

Text for verbal report

Slide 1:

My name is Rosalie Schultz, I'm here on behalf of Doctors for the Environment Australia, a national organization of medical doctors of all specialties.

I'd like to acknowledge the traditional owners of the lands we are on.

Thank you for considering my feedback and further submission following the release of the Draft Final report into Hydraulic Fracturing.

Thank you too for such a comprehensive, clearly laid out, thorough and representative draft final report.

I also acknowledge the extended process of consultation, seeking and encouraging the broadest possible community education and involvement.

I recall Justice Pepper's frustration at the Community Forum in August deliberately held during working hours to facilitate attendance by people at a time when children are at school in response to a previous request and there was a new complaint that the session was being held during working hours. So I appreciate the great efforts of the panel in an extremely difficult task.

Through the work of the panel and beyond I now feel that I have considerable knowledge of fracking, and this is a statement about the accessibility of the report – despite its considerable length.

I'd like to address 4 issues in this final submission to the panel from myself and Doctors for the Environment:

1. Corporate social responsibility/ community education and awareness/ social science aspects of the Inquiry
2. Inquiries in other states
3. Climate change as the main risk to public health of the 21<sup>st</sup> century
4. Economics and opportunity costs of fracking – how previous Inquiries which have led to and end to fracking have opened up opportunities for renewable energy.

Each of these points leads to the recommendation that the moratorium on fracking should be extended indefinitely.

### **Community vs Industry**

Overall my experience, research, observation of the reporting of the Inquiry, and reading of the submissions point to the economic, social and health benefits of extending the moratorium on fracking in NT in definitely.

Living in Alice Springs I feel that the recommendations and reporting of the Draft Report show striking incongruence. The Chair reports that the risks can be minimized or in some cases eliminated altogether, yet we have a broad based opposition to fracking.

**"It is the panel's opinion that, provided that the recommendations made in this report are adopted and implemented, not only should the risk of any harm be minimised to an acceptable level, in some instances, it can be avoided altogether," the draft report states."**

12 Slides of Media articles:  
Alice Springs News, ABC News

What's going on? Don't the people understand science? Or is reporting that does not reflect the communities' and scientists' views? Does the panel believe that the community is ignorant, risk averse, emotional or incorrect?

Slide 13:

The terms of reference of the Inquiry – “Scientific Inquiry” were to “assess the scientific evidence to determine the nature and extent of the environmental impacts and risks, including the cumulative impacts and risks, associated with hydraulic fracturing of unconventional reservoirs and the Associated Activities in the Northern Territory.”

Slide 14: Environment here includes people, and this must include the social license, and I think the question of social license requires more attention to explain the difference between the Draft Final Report, and the Chair’s statements, and the community’s view on fracking.

Community’s views on fracking are clear from the surveys done, Facebook pages, letters to editor and even if you review each of the submissions received by the Inquiry.

This is qualitative scientific evidence.

It was helpful that the Website provides links to Inquiries in other states, which I have reviewed.

Slide 16 Inquiries in Victoria

Slides 17, 18, 19

and Inquiry SA led to bans on fracking.

Both of these states are now experiencing booms in renewable energy, with SA installing the largest battery in the world, and now there is a proposal to install solar panels on 50000 households. The largest windfarm in the world is being developed in Victoria.

Whether or not these developments are linked to the ban in fracking, the freeing up of investment from fracking to renewables is important.

WA meanwhile and NT had Inquiries in 2015 that led to efforts to regulate the industry. This had led to community concern. New governments in both jurisdictions implement early bans on fracking and new Inquiries, both within 3 years of the earlier Inquiries which in both cases were intended to be definitive.

## Climate change

Slide 22 Lancet commission

Now I'd like to address the most serious risk to public health: Climate change.

The Lancet, one of the most well regarded medical journals has established a commission on climate change, here's their recent review – recognizing climate change as a great opportunity for action on health. In NT we are seeing higher temperatures, effects of storm surges and sea level rise on the coast, inland flooding and inundation. NT is at great risk.

