



The future of low-carbon energy in the UK became a little clearer on Tuesday when a new player entered the nuclear race and the government published a shortlist of four potential carbon capture and storage projects that will compete for funding.

The Japanese industrial company Hitachi has agreed to buy the nuclear consortium Horizon, a former project of the German utilities RWE and E.ON, which they put up for sale when they decided to bow out of UK nuclear energy in March.

Hitachi, which faces a nuclear shutdown in its home market after the Fukushima incident last year, will pay £700m and hopes to construct up to four nuclear reactors across the country. Horizon plans new reactors at Wylfa on Anglesey, north Wales, and Oldbury in Gloucestershire.

The Japanese company's move means EDF, which last week threatened to hold the government to ransom for higher subsidies for its nuclear plans, will face competition in constructing new reactors. David Cameron said: "This is a decades-long, multibillion-pound vote of confidence that will contribute vital new infrastructure to power our economy. It will support up to 12,000 jobs during construction and thousands more permanent highly skilled roles once the new power plants are operational, as well as stimulating exciting new industrial investments in the UK's nuclear supply chain."

At the same time, a pot of £1bn in government funding will be made available to up to three projects that promise to be the first major demonstration of carbon capture and storage (CCS) technology in the UK.

The four shortlisted projects – chosen from eight submissions – are made up of two in Scotland (one at Grangemouth and another at Peterhead), along with one in Teesside and a project connected to the UK's biggest coal-fired power station, Drax in Yorkshire.

Edward Davey, secretary of state for energy and climate change, said: "[This] is an important step towards an exciting new industry, one that could help us reduce our carbon emissions and create thousands of jobs."

But critics complained that the government had merely put off its decision on CCS, as the precise details of the funding will not be announced until next year.

Tom Greatrex the shadow energy minister, said: "Yet again Ed Davey has kicked a decision about support for CCS into the long grass, creating more uncertainty for the industry. We are now at risk of losing our competitive advantage in developing low-carbon technologies, engineering expertise and valuable skills that we could export around the globe." owing to the difficulty of putting together a business plan that would satisfy investors.

The scale of the energy challenge facing the UK is daunting. John Loughhead, executive director of the UK Energy Research Council, said it was the equivalent of having to run an operation the size of the Olympics every two years for the next two and a half decades. He said every CCS plant would cost about £1bn for the carbon capture technology alone, in addition to the money needed to build the power plant, and about \$70 per tonne for dealing with the resulting carbon dioxide on an ongoing basis.

Stuart Haszeldine, an expert on CCS at University of Edinburgh, said the announcement had injected momentum into the important task of developing technology that will be needed to meet the UK's carbon targets. "It is unexpectedly good news. We now have four plausible designs. It's about [the Department of Energy and Climate Change] knocking heads together to see if the companies can improve the commercial terms of the deals by co-operating."