



4 October 2019

Standing Committee on the Environment and Energy  
House of Representatives  
Environment.Reps@aph.gov.au

Dear Chair,

**SUBMISSION ON THE PREREQUISITES FOR NUCLEAR ENERGY IN AUSTRALIA**

We kindly request that you accept our late submission to your inquiry on the prerequisites for nuclear energy in Australia.

The CEC is the peak body for the renewable energy industry in Australia, representing over 750 businesses working in rooftop and large-scale solar, wind and hydro energy, and energy storage.

The clean energy industry is disappointed that the Australian Parliament has prioritised an inquiry into nuclear power in Australia. Given our understanding of the costs and timeline for developing a nuclear power industry in Australia, we believe there are much more pressing and worthwhile topics that the Australian Parliament might dedicate their time and energy on understanding and addressing, such as how we can break the impasse and finally put in place a long-term, integrated energy and climate change policy.

The transition of the Australian system is not being particularly well managed at present, and inquiries such as this are not only misdirected, but also act as a distraction to addressing the real challenges confronting investors, customers and institutions attempting to facilitate and respond to this transition. Reflecting this concern in respect to this inquiry, the CEC submission is subsequently brief. There are much more serious matters that deserve our attention.

Nuclear power has been analysed and considered regularly over the past decades in Australia, and the conclusion continues to remain the same: it is too costly, it would require a minor miracle to secure the social licence required to secure community support for any given facility, and it would take too long to establish. These factors must be viewed in the context of the extraordinary progress of renewable energy and energy storage, and their potential to deliver a reliable, affordable and clean power system for Australia.

**Cost**

CSIRO's GenCost study 2018<sup>1</sup> notes that the small modular reactors being considered as part of your inquiry are substantially more expensive than almost every other form of electricity generation

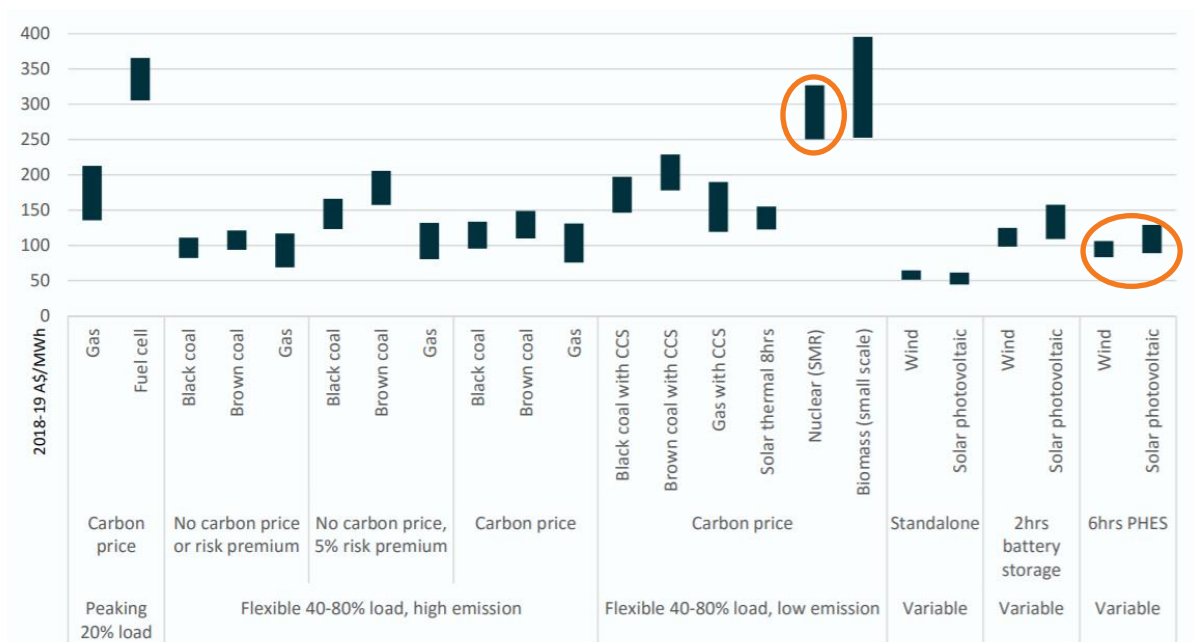
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<sup>1</sup> Graham, P.W., Hayward, J, Foster, J., Story, O.1 and Havas, L. 2018, GenCost 2018. CSIRO, Australia. See page <https://publications.csiro.au/rpr/download?pid=csiro:EP189502&dsid=DS1>

technology, with current costs in excess of \$250/MW/hr, and with no expectation of cost reductions in the coming decades.

By comparison, the prices of wind and solar energy are in the region of \$50/MWh, and recent power purchase deals show that firmed wind and solar costs are now below \$70/MWh<sup>2</sup>, and are expected to continue to fall with continuing improvements in technology costs and construction efficiencies.

