardy. This is confirmed by an independent expert panel who state, "there is a lack of key data that potentially underestimates the impact of threatened ecosystems, ground and surface water". According to new data released in July of this year by Forbes, it is clear that the cost of renewable energy
45 has tumbled over the past year where almost every source of green energy can now compete on cost with oil, coal and gas-fired power plants.

Furthermore, the international renewable energy agency have said the downward trend in renewable energy cost is likely to continue for the next 10 years. What's the purpose of subsidising an industry which produces a negative gain for our community? Why? According to the financial consultants Ernst & Young, a government focus on renewable energy and climate friendly projects will drive the economic recovery of the CV19 pandemic and create more than 100,000 direct jobs while cutting greenhouse gas emissions. The signs of man-made climate change is established. The project is, at best, a poor investment for the community. This is established. The poor job creation aspects of the project are established. There are vastly more cost-effective alternatives in the form of clean energy and clean energy jobs. This is also established. The Pilliga gas project has no legitimacy and must not proceed. Thank you, Commissioners, for your time.

MR O'CONNOR: Thanks for your presentation, Ian. Next speaker, please.

MR BEASLEY: We have Alex Mateer on the phone. Are you there, Alex? Alex, are you there?

MS MATEER: Yes. I'm there. Can you hear me?

MR BEASLEY: Yes. Go right ahead.

MS MATEER: Okay. Well, thank you for the opportunity to speak today. I'm speaking to object to the Narrabri gas project and I realise that this panel has had so many speakers to listen to, I think I'm number 352 or something, so you've probably heard the same points over and over again why this project shouldn't go ahead. So I was trying to think of the slightly different perspective that I could put forward.

From my accent, you'll probably guess that I was born in the US, although I've lived most of my life in Central Western New South Wales. My farming colleagues in the US have a lot to say about this industry and how it's not all that it was cracked out to be. The fracking industry in the US is a wealthy and influential body and if we want to look at how the mature industry operates, there's a lot to learn from what's happened in this country. In the beginning, many US farmers were very eager to take up the offers to put wells on their land but as time progressed these companies often sold on to other companies and any accountability to farmers to honour the initial promises dissipated into the ether.

It's now common to find toxic ponds and decaying infrastructure that's not very well maintained. The companies promised money, jobs and safety but the reality for many farmers has been serious health issues. You hear things like, "My hair is falling out. My wife has cancer", polluted ground water. And it is not uncommon to find water that smells like diesel that can be lit with a match. In the US it's too late to do anything about this. It's already happened. But here in Australia we still have the chance not to welcome this industry onto our agricultural land. However, if they do get a foothold, it will put – it will push agriculture out and this is only the

beginning if this project's approved. That's one of the things that really concerns me.

5 One of the problems here with the Narrabri gas fields are that they're a key recharger for the Great Artesian Basin. It's estimated that 37 billion litres of water will be removed from the system and this ground water, I believe, is one of our most precious resources and should not be jeopardised. In southern Queensland, nearly 600 bores on farms have lost their water supply due to CSG. The wells are going down – in the Pilliga project, they're going down 1000 metres to reach the seam.
10 They're piercing a number of rock layers and this industry has a history of leaks and accidents. When this happens, it's irreparable for the ground water. A parliamentary enquiry found that this industry was uninsurable and in 2014 the chief scientist made recommendations about improvements that were necessary. These have been accepted by the government but many haven't been implemented. How come?

15 It's estimated that the saline water that is removed from the wells will contain at least 840 – 100,000 tonnes of salt that's laced with heavy metal. So no disposal plan has really been put forward for this toxic waste. This of itself I think is a really big threat to agricultural land. This is just on a personal level, but our ground water on our
20 farm has doubled in salinity and the timeframe coincides with the establishment of a nearby coal mine. This can never be fixed. Once it's happened, you just have to work around it. There's nothing you can do.

I guess my second issue with this project is about the supposed economic and social
25 benefits that come to the community. As I just mentioned, I live in a coal mining district and I understand how important employment is in some rural – small rural communities. My son's friends and the sons of my friends work in the mines. Maybe it's not their first preference but it puts food on the table. As a teaching principle in our local one teacher school, our small community was really hopeful
30 and excited when the local mine opened in 1997. It's about 30 kilometres away from our school and there – we thought, "Well, this will give us jobs. It will be able to keep the young families in our district and we'll be able to keep, you know, a decent number of kids in our school".

