

\My name is Dr Patricia Phair and I am a professional scientist (Chemistry).

I strongly oppose introduction of unconventional gas extraction and use in Victoria for several reasons.

i) Extraction of the gas requires **fracking** of the underground rocks where the gas is located. This process involves injection of a **toxic mixture of chemicals** under pressure into the rock strata and requires a **large amount of water** as well. The initial drilling is quite violent and may result in serious movement in the rocks or **earthquakes**. This process also releases **particulate matter into the atmosphere** – a **serious health hazard**. The injected water seeps into underground aquifers and almost inevitable results in **contamination of these precious water supplies** (needed for livestock and agriculture) with the fracking chemical mixture. **Fumes** from this activity are also toxic and can have serious effect on nearby residents, **especially children**.

ii) Eastern Victoria contains **some of our best agricultural land** and is VERY important for **food production**, a factor which is becoming increasingly important as the global **population increases**, as well as being of immense **economic importance** to the State.

iii) If Australia is to have any hope of reducing its **greenhouse gas emissions** to anything like a **safe level** over the next 20plus years, it simply **MUST** not develop any further sources of fossil fuel for energy generation. Already our generation of greenhouse gases is out of control, and is having a massive impact on our climate and environment.

iv) Finally, it is totally unnecessary to consider unconventional gas as an energy source in Victoria as there are **great options for ZERO-EMISSION ENERGY** at our doorstep. Firstly, the geology of Gippsland can provide last quantities of **geothermal energy**. Then there is the possibility of developing massive **off-shore wind farms** along the southern coast which is particularly windy. There can also be development of **solar** energy facilities and **some hydro power**.

I have live and worked in Scandinavia and Germany where low emission power generation is being developed to an extraordinarily high level and has become increasing dominant over recent years. If little Denmark can achieve so much, why can't Victoria?

Sincerely

Dr Pat Phair