Submission #2

Australian Government

Chief Scientist

6 December 2017

Dr Tom Hatton
Locked Bag 33
Cloisters Square
Perth WA 6850

Public Submission

Dear Dr Hatton,

I write to provide input into the *Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia 2017*.

I recognise the importance of your inquiry, given the significant potential role of gas in Australia's energy supply, and the imperative that the economic opportunities represented by gas be taken up with care and attention to scientific evidence, environmental safety and community concerns.

Earlier this year I led the Independent Review into the Future Security of the National Electricity Market. To help address gas supply issues the Review concluded that:

- "Governments should work with communities and industry to enable the safe exploration and production of unconventional gas, including ensuring that landowners receive fair compensation."
- "Gas industry performance data should be transparent, clear and accessible. This should include seismic activity, fracking fluid composition, aquifer purity and fugitive emissions."

These overarching recommendations highlight the need for decisions on gas extraction to be based on the best available scientific evidence, and stress the importance of landholder compensation.

With respect to the first point above I can personally add that the need to financially compensate landholders was consistently raised with me during consultations for the Review.

The second point emphasises that extractive activities should include ongoing monitoring of their environmental performance, with clear and transparent information provided to the public in an easy and accessible manner.

1. With respect to seismic activity, the Review notes that in the US state of Texas, the 'TexNet' research initiative includes a seismic monitoring program to allow the community to track seismic impacts of the injection of fluids on underground geological formations. Operated independently by the University of Texas at Austin, it presents an easy to access website that allows the public to follow seismic activity at multiple locations in Texas.

2. With respect to disclosure of fracking fluid composition in the US, a publicly accessible website named 'FracFocus,' provides information about the chemicals used in fracking fluids in individual wells in the majority of jurisdictions. However I note that this website is currently basic, and undergoing further development.

3. Much concern about the environmental impact of unconventional gas activities is over potential contamination of surface and ground water by fracking fluids. In this regard I note the need for continuing scientific work on water resources by Commonwealth agencies such as Geoscience Australia, CSIRO, and the Bureau of Meteorology, by state agencies, by university research groups, and by industry itself. I also note efforts by the Gas Industry Social and Environmental Research Alliance (GISERA) and the Queensland Office of Groundwater Impact Assessment to publish research on this topic. However, I am still of the view that Australia would benefit from easily accessible information for the public about the presence or not of fracking fluids in surface and ground water.

4. With respect to fugitive emissions from either conventional or unconventional natural gas extraction, leaks of methane – itself a potent greenhouse gas – add to community concerns over climate change. Ongoing public access to gas industry monitoring information could be used to increase transparency.

By providing easily accessible data, the public will be in a better position to reach informed conclusions. Interactive, publicly accessible data repositories for seismic activity, chemical composition of fracking fluids, surface and ground water quality and fugitive emissions, commissioned to be operated by expert entities such as universities or publicly funded research agencies, would appropriately inform the public. I commend such an approach to you.

Thank you for your consideration of this submission. I would be happy to discuss this with you at any time.

Yours sincerely,

Dr Alan Finkel AO