



SUBMISSION TO THE

Joint Standing Committee on Treaties Generation IV Nuclear Energy – Accession Inquiry

APRIL 2017



ATSE SUBMISSION TO THE JOINT STANDING COMMITTEE ON TREATIES GENERATION IV NUCLEAR ENERGY – ACCESSION INQUIRY

The Australian Academy of Technology and Engineering (ATSE)¹ welcomes the opportunity to provide comment to the Joint Standing Committee on Treaties on the *Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems*. ATSE strongly supports Australia's accession to the International Collaboration on Research and Development (R&D) of Generation IV (Gen IV) Nuclear Energy Systems framework.

ATSE's 2014 Action Statement on Nuclear Energy² recommended Australia's continued participation in international R&D collaborations such as the Gen IV Forum (the Forum). The Academy was therefore pleased to see Australia join the Forum in June 2016. Australia's membership of the Forum reflects the valuable contributions it can make to the development of next generation nuclear energy systems. To ensure that Australia can fully engage with and benefit from the Forum's R&D program, ATSE advises the Committee to approve Australia's accession to the framework and its extension.

The Australian Nuclear Science and Technology Organisation (ANSTO) have world-class nuclear materials engineering capabilities, and Australian universities including ANU and UNSW also have relevant expertise. The structure of the Forum will allow Australia to participate in cross-cutting activities where its specialist expertise in material science can be most effective. Breakthroughs in these areas offer the potential for enhanced safety, greater efficiency, and lower cost nuclear reactors. Joining the Forum will provide important partnership and collaboration opportunities with overseas universities and research organisations, and allow Australia to capitalise and build on its relevant research and development strengths. In the longer term, this may lead to the development of potential supply chain opportunities for specialist Australian businesses.

Participation in the Forum will ensure that Australia remains abreast of new developments in nuclear technologies, provide unique opportunities to attract and train young researchers in these advanced techniques, and expand our influence to help achieve our national non-proliferation goals. It will help to grow Australia's nuclear science expertise, and ensure Australia retains its seat on the International Atomic Energy Agency (IAEA) Board of Governors by remaining the most advanced country in our region in terms of nuclear science and technologies.

Participation in the Forum will ensure that Australia is able to effectively consider and evaluate the potential of Generation IV technologies. Energy systems around the world, including in Australia, urgently need to be decarbonised. If Australia determines that its future energy needs would be best met through inclusion of nuclear generation, developments from the Gen IV program – once proven – may be suitable for deployment within Australia. Furthermore, growing Australia's nuclear research capabilities and international linkages may be beneficial to support future research and development work in the thorium and fusion technologies. Whether or not nuclear energy is to play a role in Australia's future energy mix, Australia has much to gain by joining this collaboration.

¹ ATSE advocates for a future in which technological sciences, engineering and innovation contribute significantly to Australia's social, economic and environmental wellbeing. The Academy is empowered in its mission by some 800 Fellows drawn from industry, academia, research institutes and government, who represent the brightest and the best in technological sciences and engineering in Australia. The Academy provides robust, independent and trusted evidence-based advice on technological issues of national importance. ATSE fosters national and international collaboration and encourages technology transfer for economic, social and environmental benefit.

² ATSE (2014), Nuclear Energy is an Option [available at <https://www.atse.org.au/atse/content/publications/policy/nuclear-energy-is-an-option.aspx>]