This paper outlines my views on why the Sizewell C DCO should be rejected and I request that the Examining Authority takes it into account.

Why Sizewell C is a bad deal for the UK public and our net zero goals

Published by **Dan Curtis** on 21/12/2020 on BHESCo website.

[…] The UK Government has begun discussions with French utility EDF for the development of a new nuclear reactor at Sizewell, "C" scrapping their 10 year policy that "there will be no levy, direct payment or market support for electricity supplied or capacity provided by a private sector new nuclear operator, unless similar support is also made available more widely to other types of generation".

The site at Sizewell contains two existing nuclear power facilities, Sizewell A (decommissioning and site restoration until 2098 at taxpayers' cost) and Sizewell B (still active). The new proposals are to build an extension to the site, implementing the same reactor design as that Hinkley Point "C" in Somerset.

Defenders of the project invariably claim that expanding the UK's nuclear fleet will contribute to the decarbonisation of the energy supply, ensure energy security, while providing consumers with long-term affordable electricity – all arguments which fail to stand up to scrutiny, as demonstrated below.

Nuclear power does not provide good value for money

It takes a phenomenal amount of money to develop new nuclear power stations, before we even begin to consider the additional cost of storing and managing the radioactive waste.

Hinkley C was originally estimated to cost £18 billion but the project has been mired in delays and is now vastly over-budget, predicted to cost up to £3 billion more than initially forecast.

To address this vulnerability to financial losses for the project developers EDF and Chinese firm CGN, who are considering withdrawing their investment, the UK Government are considering investing directly in Sizewell C, shifting risk and cost to the British taxpayer.

This is in addition to a suggestion of implementing a “regulated asset base” financing model which would enable EDF to charge energy customers for the cost of construction as well as the cost of electricity generation (thereby exposing both customers and taxpayers to the risk of project cost overruns).

Adding to the financial nonsense of new nuclear power is the sky-high cost of the electricity that is produced to the end user. The government has granted a guaranteed, inflation linked price of £92.50 per megawatt hour for the electricity to be produced by Hinkley Point C.

Compare this to the cost of offshore wind, which under a 2019 contract for difference auction, saw prices come in at £39.65 per megawatt hour – less than half the cost of energy from Hinkley.

In contrast to the ever-increasing costs of nuclear (Sizewell C has an estimated starting price tag of £20 billion, which will no doubt balloon), the cost of solar and wind power continue to fall year on year, with solar costs having declined by 87% since 2010.

A primary motivation for nuclear power is its value for military applications

The astronomical construction and decommissioning costs of nuclear power does not make financial sense when looking at it from a UK taxpayer/ consumer viewpoint. It is only when considering the wider potential applications of a nuclear programme that we can begin to understand why successive UK governments have been so supportive of the industry.

Researchers at the University of Sussex found compelling evidence that the UK's domestic nuclear power programme is only supported by the Government because of its value in contributing towards the military nuclear weapons programme, which would otherwise be financially unviable without such subsidised support from domestic energy customers.

Prof Andrew Stirling of the university's Science Policy Research Unit (SPRU) said:
"The exclusion of these issues from the consultation remit reflects a serious military-driven bias in UK Government attachments to nuclear power. This is not only making carbon emissions reductions slower and more expensive, but also impeding possibilities for the UK post-COVID economic recovery".

We believe that the arguments in favour of nuclear power are disingenuous. Backers of nuclear power should be honest that they want to build more nuclear plants not because they will provide energy security or a good deal

for customers, but because they are necessary for maintaining the UK's fleet of nuclear submarines, and all of the sabre rattling 'seat at the table' geo-political bravado that goes along with retaining our position as a nuclear power.

New nuclear power takes too long to build to have any meaningful role in tackling the urgent climate crisis

Wherever new nuclear power stations are being built we see long delays and broken promises.

Hinkley Point C has suffered setbacks and complications ever since development began in 2017 and it is not expected to come online until 2025. It's the same story at other locations where this type of reactor is being built, e.g. in Flamanville in France which is seven years overdue and the Olkiluoto plant in Finland which is ten years late. There is only one EPR nuclear reactor operational in the world. This is the Taishun plant in China, built on the same sea where Fukishima exploded in 2011.

New nuclear power plants will not address the issue of urgent and radical carbon emissions reductions needed to be achieved by 2030 if we are to avoid irreversible climate breakdown.

It is also worth noting the gigantic carbon footprint that would result from the construction of Sizewell C. When considering the pros and cons of nuclear power, it is vital to honestly account for the enormous quantities of cement (which has a huge carbon footprint) and other hazardous materials required to build the facility in the first place.

Adding insult to the assertion that Sizewell C will be a long-term benefit to the environment is the fact that the site is to be located adjacent to an RSPB nature reserve

Minsmere, a AONB site that EDF has already started demolishing.

Nuclear power produces nuclear waste which lasts for thousands of years

The by-product of nuclear fission is hazardous nuclear waste which remains radioactive for thousands of years. This presents an extraordinary liability and storage risk to future UK taxpayers and residents.

The current liability cost of decommissioning and safely storing our existing nuclear waste is estimated to be £232 billion – a truly eye-watering sum, and one that will only continue to increase as more nuclear reactors such as Hinkley and Sizewell contribute additional toxic waste materials for every year that they are operational.

The UK already has the largest stockpile of radioactive plutonium in the world, estimated to be between 112 and 140 tons, stored in an area of outstanding natural beauty in Cumbria. Future generations will not think kindly of us if we continue to add to this dangerous legacy with more hazardous nuclear waste that costs billions each year to manage to avert disaster.

The UK does not need Sizewell C or any other nuclear power stations – we can meet our energy needs with 100% clean renewable energy

We already have the means at our disposal to meet our heat and power needs through a combination of renewable energy and energy storage technologies.

Combine this with a comprehensive programme to reduce demand through energy efficiency improvements and we can conclude with confidence that there is no reason to develop new nuclear power stations in the UK. In fact, the alternatives will deliver lower energy prices for the consumer and better taxpayer value over the long term.

A common defence for nuclear power is the need for a steady supply of 'base load' power in the event that intermittant renewables cannot meet demand.

But this way of thinking is obsolete. Our future energy supply in the UK will be based on dynamism and flexibility, where consumers adapt their behaviour in sync with variable generation output.

As Steve Holliday, former CEO of National Grid said in 2015:
"The idea of baseload power is already outdated. I think you should look at this the other way around. From a consumer's point of view, baseload is what I am producing myself. The solar on my rooftop, my heat pump – that's the baseload."

The Government's recent announcement that it is entering into talks with EDF regarding Sizewell C is, we are told, the beginning of a long consultation process which will consider the long-term costs and benefits of such a project before reaching a conclusion on whether to give it the go ahead.

These talks are by no means a 'green-light' to the project. We hope that it is not naïve to believe that due diligence will be done, that the information will be honest and transparent, and that logical, rational thinking for the benefit of all residents of our small island will prevail.

We must come together to oppose Sizewell C and avoid what would be a major and long-lasting blunder as regards UK energy policy.