

## Fracking inquiry

### Introduction

This is a personal submission. I am a public health doctor and resident of Alice Springs. I believe that the moratorium on fracking should be extended indefinitely on health and environmental grounds. The precautionary principle is the foundation of environmental health assessments. This means that if there is significant uncertainty about safety and the potential for serious harm in proposed developments, they should not go ahead. The standard should be that an activity should be proven to be safe rather than definitely found to be unsafe. The background paper lists multiple risks across critical areas such as land, water and public health. The environment in the NT is particularly fragile with water sources being underground across much of the NT, along with a harsh climate and a fragile ecosystem. Regulation is difficult because of a dispersed population and the extreme remoteness of proposed fracking sites. Finally, there is Australia's global responsibility to move towards renewable energy as fast as possible given the worsening climate crisis and Australia's role as a Western rich country to do as much as possible to avert a looming catastrophe. Again, there is increasing evidence that gas is not a cleaner less damaging energy source than coal as originally proposed. There are also key social issues to consider including Indigenous standpoints and views. All these issues point to the need for fracking to be stopped indefinitely.

### Health impact including on Aboriginal people.

This is my main area of expertise. There is a growing literature on the risks of fracking to human health. A recent review highlighted that the evidence base is relatively recent meaning that it is not as well developed as in other areas of mining or exploration (Hays et al, 2016). However, there are concerns about air pollution, exposure to chemicals causing a range of symptoms (nausea, headaches, breathing problems and asthma), adverse pregnancy outcomes including still births and health effects of water contamination. A recent review found that of 685 scientific peer reviewed papers published since 2008, 84% assessing public health issues had found substantial public health hazards, risks or adverse health consequences, 69% assessing water issues found water contamination and 87% of papers assessing air quality found increased air pollution (Hays et al, 2016). Most studies pointed to the need for more research in this complex area. Key areas of uncertainty were long term risks due to legacy wells, failure rates of wells over time, cumulative air pollution and emissions from wells and the quantitative estimation of the risk to human health (Hays et al, 2016).

Aboriginal people in the NT have lower life expectancies compared to Aboriginal people in any other jurisdiction. Rates of chronic disease are extremely high. The experience of mining in the NT and around Australia on Aboriginal land is that it has largely failed to benefit Aboriginal people. There is currently an investigation into why there are higher still birth and cancer rates for Aboriginal people around Jabiru than in other parts of the NT and whether this may be linked to the Ranger Uranium mine (Health Gains, 2014). Given the uncertainty of the magnitude of the health risks due to fracking and whether people with poor pre-existing health may be more vulnerable to any health effects, do we want to risk fracking causing any harm to the health of people who already suffer so much illness?

Aboriginal people in the NT have demonstrated their opposition to fracking on multiple occasions. Loss of control over one's life is known to be a very major factor in poor health outcomes for disadvantaged people. Land is central to Aboriginal peoples identify and wellbeing. Pushing fracking against the wishes of the majority of Aboriginal people is likely to worsen already poor health

outcomes given what we know about the effects of losing control. The health impacts of losing control have also been demonstrated in non Aboriginal people, most tragically with the suicide of a farmer (George Bender) battling to keep fracking of his land. This is likely to be just the most extreme case of a range of psychological harms caused by fracking

## Water

Contamination of water supplies can occur through well failures, and other mechanisms such as injection of water from aquifers. Wells do fail – the dispute is about how often and some studies have found that this failure rate may be as high as 10%. The United States EPA has also now definitely found that methane from fracking is leaking into ground water (EPA 2016). Significant chemical spills have also occurred in the United States and Queensland. The risk of contamination of underground water reserves is critical in Central Australia given that it is the only feasible water supply. This is one of the most common community concerns and even if the risk is very slight, the outcomes would be so catastrophic that the precautionary principle should come into play and fracking should not go ahead. In other areas of the NT, this is also real risk with peer reviewed studies elsewhere finding strong evidence of contamination of water (Hayes et al, 2016).

Another risk is that fracking is contributing to water depletion in the arid zones of the Northern Territory with climate change also contributing to water depletion through increased evaporation. This is a critical point given that underground water supplies are non renewable.

## Experience in the NT so far

The Merenie gas field is a conventional gas field that had a spill in the 1980's. More recently a truck spilt toxic chemicals on the Plenty high way as a result of fracking. It is important to note that the risk of a spill is higher in unconventional fracking. In the Betaloo field, there has been a significant leak of methane. Therefore, even in the limited experience of the NT, there have been adverse events and a large expansion of unconventional fracking is likely to lead to many more such incidents with unpredictable consequences. In the United States, spills have been associated with heavy metal contamination which has the potential to last decades in some instances (significant concern in fracked areas in the United States and elsewhere. As already stated, regulation is particularly difficult in the NT because of the extreme remoteness of many sites and the dispersed nature of unconventional fracking. Therefore, even if a strict regulatory framework was imposed, there is a real risk that it would not be adhered to at all times.

## Do we need fracking?

There is supposedly a crisis of gas supply in Australia. However, this is a crisis due to companies exporting gas in order to maximise their profits. The Turnbull government has now restricted exports of gas which is the common sense solution to this problem, whilst we move towards renewable energy. Unconventional gas will only serve to increase the price of gas due to the cost of extraction.

## Climate Change

Climate change is a global crisis which Australia must play its part in addressing. Gas has been presented as a cleaner form of energy compared to coal. The Climate Council in its recently released report has found that methane emissions from unconventional gas may cancel out any benefit over coal. They find that investing in gas is not compatible with the Federal government's commitment to climate change targets and recommend that we do not increase gas supply but move towards renewable energy as quickly as possible. The Climate Council report found that renewable sources

are now competitive with gas and gas investment will be an increasingly risky proposition as the commitment to controlling emissions is likely to intensify as the climate deteriorates (Climate Council 2017). The Northern Territory had been a leader in renewable energy in the past (e.g. Alice Springs as a solar city and increasing renewable energy in remote communities). We should be looking to strengthen this commitment and look to be an example to Australia and the world.

### Other impacts

As the paper mentions, there are potential adverse impacts on property prices, community cohesion, tourism and ecological impacts on our sensitive and fragile ecosystem. All of these are not easily quantified but have been significant in other jurisdictions including Queensland and in other countries.

### References

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