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Meltdown of UK-China Nuclear Energy Cooperation: Whys and Wherefores

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In 2015, the UK announced that Electricite de France (EDF) and China General Nuclear (CGN) would develop the Sizewell C Nuclear Power Plant (NPP) in an 80-20 partnership. However, seven short years later, in November 2022, Britain removed state-owned CGN from the construction of its Sizewell C NPP on the Suffolk coast in eastern England. This move triggered many theories about London and Beijing's souring of relations and its impact on this nuclear power plant in particular and on nuclear energy in the UK in general.

Overview

The UK is highly reliant on natural gas, which accounts for 45 per cent of its energy production. However, since Russia's invasion of Ukraine, energy supply and security have become moot points for Britain, as the nation is threatened, like much of Europe, with a sharp increase in energy costs. Conscious of its energy vulnerability from before the conflict, the UK had turned in the 2010s towards a fresh commitment to the growth of nuclear and renewable power, including the revival of its ageing nuclear plants that generate 13 per cent of the country's electricity. This was also seen as being in sync with meeting its target of net zero carbon emissions by 2050.

It was in this context that a civil nuclear cooperation MoU was signed with China in October 2013 for the nuclear power plants at Hinkley Point C and Sizewell C. The UK Government sought investment from CGN in Sizewell C in 2015, and CGN acquired a 20 per cent stake in the Sizewell C NPP. Sizewell has two power plants, Sizewell A and B, and only the latter is in operation. Sizewell C is under development and expected to start generating power in 2035; it will comprise two European pressurised reactors and generate 3.2 GW, which would power "about six million homes" and create 10,000 jobs.¹ EDF is a partner in Sizewell C and is also constructing Hinkley Point NPP in association with CGN in southwest England, with expected completion in 2026. While EDF is in the process of being fully nationalised by France due to the mounting pressure of an energy shortage, it has confirmed that it will continue the construction of Hinkley Point with CGN and fulfil its contractual obligations in its entirety.

Amid rising geopolitical tensions and interference, the UK confirmed that it would buy CGN's complete stake in the project under a buyback arrangement.

Evolving Political Scenario

Reflecting on the political scene over the last few years, it is evident that the UK-China relationship is in turmoil across trade, commerce, and security.

In 2020, Huawei, the Chinese telecom giant, was banned from any involvement in the UK's superfast 5G broadband network rollout after the US raised concerns over spying. In October this year, after a security probe, Britain ordered a Chinese-owned company, Wingtech, to divest the majority of Britain's biggest semiconductor maker, Newport Wafer Fab. The arrest and alleged assault of a BBC journalist covering protests against China's COVID restrictions, defying Chinese rules and authorities on November 27, was "deeply disturbing"² and further added to the brewing tensions between the two nations. Subsequently, in November, PM Rishi Sunak, in his speech, said the "golden era of UK- China links were over" as China posed a "systemic challenge" to UK interests and values.³

On the energy side, the British lawmakers expressed concerns over the involvement of the Chinese in Britain's nuclear industry, impacting the nation's energy independence. As a result, the funding for the CGN exit deal was approved by PM Boris Johnson in September and brought to fruition by PM Sunak in November. Britain committed to providing around £700 million to Sizewell, the first of its kind for a nuclear power project in the last three decades. This enhances the UK's commitment to energy security and nuclear energy.

After the announcement of Britain's buyback from CGN, Business and Energy Secretary Grant Shapps said, "We need more clean, affordable power generated within our borders ... today's historic deal giving government backing to Sizewell C's development is crucial to this, moving us towards greater energy independence."⁴

The Buyback

As per the agreement, the UK government will pay £700 million to CGN under an exit deal, including buy-out costs, pending taxes, and commercial arrangements. Consequently, control of the plant would equally rest with the UK government and EDF. Britain's "stake in Sizewell C is positioned at the heart of the new blueprint to Britain's energy sovereignty", the Department for Business, Energy, and Industrial Strategy (BEIS) said in a statement.⁵

The UK government plans to attract third-party investments to finance the construction of the Sizewell project. Sizewell will use a 'funding regulated-asset-base (RAB) model' whereby the companies undertaking the construction would receive the payments during the construction phase, giving them flexibility to secure cheaper financing from private investors with low development risk. However, a contrarian view indicates the liability of project cost overruns would spill over to the taxpayers, adding an extra burden on a population reeling under costly energy

bills. The present administration of PM Sunak is partially subsidising household energy bills to counter the cost-of-living crises during the current inflation, the highest in 41 years.

The UK Government has designed a plan under which 70 per cent of the value of Sizewell C's contracts would rest with British businesses. In addition, the government aims to set up a body, Great British Nuclear, to develop a pipeline of new nuclear projects. This can be read as a sign of increasing confidence in the nuclear industry and the promise of energy security from within the borders of current geopolitical tensions and energy war. The next few years will show whether the UK's decision finally turns out well for its energy scenario.

NOTES:

¹ “UK removes China from Sizewell nuclear project, takes joint stake,” *France 24*, November 29, 2022, <https://www.france24.com/en/live-news/20221129-uk-removes-china-from-sizewell-nuclear-project-takes-joint-stake>. Accessed on December 8, 2022.

² “Protests in China are evidence people are unhappy: UK Foreign Secretary,” *The Telegraph Online*, November 28, 2022, <https://www.telegraphindia.com/world/protests-in-china-are-evidence-people-are-unhappy-united-kingdom-foreign-secretary/cid/1900772>. Accessed on December 6, 2022.

³ “UK government takes 50% stake, confirms backing for Sizewell C,” *World Nuclear News*, November 29, 2022, <https://www.world-nuclear-news.org/Articles/UK-government-takes-50-stake,-gives-go-ahead-for-S>. Accessed on December 8, 2022.

⁴ “Sizewell c nuclear power plant confirmed with 700m public stake,” *The Guardian*, November 29, 2022, <https://www.theguardian.com/business/2022/nov/29/sizewell-c-nuclear-plant-confirmed-edf-suffolk-jobs-uk>. Accessed on December 6, 2022.

⁵ “UK Ousts China From Construction of its New Nuclear Project Sizewell,” *The Local Report*, November 29, 2022, <https://www.thelocalreport.in/uk-ousts-china-from-construction-of-its-new-nuclear-project-sizewell/>. Accessed on December 6, 2022.