

Nuclear Innovation Programme (15-21)

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|---------------------------|---|
| Fuel Cycle | Developing the skills, experience and IP in fuels for both near and long term reactor technologies, alongside developing suitable spent fuel and waste management routes. |
| Design & Regulate | Focusing on the tools, infrastructure and regulatory understanding required to build UK design capability. |
| Build | Changing the way we build nuclear, through innovation in materials, manufacture and autonomous systems. |
| Advanced Modular Reactors | Bringing it all together and increasing the ways nuclear can contribute to net zero. |
| Facilities & Toolkits | Strategic assessment capability together with the management of UK access to domestic and international facilities. |

Behind the Themes.

| Fuel Cycle | Build | Design and Regulate | Other |
|---------------------------------|----------------------------|------------------------------|---|
| Accident Tolerant Fuels | Modular methodologies. | Virtual Engineering | Public Reference tools |
| Coated Particle Fuels | Codes and Standards | Thermal Hydraulics Models | Fast Reactor Knowledge Capture |
| Advanced Aqueous Reprocessing | HIP of Reactor Components | TH facility design | Integrated Nuclear Decommissioning (IIND) |
| Pyro Processing | Nano-structured steels. | Safety and Security toolkits | Regulatory capability and engagement. |
| Reactor Physics | Electron Beam Welding | | |
| Fast Reactor Fuels and Recycle. | Autonomous welding systems | | |

Going Global

Involvement with over 54 organisations across 16 countries, Fostering cooperation and increasing trade potential.



Going Global

US – UK Action Plan

Bilateral thematic research collaboration, led by BEIS, DOE and national labs.

- SMRs / AMRs
- Accident tolerant and non-LWR fuels.
- Fuel cycle scenario analysis
- Modelling and simulation.
- Nuclear data campaigns.
- Scope for materials archive collaboration.

Gen IV forum

Involvement in VHTR and SFR system development

- UK reps assigned for these groups from industry & academia.

What next.....2021 and beyond

