



WIG

The Whitehall & Industry Group
connecting the sectors



'Environment & Climate Change' Series

The Role of Nuclear Energy in a Low-Carbon Future

15 October, 2020

Expert Insight

We were joined by Jan-Horst Keppler, Senior Economic Adviser at the OECD's Nuclear Energy Agency; Stephen Speed Sinead, Director of Nuclear Energy, BEIS; and Dawn James, Vice President, Nuclear Power, Jacobs. Our panel touched on many points, including:

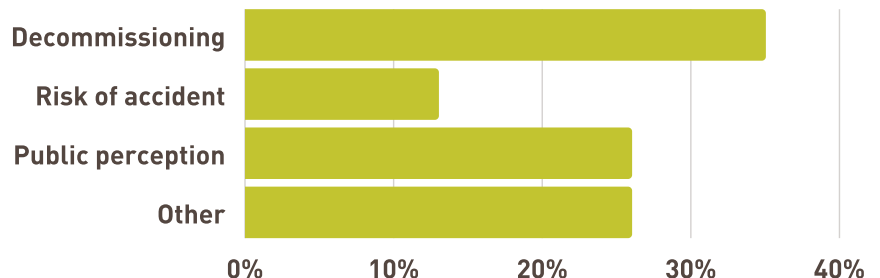
- Nuclear currently provides 40% of the UK's low-carbon energy. By 2050, the demand for clean power will quadruple. To achieve net-zero, nuclear power will need to be expanded.
- Renewables are also key, however high costs and limited technology mean that a combination of nuclear and renewables will be necessary to reach net-zero. The 2 are not in competition, but complementary.
- Renewable energy has immense battery storage needs, which are costly, while some forms of renewables, such as solar, have a lower market price and are less cost-effective under the current economic system. Similarly, no nuclear system has been built in a free-market, and requires cooperation between industry and government.
- Nuclear is clean, almost 100% GHG emission free, and operational 90% of the time, making it by far, the most efficient energy source. We also now know how to decommission nuclear power stations and dispose of waste safely, however this is a costly process.
- The biggest problem for nuclear is the nature of the risk: very low probability but significant impact, with a public perception of danger that far exceeds the danger it poses. Coal and gas, for example, are both responsible for a far greater number of deaths. However there are also immense start up costs. Innovation will be key to ensuring the roll-out of new nuclear.



Cross-sector Opinion

Over 100 attendees from the breadth of our cross-sector membership listened in, we asked them:

What is your greatest concern regarding nuclear energy?



Our members' questions

Our members asked some challenging questions. Some of the issues raised included:

- There is a clear financial case for nuclear energy in a low carbon future, however financing is an ongoing challenge for new nuclear. What can industry do to make the 'business case'?
- Is there a future for Small Modular Reactors (SMRs) in the UK?
- How is the nuclear industry preparing for COP26, and what outcomes would you like to see?
- As the grid cannot facilitate Variable Renewable Energy easily, is there a place for distributed solar energy with localised storage?

WIG members can listen to the panel's presentations [here](#)
To see our full programme of webinars, visit www.wig.co.uk