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Working globally for a toxic free future

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Senate Select Committee on Unconventional Gas Mining
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SUBMISSION: Inquiry into Unconventional Gas Mining

The National Toxics Network Inc. (NTN) welcomes the opportunity to make a submission to the Senate Select Committee on Unconventional Gas Mining.

NTN was formed in 1993 as a community-based charity. NTN provides a central repository of technical expertise and educational materials to individuals and organisations across Australia in relation to toxic chemical pollutants and their impacts on environmental health.

NTN is the Australian NGO focal point for the International Persistent Organic Pollutants Elimination Network (IPEN) and works towards the full implementation of the *Stockholm Convention on Persistent Organic Pollutants* (POPs) and other global chemical conventions and agreements to which Australia is a signatory. International conventions have tangible outcomes in terms of reducing levels of identified toxic pollutants circulating in the environment.

NTN committee members have been involved in a range of national government advisory bodies including: the Hazardous Waste Reference Group; the Stockholm Stakeholders Reference Group; the National Industrial Chemicals Notification Assessment Scheme (NICNAS) Community Engagement Forum and Strategic Consultative Committee; and, Australian Pesticides and Veterinary Medicines Authority advisory committees. In these roles, NTN represents community and environmental concerns and engages in complex discussions about policy and regulatory options for mitigating toxic pollutants impacting our environment.

Unconventional Gas Activities

Since 2010, the National Toxics Network has been actively involved in seeking, consolidating and providing information to the community and regulators on the identity and impacts of chemicals used and released by unconventional gas mining (UG) activities.

NTN has given numerous public presentations both in Australia and abroad on the impacts of UG mining on communities and the environment. NTN has made submissions to the *Inquiry into Unconventional Gas (Fracking) in South Australia* and the *Environment and Planning Committee's Inquiry into Unconventional Gas in Victoria*.

We are particularly concerned that the vast majority of chemicals used by the UG industry in both hydraulic fracturing and drilling have not been adequately assessed by regulators, despite the Commonwealth Government's CSG Project announced in 2012 that was to specifically address this failure.

In 2011, a report by National Toxics Network revealed the nation's industrial chemicals regulator (NICNAS) had not assessed at least 23 of the most commonly used fracking chemicals. We simply do not know what is in many of the products used in UG mining as the information is classified as commercially confidential, while in some, an 'active' ingredient is disclosed but there is no information on the majority of the formulated product, including the identity of surfactants. For others, what we do know indicates serious hazards to human health.

NTN's report prompted the initiation of a study that was to identify and assess the chemicals used in CSG drilling and hydraulic fracturing (fracking) and examine the impacts of fracking fluids on surface water, shallow groundwater and public and worker health. Unfortunately the study, would not examine chemical mixtures and interactions as occur in fracking fluids, the chemical impacts on deep groundwater and aquifers, the release of natural contaminants nor the use or occurrence of similar chemical mixtures in the shale gas industry.

The CSG chemicals project was to provide information to the community and regulators while informing decision-making concerning with the CSG industry. NTN was initially informed by the National Industrial Chemicals Notification and Assessment Scheme that the report would be released by end of 2013. However, over two years later, no information has been forthcoming and extraordinarily, regulators have told Senate Estimates the assessment aimed to assess the risk, but not actual effects of the potentially toxic chemical cocktails used in CSG. Meanwhile, the industry has drilled many many more wells, air pollution has increased and communities and their health have suffered.

Unlike the industry association, APEA, we are not privy to details of the project delays, however we have been informed again through Senate Estimates that the delays were partly due to recalculations of the predicted environmental concentrations (PECs) of the chemicals used in CSG.

The calculations of PECs are part of the risk assessment paradigm and while they depend on basic physico-chemical data (some of which we are informed is missing), PECs also require information on the distribution of the chemical; how much is used, how much is lost, how much volatilises or degrades, how much remains in the ground.

The manufacturer, industry associations and chemical users who have significant commercial interests in the outcome often provide this information, compounding the need for public input and independent verification. However, the study has not been

transparent and no affected communities or public interest NGOs have been involved. The only oversight is by the Federal Government's independent expert scientific committee on coal seam gas and large coal mines (IESC) which is heavily weighted with industry interest.

We are deeply concerned that the real world exposure of the environment and residents including vulnerable children with CSG contaminants has been ignored while the authorities rely on the desktop modelling of probability of exposure. The industry's own data on releases and emissions confirm the preliminary sampling, which has demonstrated contamination around homes and properties with chemicals known to be released by the CSG industry in large quantities. Relying on desktop risk assessment while real world exposure continues is totally unacceptable and in our view, immoral and unforgiveable.

Terms of Reference

In response to the Terms of Reference (b) *'The health, social, business, agricultural, environmental, landholder and economic impacts of unconventional gas mining'*, NTN is submitting our recent report: *Unconventional Gas Exploration and Production: Human Health Impacts and Environmental Legacy*, November 2015 as a fully referenced report into the health and environmental impacts of chemicals associated with UG mining.

Further to TOR (a) and (b) we would also like to highlight the significant lack of data on the UG industry's chemical use and emissions and resultant exposures to residents and the environment making risk assessment an impossible task.

Despite many years of operation, the UG industry still does not have adequate and effective ways to manage its contaminated wastewater, solid wastes and its impact on groundwater aquifers.

As is demonstrated by the Australian government's National Pollutant Inventory¹ the UG industry cannot control its toxic air emissions, which continue to escalate each year.

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¹ <http://www.npi.gov.au/>