Slide 23 Health impacts of climate change

Climate change is discussed in the chapter of the Draft Final report on greenhouse gas emissions. I note that it is included in cumulative impacts, public health, or the Chapters on land or water even though climate change is impacting our lands and waters and this will escalate. For example, Recommendation 8.4 says "The fire management plan should:

- address the impact that any onshore shale gas industry will have on fire regimes in the NT, and how those impacts should be managed;

This should specifically note the likelihood of changes in fire regime from climate change, with projected increases in temperature and precipitation.

Climate change contributes to the cumulative impact of fracking, and is an important public health risk – the public health risk of the 21<sup>st</sup> Century.

## Contribution of fracking to Climate change

Slide 24: Limited impact on decadal-scale climate change from increased use of natural gas  
I note in the Draft Final report the recognition that the largest contribution of unconventional gas to climate change is from burning the gas, rather than from either upstream losses (page 211). 78% according to the report.

I note also the comparison with coal, and conclusion that gas overall has about half the emissions of coal, so long as upstream emissions are below 4.4% (page 212).

However where we disagree with the report is the analysis of the impact of further exploration and production of gas, particularly through fracking. Here am aware that my view disagrees with a Quote from page 214:

<sup>according to</sup>  
"...the Finkel review, access to a reliable and affordable gas supply is in the *interest of all Australians* given its direct use for heating, as a feedstock chemical for industrial processes, and as a fuel for electricity generation. *Gas has an important role to play in supporting the continued deployment of renewable energy technologies.* ...

Over a longer time frame, as Australia transitions to lower emissions generation, natural gas may be replaced by zero emissions fuels such as hydrogen and biogas."

This is not consensus in the scientific community. In particular it is inconsistent with a series of papers in the field, A Crack in the natural-gas bridge, by Davis and Shearer, which is a commentary on this major article: Limited impact on decadal-scale climate change from increased use of natural gas.

"The most important energy development of the past decade has been the wide ... deployment of hydraulic fracturing technologies that enable the production of previously uneconomic shale gas resources in North America....Some researchers have observed that abundant natural gas substituting for coal could reduce CO2 emissions. ... Assessment of the full impact of abundant gas on climate change requires an integrated approach to the global energy-economy- climate systems, but the literature to date has been limited in either its geographic scope or its coverage of greenhouse gases. Here we show that market-driven **increases in global supplies of unconventional natural gas do not discernably reduce the trajectory of greenhouse gas emissions of climate forcing.**

Slide 25

A crack in the natural – gas bridge

Our results based on simulations from state of the art integrated assessment models of energy- economy – climate systems independently forced by an abundant gas scenario project large additional natural gas consumption. ... The impact on CO2 emissions is found to be smaller (from -2 to +11 percent) and a **majority of models report a small increase in climate forcing**".

This contradicts the Finkel report and of course the Draft Final Inquiry that quotes it.

Slide 26 Greenhouse gas emissions – negligible impact on global climate warming

Slide 27 Greenhouse gas emissions

Furthermore the Draft Final report of the Inquiry concludes that it's okay so long as life-cycle GHG emissions are below 0.05% of global GHG emissions. This 5/10000 of global emissions is gross injustice for 200 000 population of NT in a global population of 7 billion – we represent 0.0029% of the world's population so this is effectively 17 times our share. – assuming the benefits are distributed to all Territorians.

Slide 28 I refer you to a paper about fossil fuels, published in the Journal Nature:

*Our results show that policy makers' instincts to exploit rapidly and completely their territorial fossil fuels are, in aggregate, inconsistent with their commitments to this temperature limit. Implementation of this policy commitment would also render unnecessary continued substantial expenditure on fossil fuel exploration, because any new discoveries could not lead to increased aggregate production.*

Thus the entire project of Inquiring into, and development of policy for fracking is both unnecessary and a distraction and opportunity cost for energy and economic progress in NT. Exploration is fundamentally in contradiction to our obligations to the Paris commitment to keep average global temperature increase below 2 degrees.