35 But do you know what? In all this time, that's over 20 years, there's not been one person in our school who works in the mines. So all the workers are from other communities where the mines have closed down. These projects are short term. This one is supposed to be in for no more than 25 years and they cause so much disruption to small communities and often there's no real substantial benefit. I
40 personally feel it's disgraceful that our government is using COVID – the COVID crisis to try and encourage more mining in rural communities. This isn't showing any real leadership and gives no sustainable future for our long people. How much better

45 MR O'CONNOR: Alex, could you please wrap up now, thank you.

MS MATEER: Yes. One more sentence. How much better would it be for our communities, our environment and Australia's future if this project was rejected and we were to focus instead on renewable energy projects for the Pilliga.

5 MR O'CONNOR: Thank you, Alex.

MS MATEER: Thanks.

MR O'CONNOR: Next speaker, please.

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MR BEASLEY: Michael Schien on the phone. Michael, are you there?

MR SCHIEN: Yeah. Hi. I'm here.

15 MR BEASLEY: Please go ahead.

MR SCHIEN: Okay. Yeah. My name's Michael Schien. I'm at – sorry, a bit emotional after that last speaker. That was incredible. I'm a GP in Newcastle and I also have a farm on the Coast, so not too far from Gloucester. My four main
20 objections – well, there are four main categories. The first is the local environmental effect. The 850 proposed well heads, proposed pipelines, salt and contaminated waste water which the previous speaker so elegantly outline contains ethylbenzene, xylene, toluene and salt are going to degrade the – irreversibly degrade the farmlands, the aquifers, the local waterways and especially the unique Pilliga Forest
25 which is a refuge for koala and other endangered species. The actual pipeline's a fire hazard. They're allowed to flame flammable methane even during periods of high fire danger which are projected, obviously, to increase in the near future.

Secondly, on economic grounds, gas fracking is capital intensive, highly centralised.
30 It's run by a few larger overseas owned corporate such as Santos and Woodside which rely heavily on public subsidies so – and low tax regimes to make short term profits at a general taxpayer's expense especially now with regard to record low gas prices and the collapse of major gas companies such as the US giant Our own BHP abandoned production in gas in 2018 after a record \$20 billion loss. So, on
35 average, each of the wells is only viable for less than five years. With unsubsidised renewables now cheaper than coal and gas, even before price is factored in, it will leave the Santos project stranded in the near future in a permanently degraded landscape.

40 Number 3, socially gas projects have already been halted in the Northern New South Wales and in Gloucester due to strong opposition by locals and the wider community. Narrabri is no different. Gas fracking employs few locals, as you've just heard, and is mainly fly in fly out. There's a strong precedent of falling land values and decreased farm production in areas affected by gas fracking and land
45 holders are, as you heard, ineligible for public liability insurance.

And finally, the climate. Irrefutable scientific evidence showing that we're now on a trajectory to five degrees of warming by the end of the century which is in the lifetime of my new young granddaughter. If we continue to burn gas, coal and oil at the current rate, it's incompatible with civilisation as we know it and this industry
5 has to stop Atmospheric methane since gas production has started has risen 250 per cent and it's accelerating now. It's been recently documented earlier this year. Methane is over 80 times more potent heat trapping than CO2 and just from leakages of methane alone from these wells in Australia it's been total – it's been estimated to be 92 million tonnes of CO2 equivalent per year just off the leakage from production
10 and clearing.

That's equivalent to Australia's entire transport sector. Australians now have to acknowledge these facts. And it's – we are now one of the world's gas exporters. We have to put a stop to opening any new gas fields. Stop playing politics and make
15 the transition to renewables a national priority. Gas has very little or no role to play in the coming transition and stopping this industry, particularly here in Narrabri, is one critical step in the road to a safer future. Thank you.

MR O'CONNOR: Thank you, Michael, for your presentation. Next speaker,
20 please.

MR BEASLEY: It's Michael Faulkner. Can you hear me Michael?

MR FAULKNER: Yes, I can hear you. You hearing me?
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MR BEASLEY: We can. Please go ahead.

MR FAULKNER: Okay. My name's Michael Faulkner. I live in Coffs Harbour on the lands with the Gumbaynggirr people. Thank you for this opportunity to address
30 the IPC hearing. It's late in the day so I'll keep it brief. I was intending to give more detailed arguments but after listening to speakers I've heard earlier, I think it would be a waste of time as they've done it much better than I can. My objections to the Narrabri CSG project are founded on environmental and climate warming impacts, both the mining process itself and the use of this coal seam gas anywhere in the
35 world. Australia currently contributes a large part of the world's carbon dioxide and methane emissions through our mining, use and export of fossil fuels.

