

Productivity Commission Investing in cheaper, cleaner energy and the net zero transformation Inquiry

Peter Butler

I have only just become aware of this inquiry and submissions close tomorrow, so I don't have time for a proper response. Instead I will just present a few dot points because I feel quite strongly about these issues.

- Anthropogenic Climate Change is the biggest environmental issue to face humanity since the end of the last ice age. And we are causing it ourselves. We have known for decades we are causing it, what the causes are and what we need to do to stop it, but vested interests interfere with the serious action that is called for. While mitigation and adaptation will come at a cost, so will increased storms (including cyclones), rain events and flooding, droughts, hail storms and any other extreme weather events I may have missed. Lismore is still recovering from floods a few years ago but could be dealing with another one at any time
- Renewable energy should be integrated with society, not imposed on any one group. It should not "sterilize" productive farm land – but can be integrated with agriculture if done sensibly. Solar panels can be spaced out to allow light to continue to promote the growth of pasture and crops, while providing shade for livestock, or floated on dams which will have the additional benefit of cooling the panels and increasing efficiency.
- There should be more effort to put solar panels on buildings and car parks in cities and towns, where more of the consumption of energy happens. Putting solar panels over car parks provides shade for cars, which reduces the energy needed to run air conditioners when people leave the car park to pump out the accumulated heat. This also has comfort benefits for car users, although this may not have economic benefits, it improves people's lives and well being.
- More batteries are needed to "flatten the load", charging when more power is available and discharging when needed. These could be the large industrial scale batteries, or smaller community batteries.
- More attention needs to be paid to passive design elements. A hundred years ago, houses would probably not have been built without verandahs. Use of shade structures, window tinting, avoiding north facing windows, and other simple design features would reduce the need for cooling – which is becoming more of an issue as the climate warms up. Development regulations should be changed to ban the use of black roofs, which are becoming common in new subdivisions and which will absorb significant amounts of heat that air conditioners will then have to pump out. Making better use of natural light also helps reduce energy use. Simple things like painting houses white have been effectively keeping heat out in Mediterranean countries for centuries.
- It is probably outside the scope of this inquiry (I haven't had time to read the interim report, sorry) but we need to stop cutting down native forests and suburban trees, which are carbon sinks and which also provide a cooling effect in the immediate area.
- The previous two dot points offer solutions to climate change – both mitigation and adaptation – which, once in place, cost nothing to operate and continue to provide benefits for many years.
- More work needs to be done on harnessing the power of tides and waves. The majority of Australians live near the coast, so generating energy close to population centres reduces transmission losses and also reduces the need for transmission infrastructure. Wave and

tidal energy would be capable of producing energy all the time, unlike wind and solar which are intermittent (but still very useful).

- The ideal system for generating energy would include various technologies – wind, solar, wave, tidal, geothermal (where appropriate) such that when one stops generating, another takes on the load.
- Energy efficiency needs more attention, we wouldn't need to generate so much energy if we used less. This also has financial implications for households and businesses when cost of living issues are significant.
- Electric Vehicles can significantly reduce pollution – not just carbon dioxide but nitrous oxides, particulates and others. More electric vehicles – charged from an energy grid which is increasingly supplied by renewable energy – will not only reduce carbon emissions but also improve air quality in towns and cities. More charging infrastructure is needed to overcome range anxiety and issues for renters and multistorey apartments
- Most of the technologies to improve energy efficiency and renewable energy already exist, the only thing missing is implementation on a big enough scale to cut our carbon emissions before it is too late. The limitation is not technological, but political
- Most forms of renewable energy have relatively short payback periods, so although there is an upfront cost, they often pay for themselves within a few years.
- Although in absolute terms, Australia is not a major emitter of greenhouse gases, on a per capita basis we are. We are a relatively wealthy country and we can afford to pay the upfront cost to make the shift to net zero energy sources, serving as an example to others and giving us the credibility to be able to advocate for reduced emissions by other countries.