

This nuclear deal is good for Britain and the battle against climate change

The deal signed by David Cameron and Nicolas Sarkozy sends a clear signal of both countries' commitment to a nuclear future

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David Cameron and Nicolas Sarkozy at the Elysee Palace in Paris today, where the leaders signed a UK-French nuclear power deal. Photograph: Stefan Rousseau/PA

Although the UK-French nuclear power deal signed by David Cameron and Nicolas Sarkozy today does not add up to much in terms of its details – a few hundred millions here and there, not much in the multi-billion-pound world of civil nuclear generation – it does send an important political signal: Britain and France will not follow Germany down the path of eschewing nuclear power. Instead, the governments and industries of both countries will work closely together to up the pace of nuclear new-build in the UK.

This matters, because within the next 10 years all but one of our current fleet of nuclear reactors will be decommissioned – meaning the UK will lose nearly a fifth of its electricity-generation capacity, all of it zero-carbon. Even if we build windmills flat-out and stick solar panels on as many buildings as we can afford, this lost nuclear capacity must be urgently replaced – or Britain's carbon emissions will inevitably rise as we burn more coal and gas to bridge the gap.

It is instructive that the German Green party is now weakening climate targets at a state level – precisely because the nuclear phase-out

leaves the country more reliant on domestic dirty brown coal and imported Russian gas. Despite insisting that climate change remains their pre-eminent concern, greens around Europe insist on putting their anti-nuclear ideology ahead of any concern for the stability of our planet's climate. Both Greenpeace and Friends of the Earth are effectively lobbying for more gas plants in their anti-nuclear campaigning, making a mockery of their years spent raising awareness of global warming.

Although a small number of "environmentalist" protesters (eight at the last count) have already moved onto the proposed site for the UK's two first new nuclear stations at Hinkley Point in Somerset, today's Anglo-French deal makes it far less likely that they will have their way and stop or delay new nuclear construction. Hinkley is in line for Britain's first two EPRs – a new "generation-III"-type power station able to pump out a hefty 1.6 gigawatts of zero-carbon power at full capacity. The EPR also includes protection against airline impacts for its reactor dome and an impressive array of safety features, which would make a Fukushima-style meltdown vanishingly unlikely and any

radiation properly containable even if the worst ever did happen.

Unfortunately, all these new safety features help make the EPR fabulously expensive: two EPR reactors under construction in Finland at Olkiluoto, and in France at Flamanville are both years behind schedule and billions over budget. Although these might be passed off as first-of-a-kind engineering problems – and indeed the two other EPRs under construction at Taishan, in China, are proceeding on budget and on time – the UK government is clearly nervous about the abilities of Areva and EDF (both state-owned French companies) to get the flagship Hinkley Point plants built and generating power for the grid by the planned dates of 2018 and 2019 respectively.

There is also a danger that Britain will become over-reliant on France for its nuclear capacity, although today's deal with Rolls-Royce for power-station components potentially worth £400m offsets this somewhat. Areva in particular is currently lobbying heavily for the UK government to commit to a new plant (likely at Sellafield) to convert the country's 100-tonne plutonium stockpile into "mixed-oxide" fuel (MOX), which can be burned in its EPR stations. However – as the Guardian recently revealed – there are fourth-generation technologies already available that can dispose of both plutonium and waste stockpiles much more reliably and cheaply.

Today's deal does envisage some fourth-generation nuclear co-operation – on a prototype sodium-cooled fast reactor called Astrid – but France does not envisage deployment until 2040 at the earliest. The UK could and should be much more ambitious, because new fast reactors offer a way of solving the nuclear waste problem by burning up all the long-lived elements that make current waste a concern for tens of thousands of years, and leaving only a smaller residue that is effectively safe within just three centuries.

But the Prism reactors, which recycle and burn waste, are offered not by a French company but by GE-Hitachi, a US-based firm. Moreover, GE's new ESBWR boiling water reactor may offer a higher degree of passive safety, and cheaper construction, than the EPR – though this, of course, is not something that Sarkozy would ever admit to Cameron.

Whichever models of reactor are chosen for Britain – and Westinghouse's AP1000 is also in the running, for the site at Wylfa in Anglesey and perhaps elsewhere – decisions need to be

made soon. Current government plans envisage a hefty 19 gigawatts of new nuclear capacity available by 2025, but if this vision is to become a reality the UK needs to get a move on. Hopefully today's deal will be a help rather than a hindrance in this much-needed energy and climate effort.

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Find words that mean:

1. deliberately avoid using
2. increase the rate
3. make up for a difference in something
4. negate the value of
5. strong
6. unbelievably
7. late in being completed
8. costing more than originally intended
9. installation that represents the best of a company's products
10. electricity network
11. a large accumulated stock of goods or materials, especially one held in reserve for use at a time of shortage or other emergency.
12. counterbalance the cost or adverse effect of something
13. the amount left over after a process
14. hurry up