The coronavirus pandemic has demonstrated Australia can act quickly and decisively in a health emergency. It has also shown what can happen when actions are not
40 taken early enough: things get out of control. Climate change is happening more slowly but is being almost ignored by Australia. We've a short time to act decisively or climate change will reach tipping points that will make it difficult or impossible to control. I acknowledge that we have to transition out of fossil fuels, but starting new fossil fuel project is the wrong way to do this. This will only lock us into fossil fuel
45 gas for a longer period in the future. New South Wales government has, to their credit, recently set up some Renewable Energy Zones in New South Wales. If these renewable energy zones are the focus, we can be producing hydrogen gas an

ammonia using emissions free renewable energy instead of mining methane CSG gas. I urge the IPC to deny this project and help us to start a change to a safe and renewable future. Thank you.

5 MR O'CONNOR: Thank you, Michael. Next speaker, please.

MR BEASLEY: I think we have Charlotte McCabe. Can you hear me, Charlotte?

UNIDENTIFIED FEMALE: I'm sorry, I thought it was me.

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MR BEASLEY: Just try again, Charlotte.

MS McCABE: Can you hear me?

15 MR BEASLEY: Yes. We can now. Go ahead.

MS McCABE: Great.

MR BEASLEY: Go ahead.

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MS McCABE: Thank you. Good afternoon, Commissioners. My name's Charlotte McCabe. I am in Newcastle on Awabakal country. I'd like to acknowledge their elders past and present and also the ability of our First Nations people to manage this continent sustainably for tens of thousands of years. Thank you for the opportunity to express my views about the Narrabri gas project today at the tail end of hundreds of hearings. I can imagine it's been an exhausting process for you but I'm really grateful you've given everyone the opportunity to express their views that applied. I think it's really important.

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30 I'm strongly opposed to Santos being given the opportunity to proceed with this development, primarily on the grounds of additional greenhouse gas impacts that it will contribute but also I don't believe that the coal seam gas industry is well regulated or that Santos has the necessary information or adequate plans in place. I think water is our most precious resource in Australia and I'm very concerned about the risk of polluting the Great Artesian Basin and that this project has no approved plan to deal with 840,000 tonnes of salt waste laced with heavy metals.

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I challenge the Department of Industry and Environment's assessment that this project is in the public interest and that it will "not result in significant impacts on people or the environment". I strongly disagree with their assessment. My understanding is that the impacts will most certainly be significant and that there is no way to mitigate or offset these impacts other than rejecting the project entirely. Because my primary concern is about climate change, I'd just like to go over some facts which I'm sure are familiar to you but I think they're worth being reviewed.

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45 According to the IPCC, we've already increased global average temperatures by 1.1 degrees since industrial times. Any responsible government or planning process

would not be opening any new fossil fuel projects, be it gas or otherwise, at a time where the window is rapidly closing to prevent runaway, catastrophic climate change. As you will know, the impacts of climate change are already being felt around the world and in Australia with hotter and earlier bushfires, increased
5 droughts, increased extreme weather events as was all predicted decades ago.

We must address rising temperatures before the feedback loops accelerate the process beyond our control and, concerningly, these processes have already begun. We are perilously close to losing all control over our ability to mitigate impacts and
10 maintain a planet habitable for civilisation because the predictions are that once we get much beyond two degrees Celsius, life as we know it becomes increasingly impossible and that is where we're headed with temperatures currently continuing to rise.

15 Australia has recently become the biggest exporter in the world of fossil fuels according to a recent report by the University of New South Wales. Our exported emissions are now greater than the domestic emissions of Germany, Canada and the UK. While the Narrabri gas project has been classified as a strategic energy project and the Department of Industry and Environment has in their June report concluded
20 this project is "critical" for New South Wales energy security and reliability, I would like to remind the panel that Australia is also the world's biggest exporter of gas and it is only because of a failure to produce a credible energy policy or to effectively regulate the gas industry that we have such expensive gas prices in Australia and that we're currently experiencing supply shortfalls in New South Wales.

25 The Narrabri gas project is not the answer to these problems; good energy policy is. This gas field would increase Australia's greenhouse gas emissions by nearly one per cent per year. That is significant and unacceptable and highly irresponsible and, as I've mentioned, unnecessary for New South Wales energy supply when we're
30 already the world's largest gas exporter and we could be switching to renewable energy.

