In this submission I want to address the claimed likely economic benefits to the Northern Territory from potential hydraulic fracturing (Fracking) of unconventional gas (UG) reserves.

In doing so, I will refer to what some are calling 'the heroic assumptions' for both royalty income and employment numbers which have been bandied about and will refer to some figures from Queensland, the state with the most highly developed UG industry in Australia at this time, though recognising significant developments in South Australia and the fact that there has already been some 'Fracking' in gas wells in Central Australia.

According to Heath Aston, writing in the Sydney Morning Herald of 23 March 2017, returns from Queensland gas in recent years have been much lower than expected or predicted.

In 2015-16, the Queensland Government received royalty payments of just \$36 million,

In 2016-17, royalties were \$68 million and they are predicted to reach \$250 m in 2019-20.

In the context of the total Queensland Budget Income of \$56 billion (2016-17) the petroleum industry – including CSG – contribution of an estimated \$96 million is minuscule. In fact Queensland Treasury (Budget Papers 2017) estimates that revenues from Royalties and Rents (which is the category covering all mineral payments) will fall substantially this financial year (2017-18).

In 2016-17, the income from this entire category, which includes property rents, coal, petroleum and gas royalty revenues, totalled just under \$2.3 billion, or about 4.5% of gross state income.

These are not the figures of a significant contributor to Queensland's finances and there is no reason to think that the figures from the Northern Territory would be any better. This must raise the question of whether the small royalties and the fairly short-term employment boost of the exploration/construction phase of any CSG would be offset by the negatives of the physical, social, cultural and environmental damage this industry causes.

There is also the fact, acknowledged by proponents of fracking, that there would be a lead-in time of 10 years before any production would be expected. Given the rapid changes in fossil fuel consumption patterns, it is prudent to ask if, in ten years' time, there will still be a demand for the various types of gas, and what their prices might be?

There are rapid changes taking place in the relative e process of fossil fuel and renewable energy sources as some information from the United States show.

The (US) investment company, Lazards, in its 10<sup>th</sup> annual report from 2016 notes that rapid technology cost reductions mean wind and solar are now the cheapest form of generation in many places, going on to claim a 66% drop in wind energy prices since 2009 while it claims solar's cost declines have been even more dramatic falling 85% since 2009 while installed generating capacity has increased 10 times in the past five years.

In summary Lazards claims it is now cheaper in many places to build new wind or solar energy than it is to continue running existing coal or nuclear plants.

#### Risks to the industry

One of the claims made by those who promote the UG Industry is the uncertainty around the huge costs associated with the exploration process, and the possibility/likelihood of 'dry' wells.

The Australia Institute's Rod Campbell has done considerable work analysing the economic claims made about the potential benefits for the Territory including the Deloitte Access report for the Australian Petroleum Production and Exploration Association (APPEA) claiming billions in revenue and thousands of jobs.

Not only does Campbell address the probable higher costs of gas production in the NT, he has also noted that the claimed financial risks for exploration are doubtful. For instance he points out that the Australian Government's hugely generous taxation regimes for mineral exploration (over 19% p.a.) essentially ensures that such costs are covered by the taxpayer after a bit more than 5 years.

What is more, these tax offsets are not restricted to the life of the exploration project but can be carried forward almost indefinitely to offset taxes against any future profits.

Apart from the need to have the money available to explore – and mining companies are continuing to make substantial profits even in the face of volatile commodity prices – this makes exploration virtually cost-free while also ensuring that taxpayers are deprived of some of the income from any future profits a company might make. These tax policies might also be interpreted as an artificial redistribution of costs between energy sources.

With royalty rates on petroleum and gas set at about 10% of profits, the Queensland royalty figures mentioned above would seem to indicate that in 2015-16, the \$36 million paid in gas royalties would have meant a profit of about \$324 million to the companies and their shareholders (many of them foreign). Oil, gas and other mineral resources are owned by the people of Australia. They are a one-off national asset and can only be extracted once.

The fact that wealthy (often foreign-owned) resource companies have the finances to exploit these resources does not mean that they are entitled to do so.

One of the recurring themes to emerge from the public consultations of the NT Fracking Inquiry is the public scepticism, or cynicism, about the ability of Governments to ensure that any regulations imposed on mining companies during the exploration/development/production phases would be either stringent enough or monitored adequately.

