

Research Brief

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Figure 1 provides a brief look at the history of nuclear industry and key SPRU research in this field from 1970s to the present day. As can be seen there are recurrent themes regarding economics and waste management. Insights developed in the 1970s are still relevant today alongside new issues mainly in climate change mitigation strategies.

The UK's new nuclear build programme is the most ambitious in the developed world. 16GW of new nuclear is planned to be constructed by 2030. It is intended that 3.2GW of this will be completed by Christmas 2017 with the Hinkley Point C development with new reactor type European Pressurized Reactor (EPR). However no agreement has been signed between EDF and the government for Hinkley C. The government have now postponed making a decision.

Research into nuclear waste continues to be a hot topic with recent significant policy developments. Taking a more participatory approach, Cumbria County Council rejected the siting of a Geological Disposal Facility. This is despite the Parish Councils where it would be sited being in favour. The dismantled Department of Energy and Climate Change (DECC) had to review once again, UK's nuclear waste disposal policy. SPRU contributed to this consultation. In this it was recommended that an independent body is established to run new consultative frameworks. SPRU also pointed out other substantial concerns such as trust, the type of nuclear waste to be disposed, uncertainties around plutonium and MOX fuel and uncertainty in the new nuclear build programme itself. This makes assessments over the potential lifetime of the disposal facility difficult.

The UK's plutonium stock, the largest civil plutonium

SPRU is leading on a new large research consortium looking at Transitions Pathways and risk analysis for climate change mitigation and adaptation strategies (TRansRisk). Led by Prof Gordon MacKerron; SPRU will be focussing on understanding nuclear's role in climate change mitigation pathways and what risks and uncertainties exist around this potential future role.