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Building Australia's Nuclear Future: The Role of the Australian Nuclear Research and Education Network (ANREN)

Australia's acquisition of nuclear-powered submarines through the AUKUS agreement demands the development of a sovereign, nuclear-literate workforce. Meeting this challenge requires more than training submarine crews—it calls for elevating nuclear literacy among policymakers, project managers, engineers, educators and the broader public. An informed and engaged society is essential to gaining the social licence necessary for adopting nuclear technologies in Australia.

The Australian Nuclear Research and Education Network (ANREN) brings together nuclear science and engineering academics from ten universities across the country to tackle this national priority. With decades of collective experience in education, training, and public engagement, ANREN serves as a strategic nexus linking academia with government, industry, and international partners—including the United States, the United Kingdom, and organisations such as the International Atomic Energy Agency.

ANREN offers a comprehensive suite of educational pathways, from school outreach to undergraduate and postgraduate degrees, professional development and research training. These programs equip students, teachers and professionals with the critical knowledge and skills required to advance Australia's nuclear capabilities. The network also fosters collaborative research and global partnerships, strengthening national expertise and cultivating the next generation of nuclear professionals.

Given the current underrepresentation of nuclear disciplines in Australian universities, strategic investment is essential to build academic capacity through a “train-the-trainer” approach. Establishing a strong academic pipeline will ensure long-term workforce sustainability, support informed public discourse, and foster a national nuclear mindset. This presentation outlines ANREN's pivotal role in shaping a resilient, future-ready workforce to support Australia's emerging nuclear enterprise.