GNE ADVISORY | **GNE Advisory is a law practice dedicated to all aspects of the civil nuclear sector.**

Submission to the Environment and Communications Legislation Committee regarding its inquiry into the Environment and Other Legislation Amendment (Removing Nuclear Energy Prohibitions) Bill 2022

I make this submission as an Australian citizen and Australian qualified lawyer, as well as an internationally recognised legal adviser on all aspects of the civilian nuclear energy sector.

SUBMISSION

I support overturning the prohibitions on nuclear energy as an important step towards facilitating the responsible consideration of nuclear energy in Australia. Overturning the prohibitions is one of a number of steps that would need to be taken to give Australians the option to utilise nuclear energy in the future.

Nuclear energy generates proven, reliable, low carbon and sustainable baseload power in more than 30 countries today. More than 50 countries around the world that do not have nuclear energy today have recognized the potential contribution of nuclear energy to decarbonised, reliable energy systems and are working towards or actively implementing nuclear energy programmes.

There is significant global interest in Small Modular Reactors ("**SMRs**"), as recommended for consideration in Australia by the House Standing Committee on the Environment and Energy in December 2019. Important SMR projects are underway in the United States, Canada and the United Kingdom. These include:

- Ontario Power Generation's ("**OPG**") SMR construction project at its Darlington site in Ontario, Canada. OPG will be deploying GE Hitachi Nuclear Energy's ("**GE-Hitachi**") BWRX-300 SMR design, with construction planned to be completed by 2028 and commercial operation commencing in 2029.
- Utah Associated Municipal Power Systems ("**UAMPS**") Carbon Free Power Project at the Idaho National Laboratory site in the United States. UAMPS is a public power consortium intending to deploy a NuScale SMR, with the first module slated to commence power generation by 2029, and full operation of the remaining modules to begin shortly thereafter. UAMPS has received significant financial support from the US Government, in the form of cost-share awards to fund the development and construction of the project.
- The United States' Advanced Reactor Demonstration Program ("**ARDP**") Projects. The ARDP is a cost-shared partnership program aimed at furthering the development of advanced reactor concepts. In December 2020, the ARDP released its initial round of funding to TerraPower and X-Energy to build demonstration plants using their SMR technologies. X-Energy will be building its demonstration Xe-100 SMR in partnership with Energy Northwest in Washington State, United States. TerraPower will be building its demonstration Natrium SMR concept, co-developed with GE-Hitachi, at a retiring coal plant in Kemmerer, Wyoming.
- Global First Power's ("**GFP**") MMR Project at Chalk River Laboratories, Ontario, Canada. GFP is a joint venture between OPG and reactor developer Ultra Safe Nuclear Corporation ("**USNC**"), which is developing a commercial demonstration project to site, construct and deploy USNC's Micro Modular Reactor at Canadian Nuclear Laboratories' Chalk River site by 2026.
- The Rolls-Royce SMR, which was accepted for Generic Design Assessment by the UK's Office for Nuclear Regulation in March 2022. Regulatory approval is expected by mid-2024, with Rolls-Royce having recently completed an initial siting assessment review in November 2022. The UK Government has provided £210 million in funding towards the design of the SMR, in furtherance of a commitment to deliver new and advanced nuclear power as part of its "Ten Point Plan for a Green Industrial Revolution".

Considerable time and effort is needed to successfully bring the benefits of nuclear energy generation to a country for the first time. If Australia is to have the option to procure SMRs once projects such as the above are realised and SMRs become commercially available, we will need to commence as soon as possible feasibility studies and infrastructure development across a broad range of areas (legal, regulatory, institutional, stakeholder engagement, human resources, market structures and physical infrastructure).

The International Atomic Energy Agency has developed an internationally accepted and universally followed roadmap for countries considering the introduction of nuclear energy generation for the first time, in the form of the "IAEA Milestones Approach". This Approach is currently being utilised by more than 50 countries that are working to make informed decisions about their energy futures and create energy optionality that includes nuclear energy.

We should ensure that all low carbon energy generation options are available to Australians in the future. Overturning the prohibitions on nuclear energy is one important step towards creating nuclear energy optionality. It would signal that Australia is ready to engage in a responsible examination of the potential benefits that nuclear energy presents our country; benefits that are already, or soon will be, available to so many other industrialised nations and our regional neighbours.

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