

Summary

The Nuclear Institute (NI) is the professional body and learned society for the nuclear industry. Representing over 3,000 professionals at all levels across the industry, from new build and operations to decommissioning, the NI sets the standards for nuclear professionalism.

The NI is supportive of the call for evidence and favours the use of Small Modular Reactor (SMR), Advanced Modular Reactor (AMR) and large scale nuclear to reach Net Zero. Without nuclear technology, the route to Net Zero would be higher risk, more expensive and uncertain.

Nuclear technology can be used to decarbonise, heat, transport and electricity through vectors such as hydrogen and synthetic fuels.

The NI is pleased to see Her Majesty's Government's (HMG) progress on nuclear policy spearheaded by the 10 Point Plan for a Green Industrial Revolution and recent Energy White Paper and looks forward to progressing siting and financing of new nuclear build.

As the voice of nuclear professionals in the UK and overseas, the NI looks forward to working with HMG to realise the advancement of nuclear technology and its role in achieving Net Zero.

Question 1:

Yes, the NI believes High Temperature Gas Reactors (HTGR) should be the preferred option to reach the primary objective (Net Zero), in conjunction with SMRs and large-scale nuclear plant, and agrees with the Nuclear Innovation & Research Office (NIRO) assessment that once the primary objective is reached, other advanced technologies may be required. As such the UK should continue Research & Development (R&D) and international collaboration into other AMR technologies, recognising that much of this supporting R&D may be common to all families of nuclear technology.

Question 2:

The NI agrees with the NIRO assessment and is not aware of any additional information.

Question 3:

The UK has been a key player in the nuclear industry from its inception but since the 1990s has lost its edge due to the 'dash for gas' and successive policy. Following the Ten Point Plan, Energy White Paper, and the requirement for progress on financing and siting of new reactors, the NI believes that the UK can regain its position as a top tier nuclear nation.



Harnessing UK capabilities in R&D, based upon our extensive design, construction, operation, decommissioning and regulatory experience of gas cooled reactors, the NI believes the UK can once again become a scientific superpower in clean energy.

Investment and certainty in SMR, AMR and large-scale new build programmes are required to stimulate manufacturing and industrial capacity in order to be able to deliver on the clean energy requirements for the UK. This is common across all forms of energy production and will allow the UK to progress beyond a scientific superpower to a clean, industrious exporter of clean energy technologies.

By delivering on a policy framework for nuclear underpinning the strategy outlined in the Ten Point Plan and Energy White Paper, the UK can provide certainty for domestic manufacturing and suppliers, further enhancing the benefits to the UK of a new nuclear programme.

Our nuclear installations and manufacturers are typically located in those areas of the UK away from the southeast and in need of economic development. Such a new nuclear programme can contribute significantly to 'levelling up' of the economy and spur a green recovery for the UK.