Written evidence submitted by the Sizewell C Consortium

The Sizewell C Consortium is the voice of over 250 leading companies from across the UK's nuclear supply chain. As the Consortium, we are delighted to respond to the Welsh Affairs Committee's inquiry into new nuclear power in Wales. We have committed to ensuring that – through the supply chain – Sizewell C revitalises the Welsh nuclear industry.

1. What role can, or should, nuclear power play in achieving net zero and UK energy security?

Britain's rich nuclear legacy is critical to reaching decarbonisation and energy security goals. To achieve an affordable and stable transition to net zero, the UK needs at least 300,000 GWh of new low-carbon, low-cost electricity, by 2050. The UK Government has recognised how new nuclear can help meet this challenge, outlining nuclear as a fundamental part of its April 2022 Energy Security Strategy. In this, the Government committed to 24GW of new nuclear by 2050.

Nuclear can offer a reliable and low-carbon source of electricity while simultaneously driving innovation and growth in the UK's clean technologies. For instance, excess heat generated at Sizewell C will be used to power new Direct Air Capture technologies, helping to eliminate CO2 from the atmosphere. Similarly, Sizewell C will drive the production of clean hydrogen – another key technology for the UK's energy transition.

After decades of inaction, Hinkley Point C has revitalised Britain's nuclear sector. Now Sizewell C – as the UK's next nuclear power station – is ready to draw on this expertise to generate low-cost electricity for 6 million homes, while avoiding nine million tonnes of carbon emissions each year and expanding the UK's nuclear sector.

As Sizewell progresses, so will the Welsh nuclear industry. To reach the objectives set out in the UK's Nuclear Sector Deal – launched in June 2018 at Trawsfynydd – we will need an estimated 30,000 new employees in the next decade.

Already, 162 Welsh companies are working on building Hinkley Point C. As the Consortium, we have signed a Memorandum of Understanding (MoU) with the Welsh Government. In this, we committed to building on, and expanding, the Welsh supply chain already at work on Hinkley Point C, delivering 4,700 jobs and £900 million for Wales.

This massive injection into Wales's nuclear industry will grow the Welsh supply chain and expertise, laying the groundwork for the future of Welsh nuclear.

2. What are the main challenges to delivering the UK Government's commitment to bring at least one large-scale nuclear project to final investment decision by the end of this Parliament?

Sizewell C is the only construction-ready candidate for the UK Government's next large-scale nuclear investment. As the impetus for nuclear has accelerated, both industry and the Government have recognised this, working with Sizewell C to deliver incredible progress.

The Government has already recognised Sizewell C's potential. Through the Nuclear Energy (Financing) Act, which gained Royal Assent in March, Parliament unlocked access to a newer, more efficient, funding model for new nuclear. Most recently, in July, the Government also granted the Development Consent Order for Sizewell C's construction.

Now, the most crucial challenge to getting new nuclear off the ground is to secure government investment as soon as possible. This is for two critical reasons.

Firstly, the upcoming conclusion of Hinkley Point C's construction. The Government needs to rapidly invest in new nuclear, as workers begin to reach the end of their contracts at Hinkley Point C. Without this, the UK risks losing a huge talent pool of nuclear workers, who will have no project to move onto.

Secondly, to secure private investment. We have regulatory support for Sizewell C. Now, credible and timely government investment is required in order to signal the project's viability to private investors.

Taken together, investing in Sizewell C is key to securing the labour pool for, and ensuring the progression of, the UK's next large-scale nuclear project. If the government wants to get a large-scale nuclear project to a final investment decision, it must therefore choose the project that is closest to delivery. From here, it can secure the supply chain and labour force for subsequent nuclear builds.

Through our Welsh MoU, we have committed to ensuring that Sizewell C will act as enabler for the Welsh nuclear industry. This includes spending of £900 million in Wales through the Sizewell C supply chain. Furthermore, through Sizewell C we will establish a pipeline for future EPR development in Wales – by working with industry and educational institutions to elevate nuclear skills and supply chain readiness. This is a critical step in preparing Wales to house future nuclear reactors, and to realising the Government's nuclear ambitions.

