Transition Town Vincent

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Dr Tom Hatton
Independent Scientific Panel Inquiry
Locked Bag 33
Cloisters Square, Perth WA 6850
by email: info@frackinginquiry.wa.gov.au

Dear Dr Hatton

Transition Town Vincent is a community group in the City of Vincent that aims to strengthen community connections and to empower people to tread lightly on this earth. Our group has been operating in the City of Vincent in a volunteer capacity since 2014. We have about 20 active members and connect with over 500 people in our network.

We recently have completed our Strategic Plan 2017-2022 that contains guidance points for our work. Our work is based on the following Values:

- Thinking globally, acting locally
- Respect for all living creatures and self
- Sustainability at the core of all thinking
- Strong community connections
- Consensus based decision making

We oppose fracking in Western Australia.

Health impact

Unconventional gas mining and fracking is harmful to health. Communities living near gasfields in Queensland and the USA have reported serious health effects following the commencement of unconventional gas operations. These conditions include respiratory ailments, nose throat and eye irritations and neurological illnesses.

A recently released report by Concerned Health Professionals of New York and the Nobel Peace Prize-winning group, Physicians for Social Responsibility uncovered no evidence that fracking can be practiced in a manner that does not threaten human health. Drawing on news investigations, government assessments and more than 1,200 peer-reviewed research articles, the study finds that fracking – shooting chemical-laden fluid into deep rock layers to release oil and gas – is poisoning the air, contaminating the water and imperiling the health of humans and the environment across the country. The report is available here: http://www.psr.org/resources/fracking-compendium.html . We ask the committee to consider its findings in detail.

A wide range of negative outcomes have been linked to existing fracking sites, from higher rates of asthma and migraines to more hospitalizations for cardiovascular disease, neurological disorders, and cancer. Earlier studies have also found associations with low–birth weight babies, but those were plagued by low sample sizes or a failure to show that health effects got worse closer to drilling sites, as expected if fracking were to blame. http://www.sciencemag.org/news/2017/12/fracking-linked-low-weight-babies

Fracked gas flows via pipelines, whose leaks and explosions are now well-documented, see https://www.citylab.com/environment/2016/11/30-years-of-pipeline-accidents-mapped/509066/

Piped gas must continuously be re-pressurised at compressor stations which have been documented to emit methane, fine particulate matter, as well as benzene, formaldehyde and other known human carcinogens.

Risk to groundwater

Water and chemical use and wastewater production from fracking places WA's vital water resources at risk from contamination and depletion. Our state is one of the driest places on earth and climate change is already leading to decreased rainfall in southern WA. Our land and environment are under growing pressure from a lack of fresh water. We cannot afford to put our precious groundwater at risk for a short term and unnecessary fracking industry.

Evidence found that 5% of all wells leak after completed installation and 30% leak at some time during production. This holds a serious risk to the many aquifers penetrated by the well shaft. All aquifers are interconnected through faults and other geological features. The liquid used to penetrate the rock for hydraulic fracturing holds chemicals, cement, salt and water which has the potential to contaminate water underground. This is a significant risk.

A case in the UK demonstrated what happens when a fracking company is trying to cut costs and has friends in high places. The film "The Truth about the Dash for Gas" makes the point that exploratory drilling by Cuadrilla unleashed an earthquake that was 2.3 on the Richter scale. This damaged the bore hole with potentially serious consequences for ground water – yet, despite this Cuadrilla did not tell the Environment Agency for 6 months. The minister did not take any action following the incident. It is known that fracking has the potential to trigger earthquakes that damage well castings and have the potential to pollute the aquifers.

A recent analysis of 300 hydraulically fractured wells near Fox Creek, Alberta, found that a modest injection of 10,000 cubic metres (2.6 million gallons) can cause an earthquake in geological formations containing faults. The larger the volume of fluids injected underground, the greater the number of earthquakes, the study found.

Lack of respect for traditional owners, farmers and residents

Landholders and Traditional Owners don't have the right to refuse access to oil and gas companies in WA. They are concerned about the damage to the water, their country, their dreaming and their song lines. This creates stress and leaves individuals and communities worried about the future.

Farmers worry about degraded country, their financial security and their ability to farm their land. The cards are stacked unfairly in favour of the gas industry and human rights are being ignored for a

resource that is no longer strategically vital as it can be replaced by renewable forms of energy generation.

In the recent years more and more communities around Perth have declared themselves as a Frack and Gasfield free community, therein withdrawing the social license for a company to extract unconventional gas in the location.

Negative effect on community wellbeing and cohesion

Research into the economic and social impacts of the unconventional gas industry in Queensland has shown that the industry has led to a reduction in community well-being and social cohesion. It also caused a deterioration in local skills and infrastructure; few additional local job opportunities; and limited economic benefit to the wider economy.

Unconventional gasfields in Queensland have seen reductions in farm productivity, efficiency, land values and credit availability to landholders.