Furthermore, there is concern about the ease with which any regulatory regime can be amended by future governments. The point is both well made, and needs to be restated, that the four-year term (fixed in the NT) of governments precludes a real ability of a government which might approve such developments with very strong safeguards from actually being able to bind future governments and regulators to those safeguards. There is ample evidence of initially strong regulations being circumvented by subsequent governments at the behest of wealthy mining companies well able to pay for lobbying and political donations. There is also a situation where new owners of a mining company might not feel bound by agreements entered into by a former owner.

When funding is cut to independent or community groups attempting to keep governments and developers 'honest' (such as the NT Environment Centre) and when one Minister is responsible for both the Environment and Mining, such doubts would seem to be well founded.

If, instead of supporting FRACKING, the NT Government applied its funding to research and development of a sustainable, Territory-based, clean energy industry, evidence from elsewhere ( for example the ACT) has shown it can attract construction jobs and eventually produce more long-term sustainable jobs without the harms associated with UG exploitation.

The ACT funds three solar farms, the latest opened in March 2017, and five wind farms meaning it now gets 35% of its energy from renewables. Why can't the NT with its abundant year-round sunshine, and wind resources be doing the same?

As Brian Robins wrote in the Sydney Morning Herald on March 29<sup>th</sup>, this year (2017) one of the reasons the renewable industries are hobbled is because 'Australia's thermal power generators are a powerful oligopoly and have been lobbying hard to keep electricity storage systems out of where they should be ... on the electricity grid".

If such storage was readily available it would help deflate the huge prices presently charged by thermal power suppliers in periods of shortage, such as four half-hour periods in Adelaide in March when wholesale electricity prices briefly hit \$14 000 per megawatt hour. Fluctuations, some would say rip-offs, like these are what are forcing state governments like South Australia, to invest in battery storage.

Finally, I would raise the question of the suitability of the engagement of the company ACIL Allen Consulting to assess the economic impacts of a UG industry in the NT. While the company appears to have considerable expertise in this area, its own website indicates that much of its work has been done for the industry itself, including for APPEA with a recent 'reassessment of the potential economic significance of Coal Seam Gas in New South Wales'. ACIL Allen's report (p46) notes that a continued freeze on CSG in New South Wales would mean a one-off decrease in the average real income of a NSW resident of \$1100 per person and a continuing loss of \$200 p.a.

The corollary to this would seem to be that allowing a CSG industry in NSW would mean an immediate real income boost of \$1100 per person and an ongoing boost of \$200 p.a. Nowhere in the report could I see any reference to economic costs which might arise from the impact on the physical, social, cultural or environmental values of land and communities affected by such mining.

Based on the comparatively modest financial benefits to Queensland; those equally modest estimated by ACIL Allen for NSW and probably even lower for the NT where extraction costs could be expected to be higher (Rod Campbell), it is hard to avoid the conclusion that any approval of Fracking in the NT, no matter what stringent regulatory demands were imposed, would only minimally benefit the NT economy while hugely boosting mining companies revenues and shareholder profits and leaving future generations of Territorians with the costs of cleaning up the mess and dealing with all of the residual issues.

The balance sheet for the NT would be even worse if there was a requirement to provide any of the infrastructure required to support this industry.

#### Conclusion

There is no doubt that the NT Labor government will come under enormous pressure to abandon its moratorium on fracking (despite whatever recommendations are ultimately made by this Inquiry). Indeed the first salvos have already been fired with the Federal Treasurer, Scott Morrison, threatening to cut the GST revenues to the NT and the Federal Resources Minister, Josh Frydenberg, weighing in with demands for an end to the moratorium because of the national 'gas shortages' (which are, in fact the result of flawed policies of past governments).

It will require enormous political courage from the NT Government to ignore or reject that pressure, but as this Fracking inquiry, and other surveys and public demonstrations, have already shown, the majority of Territory citizens, and voters, are opposed to Fracking anywhere in the NT.

So, rather than buckling under to pressure from profit-making multi-national mining companies using spurious arguments to push their development agendas, the NT Government should accept the will of its citizens, continue the moratorium on Fracking and actively promote and support companies willing to develop more alternative renewable energy resources.

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