**Figure 1: Comparative technology costs – Calculated levelised cost of energy by technology and category for 2020**



NB. PHEs = Pumped hydro energy storage

Source: GenCost 2018, CSIRO

There has been a rapid increase in the number of utility-scale batteries being committed across Australia, combined with a proliferation of pumped hydro projects being investigated. There is no shortage of potential from utility scale batteries or pumped hydro to support the continued deployment of variable renewable energy projects. These storage projects can play a significant role to complement and support the continued deployment of renewable energy in a way that delivers a more resilient and reliable energy system.

However a lack of federal energy policy and combination of a range of regulatory challenges mean that investment confidence in large-scale renewable energy and the accompanying energy storage is fragile. As Australia’s coal fired generation continues to close, there is a clear need for policy and regulatory reform to support the continued deployment of renewable energy and energy storage that will secure system reliability and lower energy prices.

<sup>2</sup> <https://reneweconomy.com.au/snowy-hydro-smashes-price-benchmarks-for-fair-dinkum-wind-and-solar-75417/>

## Waste

By definition, clean energy projects such as wind and solar, produce no emissions and no waste. By contrast, large amounts of waste are produced by nuclear energy generation (unlike the low to intermediate level of waste produced in nuclear medicine) and requires safe storage for thousands of years.

It is beyond our comprehension as to why Australia would contemplate replacing one dirty energy production technology with another that produces large amounts of highly hazardous waste, when it could fulfil its objectives of zero emissions with technologies that are lower-cost, faster to develop and readily available now.

## Timing

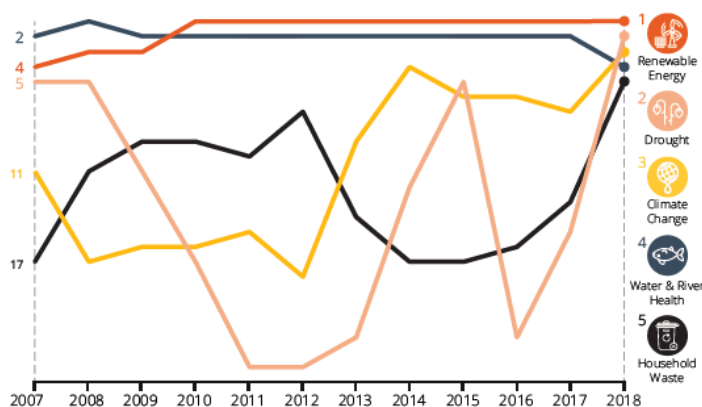
Renewable energy projects can be deployed in between 6 and 18 months, once planning approval has been obtained and financial commitments established. Our understanding is that nuclear power would take in the order of 15 years to develop.

The strong investment in renewable energy developments over the past three years have contributed to Australia rocketing past 20 per cent of its energy supply from renewable energy sources. If this current level of deployment continues, Australia could fully decarbonise our electricity system with renewable energy and energy storage long before 2040.

## Social licence to operate

The Australian public have continuously expressed strong support for renewable energy, over and above any other form of energy generation. The IPSOS Climate Change Report 2018 found that the deployment of renewable energy remained the number one environmental issue for action among Australians.

**Figure 2: Top 5 environment issues – Ranking over time<sup>3</sup>**



Source: IPSOS

By contrast, when you consider the very low appetite that Australians have for nuclear energy, it is fanciful to expect nuclear energy could be deployed within timeframes which had a chance of making a meaningful contribution to limiting global temperature rises to 2 degrees Celsius or below. Solutions are needed now, not in 15 years' time.

<sup>3</sup> Climate Change Report 2018, IPSOS, <https://www.ipsos.com/en-au/2018-ipsos-climate-change-report>

While noting that the deployment of renewable energy enjoys very strong, broad support from the Australian public, our industry does not take our social licence to operate for granted. We continue to evolve and improve the way we engage with local communities and deliver real employment and economic benefits and opportunities for regional and rural communities.

And these renewable energy projects are delivering very substantial benefits. The CEC tracks direct employment associated with new build clean energy projects, and 8,000 direct construction jobs were created between 2016 and 2019 for those projects commissioned during that timeframe. A further 16,650 direct jobs are also expected to be created on projects which have reached an investment decision and are currently under construction or due to commence shortly. We also note that there could be in the order of a further 180,000 indirect jobs<sup>4</sup> associated with these projects that have been either commissioned or are committed to proceed.

We trust that these brief comments share some further insight into the extraordinary progress and benefits of renewable energy and energy storage, and we urge the committee to assess the viability of nuclear power against these important factors.

Should you have any queries about our submission, please do not hesitate to contact our Director Energy Generation, Anna Freeman, on [REDACTED].

Yours sincerely,

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Kane Thornton  
Chief Executive

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<sup>4</sup> See the CEC's submission to the Senate Select Committee on Jobs for the Future in Regional Areas for further details.  
<https://assets.cleanenergycouncil.org.au/documents/advocacy-initiatives/submissions/senate-select-committee-jobs-for-the-future.pdf>