The graphs show the costs of each form of fossil fuel, with shale gas (this is known reserves) is the most expensive source of fossil fuel. These graphs are of known reserves and unknown resources – not resource that has not yet been explored.

This links back to the Inquiries in the other states, where bans on fracking have been recognition of the regressive nature of investment in fracking. It also links back to the community concern, and social justice.

Slide 29: Climate change and unburnable fossil fuels

We argue that investment in gas particularly unconventional gas leads to less investment in and deployment of renewables. Progress in renewable energy technology and deployment is remarkable.

I'd like to note here the ironic titles given by Acil Allen to their different gas scenarios in their economic analysis

"calm, breeze, wind, gale" is ironic framing for development of fossil fuel industry. This is gas, not wind: what about whiff, smell, stench, asphyxia.

## **Economics**

Re: Economic analysis –

Acil Allen report: The key finding of our initial research and consultation was that it was not possible to conduct economic modelling giving regard to the three scenarios as requested by the Inquiry in its scope of works. This was primarily due to lack of information about the size or scope of commercial shale gas reserves in the Northern Territory (both in the Beetaloo sub-basin and in the Northern Territory more broadly), and the embryonic stage of the industry's life cycle.

In contrast to this unknown it is known that greenhouse gas emissions contained in present estimates of global fossil fuel reserves are around three times higher than what can be burnt according to our Paris Agreement obligations. The unabated use of all current fossil fuel reserves is incompatible with a warming limit of 2.

Further exploration for expensive and energy intensive shale gas is a breach of justice to humanity.

Employment through production of fossil fuels a highly capitalised industry

Slide 32: employment in renewable energy

So much work is needed in developing renewable energy and in protecting our lands, particularly where this provides desired employment for Aboriginal people.

Slide 33 – declining price = increasing affordability of PV during the time of the Inquiry.



**Public health** and pre-fracking assessments of both health and methane emissions  
My Colleague Dr Geralyn Mccarron:

I cannot express enough my disappointment regarding the current recommendations regarding baseline studies.

It was noted in 15.1 Introduction that:

“Without an adequate pre-disturbance baseline, the magnitude of any post- development change cannot be effectively predicted or its impacts assessed.”

Despite that awareness by the committee there is no recommendation that baseline studies should be done before disturbance. In fact it is not even clear that baseline levels are measured before a production licence is granted – only before production begins.

Recommendation 9.3 That baseline monitoring of methane concentrations be undertaken for at least one year prior to the commencement of shale gas production on a production licence.

There is no recommendation for many of the health based air toxin baselines to be done at all (BETX NOx particulates VOCs PAHs formaldehyde etc).

Furthermore, the use of a one year period requires justification given the extreme climate variability of much of NT, and much of Australia and especially as climate change accelerates.

With regard to 15.2.5 Public health

Baseline data needs to be obtained on the frequency and duration of the occurrence of symptoms commonly associated with irritant substances (for example, sore eyes, respiratory irritation, asthma).

This obviously needs to be done in an undisturbed environment before any drilling / fracking/ flaring, (on an exploratory licence or otherwise). Considering all the evidence that has been presented to the committee it is indeed worrying that the fundamental and critical recommendation to have pre-disturbance baselines has not been made.

However the baseline assessments must also take account of the increasing concerns of Australians about surveillance and the risks that this poses to our privacy and autonomy, and concerns about insurance risk.

Therefore and in summary I have presented four further cases

1. Community license
2. Climate change – and our obligations to keep even known reserves in the ground
3. Economic analysis – and opportunities lost through investment in fracking
4. Public health – proper baseline evaluation of methane and other chemicals of concern BEFORE exploration; and baseline evaluation of community symptoms in a context of heightened concern about surveillance.

On behalf of DEA I would like to recommend that the moratorium be extended indefinitely for the multitude of risks presented here, and in our written submission.

I have another slide here – what if climate change is all a hoax? What will we have? Stronger communities, cleaner energy, lower costs, better health.

Thank you Rosalie Schultz