Right now, with the right Government investment, we are ready to begin work on Sizewell C – and to supercharge the Welsh nuclear industry in doing so.

3. How important is the finance model to ensuring a successful nuclear project, and is the regulated asset base (RAB) model the best one to deliver this?

The RAB offers the best finance model via which to scale up new nuclear in the UK. By reducing the interest owed on loans, the RAB helps to drive down the cost of capital and attract investment. Already, successful projects – including the Thames Tideway Tunnel – have proven the RAB to be the most effective way to fund new large-scale infrastructure.

Overall, the RAB will save consumers £30bn (versus a CFD funded model) on Sizewell C. This fixed number will come as a relief to consumers and investors in such an era of energy-cost uncertainty. Sizewell C's adoption of the RAB financial model to raise funds provides an unprecedented clarity within an increasingly uncertain energy picture.

One of the biggest lessons to come from Hinkley Point C is the power of replication. At Hinkley Point C, a second reactor ring took 25% less time to than the first. This is known as the "replication effect". Sizewell C – using the same design as Hinkley Point C – is ready to harness this effect and deliver notable cost and efficiency savings. These savings will only increase as we build more reactors in this design.

By enabling Sizewell C's construction, and lowering the cost of subsequent projects, the RAB works with the replication effect. Together, they render a swathe of new large-scale nuclear projects – including those in Wales – possible.

4. What practical steps can the UK Government take to support the nuclear industry in developing a range of nuclear technologies, including small modular reactors?

Investment in Sizewell C is an investment in Britain's entire nuclear future.

It is only through Sizewell C that we can build on progress at Hinkley Point C, to secure and expand the supply chain. This way, we can enable British nuclear innovation and growth, while making sure that the jobs underpinning this stay in Britain's regions.

To reach the objectives set out in the UK's Nuclear Sector Deal – launched in June 2018 at Trawsfynydd – we will need an estimated 30,000 new employees in the next decade.

Hinkley Point C is expected to support 3,100 Welsh jobs through its construction. Across the UK as a whole, Hinkley Point C will support over 70,000 direct and indirect jobs by the end of construction. Indeed, it has already created 15,000 jobs directly on site and is supporting 22,000 jobs across the UK. More than 920 apprentices have already been trained, with the project well on its way to creating the 1,000 apprenticeships it set out to achieve.

Sizewell C will extend this labour force. As the Sizewell C Consortium, we have committed through our MoU to building on Wales's nuclear expertise, supporting thousands of jobs in the region. We have also committed to developing talent to fill these roles, by working with local education providers.

As Wales plans to expand nuclear, drawing on its legacy at Trawsfynydd and beyond, it will require a significant nuclear talent pool and well-developed supply chains. Sizewell C will be critical in unlocking these and supporting the growth of new technologies – including Small Modular Reactors (SMRs).

Beyond this, by growing the gigawatt nuclear industry, and the supply chain and labour force which underpin it, Sizewell C will also facilitate the growth of other innovative nuclear technologies, including nuclear-generated hydrogen, and Advanced Modular Reactors (AMRs) – all of which could play a part in Wales's nuclear future.

5. What is the potential economic impact for Wales of a new nuclear power station at Wylfa?

New nuclear stands to generate enormous economic benefit for Wales, by capitalising and expanding on existing growth in the sector.

In Wales, Hinkley Point C has already brought over £150 million in direct spend to the region and benefited over 160 suppliers, covering key industries including South Welsh steel. By its completion, this is expected to total £815 million for Wales. Further development of British nuclear – at Sizewell C – will only reinforce Welsh supply chains and improve the case for nuclear investment in the region. This, of course, will build on the £900 million that we as a Consortium have committed to spending in Wales – through our supply chain.

Already, evidence from Hinkley Point C has shown the power that nuclear has to revitalise local and national economies. In Hinkley's region – the South-West – £4.1 billion has been spent and £13.3 million provided to local projects. Across the country, as the Sizewell C Consortium, we have committed to spending £4.4 billion across suppliers in the East of England.

Expanding gigawatt nuclear in Wales would build on this – capitalising on the value of new nuclear to Wales, while creating a construction and employment hub, and revitalising the local area.

August 2022