

## Independent Scientific Panel Inquiry 2017

The biggest threat to human civilisation in Western Australia and globally is global warming caused by burning fossil fuels - coal oil and gas that provide our energy needs.

In my lifetime (70 years) CO2 emissions atmospheric concentrations have risen from just above 300ppm to 400ppm as a result of fossil fuel use. The last time CO2 levels were this high was 3 million years ago in the Pliocene when global temperatures were 3 degrees C higher than today and sea level was 25 metre higher.

<https://scripps.ucsd.edu/programs/keelingcurve/2013/12/03/what-does-400-ppm-look-like/>

[https://en.wikipedia.org/wiki/Pliocene\\_climate](https://en.wikipedia.org/wiki/Pliocene_climate)

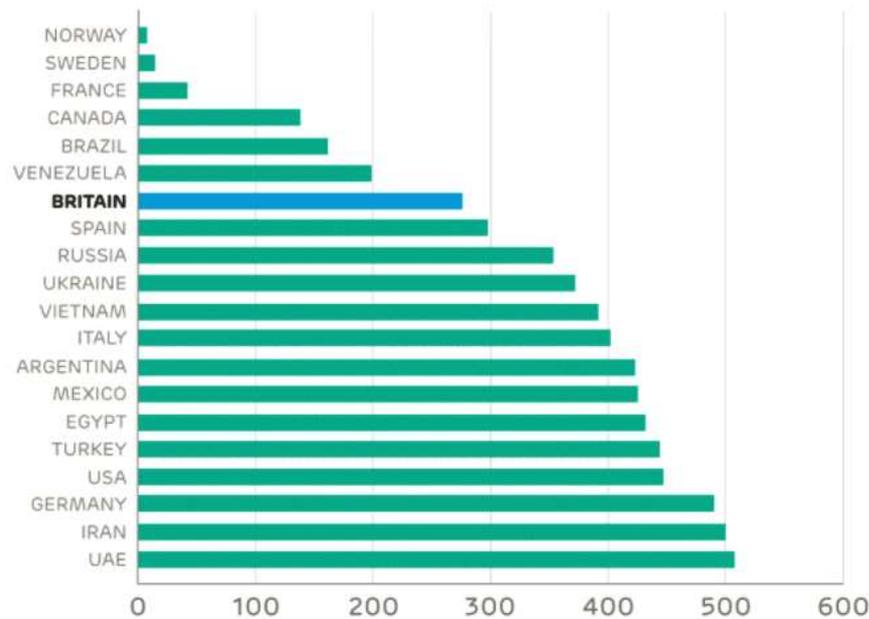
This information tells us that reducing CO2 emissions needs to be given our highest priority. For electricity generation the best way to achieve this is hydro or nuclear. Three countries Norway, Sweden and France have the lowest CO2 emissions in the world all use hydro or nuclear or both.

See Low Carbon Electricity League Table below.

### LOW CARBON ELECTRICITY LEAGUE TABLE

(g/kWh)

2016

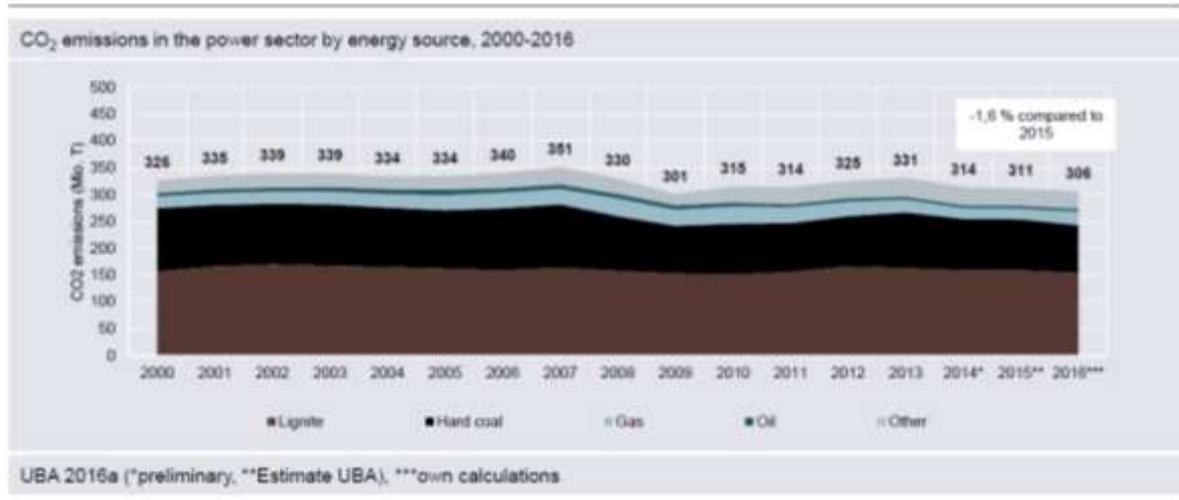


Source: Drax Electric Insights Q3 2017

<http://www.telegraph.co.uk/business/2017/11/15/carbon-tax-thrusts-britain-towards-top-low-carbon-energy-league/>

Unfortunately Australia with one of the highest emission rates in the world at 800g/kWh, has banned hydro and nuclear for political reasons, which only leaves intermittent renewables and gas.

Germany has installed 100GW of intermittent renewable energy in about 15 years but still has CO2 emissions near 500g/kWh which are unchanged at just over 300million tonnes annually since 2009.



[https://www.agora-energiewende.de/fileadmin/Projekte/2017/Jahresauswertung\\_2016/Die\\_Energiewende\\_im\\_Stromsektor\\_2016\\_EN.pdf](https://www.agora-energiewende.de/fileadmin/Projekte/2017/Jahresauswertung_2016/Die_Energiewende_im_Stromsektor_2016_EN.pdf)

This is because like Australia, coal is the primary source of power generation which is also used as a backup for intermittent renewable energy.

By comparison the UK has decreased CO2 emissions from over 500g/kWh to just under 300g/kWh in just 4 years by moving from coal to gas.

Gas fracking in WA can also allow us also move from coal to gas reducing our CO2 emissions and providing fast backup for intermittent renewable energy sources like wind and solar.

Experience from overseas, particularly the USA shows that with the correct regulatory constraints gas fracking can be conducted anywhere in WA with little or no impact on ground water or the environment.

<http://www.popularmechanics.com/science/energy/g161/top-10-myths-about-natural-gas-drilling-6386593/>

A well-regulated fracking gas industry will give more energy security for WA by providing another fuel source for light road transport and could also reduce our electricity CO2 emissions.

I therefore ask the Independent Scientific Panel Inquiry to recommend that fracking and unconventional gas activities across WA are allowed to proceed with the intent of providing more fuel security for road transport and the replacement of coal for electricity generation to reduce CO2 emissions.