3/6/15
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Australia's future emissions reduction goals

I make a submission to the Climate Change Authority's (CCA) special review into Australia's future emissions reduction goals as a private citizen who has been aware of the climate change issue for over 40 years.

I have increasingly become more concerned as CO_2 concentrations in the atmospheric continue to rise rapidly due to the lack of community and political will to implement effective CO_2 mitigation measures globally.

Specifically these concerns are;

- Total accumulative CO_2 emissions since the 18th century have doubled in just the past 35 years.
- Atmospheric CO_2 concentrations have risen from the pre-industrial baseline of 280ppm to 400ppm today.
- Paleoclimate history shows that when CO_2 rises, so does global temperature and sea level.
- With current annual CO_2 emissions growth greater than 2%, total accumulative CO_2 emissions will double within the next 35 years.
- The IPCC has warned that if this current emissions pathway is maintained, CO_2 levels will be 900ppm by 2100 causing a dangerous climate change event.
- Paleoclimate history shows that climate change events are also extinction events.
- The only successful decarbonisation energy transition in the past 40 years has been France which replaced its fossil fuel electricity generation with 58 nuclear reactors in just 20 years. Today French electricity generation has one of the lowest CO_2 emission rates in the world, emitting just 80gms of CO_2 per kWh. This is 6 times less than Germany which is pursuing intermittent renewable energy backed by fossil fuels and 10 times less than Australia which mainly uses coal.
- The global community regards nuclear as unsafe yet UN reports show that the total radiation death toll from the three major nuclear accidents to be about 50 (all at Chernobyl which did not have a containment dome).
- The UN also reports that the carbon (biomass and fossil) energy pollution death toll is 8 million per year or 900 per hour.
- Despite this it is still considered socially acceptable to use fossil carbon fuels and freely dump the waste (CO_2 and smoke) into the atmosphere.
- Yet perversely it is not considered socially acceptable to use nuclear power, capture the waste and store it safely.
- While Australia a wealthy country we are one of the world's worst per capita CO_2 polluters.

Until there is a global commitment to replace fossil fuel electricity generation with nuclear there will be no significant reduction in global fossil carbon emissions.

Australia is generating 80% of our electricity from fossil fuel and will soon need to replace its aging coal burning fleet of power stations. Replacing this aging fleet with nuclear (similar to France) could be a modern demonstration model of successful energy decarbonisation for the world, if the following conditions can be met.

- Political bi partisan commitment to CO_2 emission reduction and the replacement of fossil fuel (particularly coal) burning power stations with nuclear.

- A community awareness and education program of these issues based on scientific and engineering evidence not anti-science political ideology. Requires much greater media involvement by government, climate scientists and energy engineers. Currently the anti-science beliefs of two political groups, climate denial and anti-nuclear, dominate public and media perception on climate change and emissions mitigation.
- A world's best practice Nuclear Regulatory regime to facilitate and manage nuclear energy generation.
- The education and training of nuclear engineers and operators. A nuclear powered submarine fleet for the navy would be a way to fast track Australian expertise in this industry.

For your information

Tom Bond