Emissions

Fracking leads to large deliberate and fugitive emissions of methane, adding to climate change. A recent report found that the domestic carbon footprint from all of WA's unconventional gasfields would be THREE times more than what Australia's entire energy sector can emit to comply with the Paris Agreement.

Other evidence confirms that residents living near an active site breathe air laced with carcinogens, including benzene and formaldehyde, and research has shown an increased risk of asthma, a decrease in infant health and worrisome effects on the development of a fetus, such as preterm births and birth defects.

The report concludes that rather than risk stranded assets by investing in gas, it would be much smarter for WA to take advantage of its vast renewable energy resources. See more details at http://climateanalytics.org/l…/western-australias-gas-gamble

Breach of the precautionary principle

Hydraulic fracturing does not meet the precautionary principle of the Environmental Protection Act and international law. This principle has four vital components: taking preventive action in the face of uncertainty; shifting the burden of proof to the proponents of an activity; exploring a wide range of alternatives to possibly harmful actions; and increasing public participation in decision making.

The committee is urged to examine the 200 page peer reviewed study by 20 authors and an editorial team of 5 people published by European Environment Agency in 2001. The study is titled "Late Lessons from early warning – the precautionary principle 1896 – 2000". This report alerts that risks that can be reduced in theory nevertheless occur regularly.

This study draws on European and US experience to look at what lessons can be drawn from catastrophes like acid rain; BSE, asbestos, benzene, halocarbons and the ozone layer, hormones as growth promoters and so on. In each case there were early warnings of threats to the environment and public health – but in each case there was a long delay before an adequate response was taken.

Preventing such risky industry from operating in WA is the best risk management strategy.

Alternative energy sources are available

Renewable energy is available to produce enough energy to replace any energy extracted through this uncertain method. Hydraulic fracturing is an energy extraction that only provides intermediate energy, it Is not able to sustain energy production in the long term and entails serious risks for the environment and our community. We do not need it.

Remediation is impossible

Experience with this industry in other Australian states and overseas has left responses wanting. Remediation of issues is technically impossible. Recent similar experiences with the contamination of groundwater through 12 RAAF bases in various parts of Australia need to be taken into account. Remediation of the groundwater contamination is basically impossible and attempt are very costly but have proven inefficient. This case contains the toxins perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) that were used on the bases while considered to be safe until health issues of local residents have been linked to contamination of the groundwater through these toxins. http://www.abc.net.au/news/2016-11-08/defence-releases-water-report/8006952 . Prevention is the best way to address the possible significant impact.

More than 400 residents near the Williamtown RAAF base at Newcastle have launched a class action against Defence because of declining property values. Such actions could be launched in WA as well against the state that failed to ban the industry despite knowledge of serious negative impacts as cited above.

Risk for taxpayer and long- term liability for contamination and abandoned sites.

After exhaustion of the energy source the well remains in place> The location cannot be re-vegetated as the polluted water is still underground with significant potential impact on the aquifers and natural ecosystems in the area and further away.

Regulation will not make fracking safe

The committee is urged to consider an article why fracking cannot be made safe through regulation that was written in the Bristish context : Getting Real About Regulation – Why It Won't Make Fracking Safe, By Brian Davey, originally published by Feasta, published in February 11, 2014: http://www.resilience.org/stories/2014-02-11/getting-real-about-regulation-why-it-won-t-make-fracking-safe/

As regards fracking, the United Nations Environment Programme has a much more realistic view of things when, in its briefing about fracking, it says:

"Even if risk can be reduced theoretically, in practice many accidents from leaky or malfunctioning equipment as well as from bad practices are regularly occurring. This may be due to high pressure to lower the costs or to improper staff training, or to undetected leaks leading to contamination of the ground water."

We urge the Committee to access recent evidence found in extensive meta studies carried out on peer-reviewed research concerning the environmental and public health effects of fracking. A meta study

done by Jake Hays and Seth B. C. Shonkoff, published in the Journal of the Public Library of Science looked at all qualifying, peer-reviewed research over the period 2009-2015, approximately 685 studies. They found that "84 percent of public health studies contain findings that indicate public health hazards, elevated risks, or adverse health outcomes; 69 percent of water quality studies contain findings that indicate potential, positive association, or actual incidence of water contamination; and 87 percent of air quality studies contain findings that indicate elevated air pollutant emissions and/or atmospheric concentrations."

Recent advanced in hydraulic fracturing techniques for shale gas sees fracking in a particular location significantly bigger and more intense that only 5 years ago. This is due to advances in techniques for hydraulic horizontal drilling, increases in water used and a more pollutants added to one location.

We urge the inquiry to make a recommendation to permanently ban fracking and all unconventional gas mining in Western Australia. The precautionary principle must prevail.

Fracking is invasive, risky, unwanted, and unnecessary.

Yours sincerely,

Irma Lachmund, Treasurer

On behalf of the Management Committee

Transition Town Vincent

18 March 2018