I'd finally just like to make a point about the long list of conditions of consent which is extensive and contains critical elements of the project. As the most controversial
35 project ever in New South Wales planning, this must not – this project must not be approved with the current list conditions of consent. I urge the panel to require that all or at least most of these conditions are first met by Santos before approval is given, particularly around the water and waste issues if the climate impacts are not deemed significant enough to shelf the project entirely. Thank you so much for your
40 time today.

MR O'CONNOR: Thank you, Charlotte, for your presentation. The next speaker, please.

45 MR BEASLEY: We have Lyn Maciver on the phone. Are you there, Lyn?

MS MACIVER: Yes, I am. I'm sorry I jumped in before the previous speaker because I – I didn't – wasn't addressed by name.

MR BEASLEY: Don't worry. Just make your submission now we can hear you.

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MS MACIVER: Thank you very much. Well, thank you for the opportunity to address the independent planning hearing. I respect and appreciate the thousands of years of continuous history of our First Nations indigenous people, custodians of this land of Australia and the Kamilaroi people of Narrabri and I pay respect to their elders past and present.

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Narrabri has been described as one of the most picturesque inland cities in New South Wales. Located in the heart of the Namoi valley and one of the richest agricultural shires in Australia. It's named after an aboriginal word meaning fork, stick or meeting of waters. This hearing brings into sharp focus public concern regarding the future of this significant and beautiful region too valuable in so many ways to be desecrated by Santos and coal seam gas development. In particular, the ecologically unsustainable damage fracking and chemical will do to rich agricultural land, flora and fauna and scarce water resources including the irreplaceable artesian basin. Narrabri is also a highly regarded centre for scientific research hosting the University of Sydney's plant breeding institute, the CSIROs Australia telescope and the solar observatory, all highly productive and internationally recognised.

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Santos threatens all that Narrabri encompasses and the future community and future generations. The proposed 20 years of fracking by Santos will deliver no short or long term benefit to Narrabri locally despite the oft repeated and deceptive mantra of jobs and growth. We all need to pause and ask why. Who will ultimately benefit? These are important questions and there is a clear choice. No amount of corporate mining rhetoric about how minimisation actually stands up against the harsh reality and the consequences of this practice overseas as has been proven. Santos is not undertaking this activity with benign motives for the betterment of the Narrabri region. The sole motivation is monetary and from my own research into coal seam gas mining overseas Santos threatens indigenous heritage and history, as we've recently seen, Rio Tinto in Western Australia; local agricultural industries; water resources, including the Great Artesian Basin; flora and fauna; air quality; scientific research; and last, but by no means least, climate change both locally and globally.

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The Rural Fire Service has warned that climate change is now clearly evident as all have witness in last summer's catastrophic bushfires which caused widespread devastation to lives, homes, communities, native wildlife and agricultural and crops. The bushfires burnt out 97,000 square kilometres of vegetation, habitat for 832 native species. Ecological experts have been warning us for decades of these changes. Sadly, politicisation of climate change has impeded various efforts to move away from burning fossil fuels to harnessing renewable sources of energy. Australia has this in abundance in solar, wind and waves. Failure to look to the future rather than the past is holding Australia back and to increasing ridicule by more progressive

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nations embracing renewables and establishing clean energy generation, often with far fewer natural resources than we have in plenty.

2020 has been a crucial wake up call for all Australians. We will have an
5 unpredictable, crisis driven future if we continue along the fossil fuel path. And as
for jobs and growth, the climate council and economic consultants Alpha Beta have
undertaken new research and conclude that more than 76,000 new clean jobs could
be created nationally on projects that will challenge climate change in large scale
10 renewable energy projects. By contrast, the Australian government has given four
times more money during the pandemic to the fossil fuel industries than to clean
energy. There is a clear choice. If, as a nation, we are to live happy, healthy and
productive lives, we must preserve and not destroy our natural resources, especially
15 water in this arid continent. We may think Australia is an island unto itself but we
are clearly not. What we do will last – have lasting impacts on our own
nation and people but will also impact our global neighbours near and far. Thank
you very much.

MR O'CONNOR: Thank you very much, Lyn, for your presentation. And thank
you everyone. That brings us to the close of the hearing today. I'd like to thank all
20 the speakers for their engagement in this consultation process and remind everyone
that a transcript will be made available on the Commission's website. The
Commission will be accepting comments from the public up until 5 pm on Monday
the 10th of August 2020. These comments can be sent to the Commission via the
post, email or through the Have Your Say portal on the Commission's website. The
25 panel now adjourns this public hearing until 9.30 am next Saturday, the 1st of August
2020. Thanks again for your participation. Good afternoon.

MATTER ADJOURNED at 5.18 pm until 9.30 am Saturday, 1 August 2020