



9 December 2019

The Hon. Taylor Martin MLC
Chair, Standing Committee on State Development
Parliament House
6 Macquarie Street
Sydney NSW 2000

Via Email: state.development@parliament.nsw.gov.au

Dear Mr Martin

Thank you for the opportunity to provide evidence at the Standing Committee on State Development's hearing on 11 November 2019 regarding your inquiry into the *Uranium Mining and Nuclear Facilities (Prohibitions) Repeal Bill 2019*.

On reviewing the draft record of the evidence given on the day, we found that some of the information provided to the Committee would benefit from typographical correction. Therefore, please find the relevant marked up pages attached.

In addition to corrections on the draft record of evidence, we thought some remarks by ANSTO CEO, Dr Adi Paterson, warranted clarification, details of which are provided below:

1. Potential Siting of SMRs

“Dr PATERSON: I believe it is important for all pathways to be considered from a policy perspective, because good policy is based on the broadest approach that you can do to the science and engineering. My sense at the moment is that we should not forgo the opportunity to review where we are. My sense, if you look at the historical structure of power supply in New South Wales, New South Wales, in principle, could be a good place to study the application of small modular reactors from an academic point of view. My sense is that the structure of that power distribution and the likely demographic changes would favour high energy density sources that can be placed appropriately distant from communities.”

- Clarification: By “distant”, Dr Paterson meant similar distances to those that are currently in place between New South Wales coal plants and nearby communities. This is based on the idea of retro-fitting coal plant sites with Small Modular Reactors as a potential low cost option. International experience would show that from a safety perspective, there is no requirement to have nuclear plants in remote locations.

2. Nuclear Power in France

“The Hon. SCOTT FARLOW: And France has, of course, a significant nuclear footprint.

Dr PATERSON: Yes, it is over 90 per cent of its energy, and that was because of the 1973 oil crisis that they have made that sovereign energy decision and I think it has proven to have a certain wisdom associated with it.”

- Clarification: Dr Paterson was making the point that low carbon technologies (nuclear, biofuels and waste, and geothermal, hydro, and solar plus wind) amount to 90 per cent of electricity production in France, with the balance being oil, coal, and natural gas. In 2017, nuclear energy equated to 80.1 per cent of total electricity production in France.

We also have provided an answer to the Question on Notice, which can be found overleaf.

Should you or other members of the Committee require any assistance during the course of your inquiry, please do not hesitate to contact me

Thank you again the opportunity to contribute to this important process.

Yours sincerely

Steve McIntosh
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Office of the CEO

Response to Question on Notice

New South Wales Legislative Council

Standing Committee on State Development

Inquiry into the *Uranium Mining and Nuclear Facilities (Prohibitions) Repeal Bill 2019*

Monday, 11 November 2019

Sydney

1. **The Hon. MARK LATHAM:** *To move to 20 per cent nuclear, how many new nuclear power plants does China need to build?*
2. **Dr PATERSON:** *I am uncertain of the exact numbers that are required. I understand that there will be a presentation from some other groups and they may well have those detailed figures for you. We can provide that as a written submission if necessary.*

Answer:

In October 2018, China's *National Development and Reform Commission Energy Research Institute* advised that China's nuclear generating capacity must increase to 554 GWe by 2050 if the country is to play its part in limiting the global temperature rise to below 1.5°C, in line with the Paris target. To meet this target, the share of nuclear power in China's energy mix would increase from four per cent to 28 per cent over this period. This represents nearly 400 additional plants, assuming an average plant size of 1400 MW.

China currently has 12 reactors under construction and has announced plans to construct a further 42. In addition, 92 reactor units have been proposed and in the longer-term, China is proposing a further 78 reactor units.

Source: <https://www.world-nuclear.org/information-library/country-profiles/countries-a-f/china-nuclear-power.aspx>