New report on how UK should deal with future energy needs

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The report says nuclear power needs to be a key part of the UK's energy infrastructure.

A new report by the Smith School of Enterprise and the Environment at the University of Oxford says an urgent remodelling of the UK's energy infrastructure is needed.

This will be vital, the report says, if the country wants to reduce carbon emissions without 'the lights going out' and and Britain becoming reliant on imported energy supplies.

The report, 'Towards a low carbon pathway for the UK', emphasises the need to remodel the UK's infrastructure by 2025 to redress the balance between energy security and reducing carbon emissions. The Smith School's latest research highlights how with the right strategy a £100bn

world-leading nuclear industry can be achieved. It says this target can be met while providing over 75,000 jobs and guaranteeing a consistent, safe energy supply – while still meeting long term carbon emission targets.

The report explores two key aspects of the UK's energy landscape: the future delivery of low carbon energy and the initial moves towards a new-build program of nuclear power plants. It also lays out the more immediate initial steps of safely and cost-efficiently dealing with the UK's plutonium inventory.

Professor Sir David King, Director of the Smith School of Enterprise and the Environment at the University of Oxford, said: "If we are to ensure we have a safe, secure and affordable supply of energy as we move through the century we need a coherent strategy that allows the UK to develop a full suite of low carbon energy sources. It is clear from our study that nuclear must play an important part in the energy mix but to do so requires a long term pathway and critical insights.

"The recent announcements on the Franco-British Accord and the desire to create a long-term strategy for nuclear up to and beyond 2050 are welcome, but we need to address the fundamental issue that energy provision is generally a 100-year programme and requires not just a long-term view, but skills and the science base to support it."

Nuclear new build will be essential, the report notes, with a quarter of the UK's current generating capacity coming to the end of its life over the next ten years. It also highlights the need to deal with the legacy issues of nuclear energy that have existed for many years. It says failure to do so could have a detrimental effect on the whole nuclear industry in the UK.

Furthermore, if the public is to support nuclear power as a key part of the UK's future energy mix, the report argues there will need to be

evidence of lessons learnt and a coherent policy framework for the future.

An enormous challenge in meeting future electricity demand is anticipated with the predicted electrification of transport and heating increasing demand by 100% by 2050. To ensure can meet its low carbon energy targets, the report says it will be essential to use greater levels of nuclear power. This will require either much higher uranium reserves than currently identified, or a change of fuel cycle to minimise uranium use, it suggests.

The report notes that the government's current nuclear policy is to use the UK plutonium inventory to manufacture mixed oxide fuel. Coupled with the Nuclear Decommissioning Authority's stance on reprocessing spent fuel from advanced gas-cooled reactors, it suggests the de facto UK policy on nuclear would therefore involve the recycling of plutonium and uranium as fuel.

However, the report also notes that the structure of the UK nuclear industry is currently designed to accommodate the government's 'no nuclear' policy stance of 2003 than its current 'new build' policy. It concludes there is a need for some form of independent body to advise on long-term nuclear strategy and options.

Provided by Oxford University

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