

EDF has always been clear that it is unwilling or unable to finance the projects alone, but with no private or state company seeming interested in sharing the immense financial burdens of the project, EDF may well decide not to continue with the project to build Sizewell C. Indeed the EDF board is meeting this November to discuss the future of the Sizewell project and is seeking government funding

And it seems they are to get some! In his autumn budget and spending review given on 28th October, The Chancellor, Rishi Sunak, announced £1.7bn of taxpayers' money would go towards "assisting a nuclear project [i.e. Sizewell C] in reaching a final investment decision."

However this is all rather small beer. The full cost of building Sizewell C is estimated to be at least £22bn; so £1.7bn only covers less than 7½% of the expected cost of the project, falling far short of replacing CGN's 20% stake. Will this be enough for EDF to decide to go ahead?

In another effort to find extra funding for Sizewell C the UK government announced plans to fund the construction of the plant by what is called the Regulated Asset Base funding model, which essentially involves a levy on household electricity bills to help pay for the project. With electricity bill already rocketing, this not likely to go down well with electricity consumers.



Sizewell C: artist's impression. It shows it adjacent to Sizewell B and very near the sea

In another sign that the government has not given up on nuclear power, it was reported in the *Times* in September that ministers were in talks with US energy corporation Westinghouse to build a nuclear power station at Wylfa, where Hitachi had given up plans to build one there previously.

UK SMR PLANS

In his autumn budget and spending review mentioned above, Rishi Sunak also said that another £385m would go toward an "Advanced Nuclear Fund", for developing small modular reactors (SMRs). and £120m towards creating a "Future Nuclear Enabling Fund, designed to help companies meet construction pre-requisites."

Wikipedia says that SMRs are nuclear fission reactors typically having an electrical power output less than 300 MWe; in comparison, Sizewell C is planned to have an output of 3,200 MWe. So to equal the electricity output of Sizewell C we have to build more than 10 SMRs of this size, which seems to suggest more building work, more CO2 emissions and more workers being needed, so more expense, and perhaps more danger and a bigger risk of radioactivity escaping.

There are few SMRs currently operating or being built in the world, and only in three countries. In Russia, the *Akademik Lomonosov*, the world's first floating nuclear power plant, began commercial operation in May 2020, producing energy from two very small 35 MWe SMRs. Russia also has an icebreaker powered by a 50MWe SMR operating, and one 300MWe reactor under construction. China has two SMRs in operation, of 105 MWe each, and two in construction, one of only 10 MWe and one of 125MWe. Argentina has one under construction also of 105MWe, and that seems the lot.

However, as reported in the *Guardian* on 27th October, a consortium headed by Rolls-Royce has already secured £210m in backing from private investors for a "Rolls-Royce SMR project". The plan is to build 16 SMRs, each producing an electricity output of 470 MWe, and it is presumably this project that the £385 million from UK taxpayers will help fund. The consortium predicts its first SMR will be available for operation by 2031.

A THREAT TO HEALTH

In an article published by the *Nation.Cymru* news service, Richard Bramhall reminds us that in 2018, *Electricité de France* (EDF), during preparation work for building Hinkley C on the Severn Estuary, dug up more than 100,000 tonnes of radioactively-contaminated mud from the bed of the sea at the building-site and dumped it back in the on the other side of the estuary, less than two miles from Cardiff. This was to allow construction of huge inlets and outlets for water to cool the two reactors to be built at Hinkley C. The licence for dumping in this site however expired before EDF could shift their target of nearly a million tonnes of

the mud, and the renewal of the licence was refused because of strong opposition in Wales and a more protective Welsh environmental law.

Before the Welsh Synedd elections this year, the “Petitions Committee” asked Natural Resources Wales to respond to campaigners’ demands for the mud to be tested for radioactive particles, but this was refused.

EDF’s attention then shifted to a site at Portishead near Bristol and in August this year the Marine Management Organisation granted a licence for dumping the mud at the Portishead site and dumping immediately began there. Campaigners on both sides of the estuary have now applied for a Judicial Review of the granting of this licence.



Hinkley Point C’s position on the Severn Estuary

In his article Richard concentrates on one aspect of the legal challenges in the judicial review, that of the health impact of the radioactive particles in the mud.

Every nuclear power station vents radioactive dust particles and is licensed to do so. Filters trap fragments bigger than about 5 microns but billions of smaller particles are released, as data published by the UN show. Particles this size are inhalable and are biologically very mobile. The greatest proportion is made of uranium.

Many of the particles will have fallen into the sea. Nuclear industry research in the 1980s showed that breaking waves and white water resuspend the particles, and that they blow inland as far as at least 10km, the distance investigators have sampled.

The particles are found to emit alpha radiation, but only over a microscopic distances so the particles are only a health hazard when are ingested, but then they are very dangerous.

KICK NUCLEAR

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We hold “**Remember Fukushima – End Nuclear Power**” vigils in London **on the 2nd and last Fridays of each month**, from 11am to 12.30pm outside the Japanese Embassy at 101-104 Piccadilly, followed by from 1 to 1.30pm outside the offices of the Tokyo Electric Power Company at Marlborough Court, 14-18 Holborn.

All anti-nuclear people welcome to join us.

CHINA NUCLEAR DEAL COLLAPSES

In October 2015 the Chinese state-backed company CGN signed a deal with the French company EDF and the UK government to take a one-third stake in the project to build Hinkley Point C nuclear power station and a 20% stake in the project to build Sizewell C, in return for being allowed to build its own reactor design at Bradwell B in which project it took an 80% stake; the French company keeping the remaining stake in all three projects.

However, with worsening of the relations between the UK and China, the UK government has reportedly decided not to allow the building of a Chinese-designed nuclear power station at Bradwell because of security concerns and pressure from the US. Under these circumstances CGN is likely to withdraw its stake in both Sizewell C and Hinkley Point C, though Stephen Thomas, professor of energy policy at Greenwich University suggested that CGN may persist with getting its reactor design approved by the UK authorities before withdrawing its stakes in the three projects.

That probably leaves the Bradwell project dead in the water but what about the large holes left in the other two projects by the withdrawal of CGN?