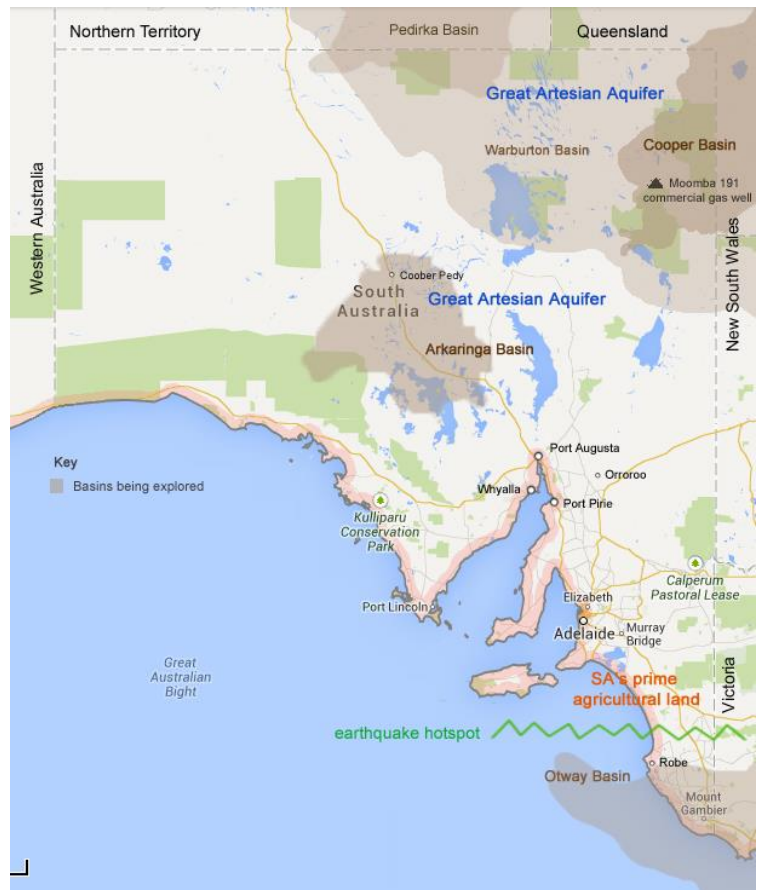


Unconventional Gas Fact Sheet

Why are there serious concerns over the development of unconventional gas (coal seam, shale, and tight gas) in South Australia?

The gas industry has already commenced activity in the Cooper Basin, the Arkaringa Basin which contains the great Artesian Basin and the Otway Basin. Given the massive gas reserves, the industry development is likely to become extensive.



Brown-shaded areas are actively being explored for unconventional gas extraction

There are serious threats to human health from unconventional gas at many levels. They relate to:

1. **Land access and degradation:** reaching and extracting gas in fossil fuel deposits involves drilling and sometimes hydraulic fracturing (fracking) of underground structures; an activity that requires vehicular access to and permanent alienation of land, sometimes prime agricultural land, sometimes treasured natural habitat. This adversely affects the well-being of farming families using the land, the well-being of communities that enjoy the habitats and damage to ecosystems from clearing native vegetation.
2. **Underground chemical injection:** to free gas trapped in shale or coal seams, large volumes of chemical-containing-liquids are forced under pressure into the seams. Most of these chemicals have not been assessed for human health safety and there is a risk of them entering underground aquifers or groundwater, where risks are largely or entirely unknown. Water contamination can potentially also affect food and water security for humans (and animals). Regardless of where activity takes place, no safe modelling of water can be accurate because leakage and flow from aquifers is not well understood and difficult to measure.

3. Air pollution: Volatile organic compounds and hydrocarbons (including the carcinogen benzene) are released during unconventional gas operations, from venting, holding tanks, ponds, compressors and other infrastructure. Some of these mix with nitrous oxides from diesel-fuelled machinery creating ground-level ozone. This air pollution poses a probable risk to workers and the people living nearby.
4. Global climate: gas is simply another fossil fuel that, when burnt, inexorably will add to the green-house gas burden of our planet and add to the serious health risks of climate change. The use of gas in power generation has been promoted because it has a significantly lower carbon footprint than coal but when fugitive emissions from well-heads and transit and distribution of gas are measured, the carbon footprint may be little better than coal.

The Medical Response

We have a responsibility as physicians to advocate for the health of current and future citizens. The risks are so potentially serious, so difficult to manage and so likely to be long-lived, that Doctors for the Environment Australia (DEA) holds the position that the further development of the unconventional gas industry in South Australia has to be seen as unsafe unless it complies with three principles of public health contained in the SA Public Health Act, namely:

1. The Precautionary principle [If there is a perceived material risk to public health, lack of full scientific certainty should not be used as a reason for postponing measures to prevent, control or abate that risk]. There is currently a lack of scientific evidence to support safety of Unconventional gas to human health and its determinants.
2. The Sustainability principle [Public health, social, economic and environmental factors should be considered in decision-making with the objective of maintaining and improving community well-being and taking into account the interests of future generations]. Development therefore requires local community approval and accurate portrayal of risks and benefits to communities, both present and future.
3. The principle of Prevention [Administrative decisions and actions should be taken after considering the means by which public health risks can be prevented and avoided]. Development therefore needs to follow, not precede, plans for health risk minimisation and avoidance.

From South Australian Public Health Act 2011 available from

<http://www.legislation.sa.gov.au/LZ/C/A/South%20Australian%20Public%20Health%20Act%202011.aspx>

DEA will undertake a program of public education about the potential health risks of unconventional gas developments, and will advocate to government for better assessment, regulation and monitoring of the industry. DEA will liaise with rural doctors, rural councils, farming and agricultural groups, and regional newspapers in support of this goal and will oppose unconventional gas developments that fail to incorporate these basic public health protection principles. DEA notes that the economic and social justification for expansion of unconventional gas development in South Australia, with its currently identifiable risks, is lacking, given available alternate sources of energy which are cleaner, and more sustainable.

January 2014



Healthy planet,
healthy people

67 Payneham Road
College Park SA 5069
P 0422 974857
E admin@dea.org.au
W www.dea.org.au