

Written evidence submitted by WSP**House of Commons Environmental Audit Committee****Inquiry: Small modular reactors in the transition from fossil fuels****ABOUT WSP**

WSP is a world-leading multi-disciplinary professional services consultancy which supports significant projects in both the built and natural environments. We provide engineering, planning, design services and strategic advisory support to public and private sector clients in the transportation and infrastructure, property and buildings, earth and environment, power and energy, resources and industry sectors. Our team in the UK of over 9,500 engineers, scientists, environmental specialists and planners, is part of a talented family of more than 66,000 global changemakers, transforming what is possible in order to build a smarter, greener future for all.

WSP takes pride in leading the way we collectively tackle the climate emergency and, globally, we have committed to achieving Science Based Targets initiative (SBTi) verified net zero emissions by 2040. Our long and short-term carbon reduction goals have been approved by the SBTi and we will achieve carbon neutrality in our UK operations in 2025. In October 2020 we also committed to halving the carbon footprint of designs and advice provided to clients by 2030, a first in the engineering consultancy sector. On this trajectory, we have received external PAS2080:2016 accreditation, the global specification for carbon management in infrastructure, which assures our capacity and competence to apply requirements of the standard to infrastructure projects requiring carbon management.

WSP IN NUCLEAR

Our growing nuclear business forms a part of our broader energy offering, which covers a wide range of emerging technologies and the mass delivery of renewables, including offshore wind, hydrogen, low-carbon fuels and CCUS.

We believe nuclear power is a vital part of the clean energy mix needed to keep the UK on the path to net zero and build a secure energy future. WSP has a long history of delivering work on some of the UK's most complex infrastructure projects including within the nuclear sector, including Hinkley Point C, Sizewell C, Magnox and EDF as well as Sellafield. We deliver projects across the nuclear lifecycle including nuclear new build, decommissioning and geological disposal.

RESPONSES TO QUESTIONS

Timelines for SMR delivery

What has prevented SMRs from being established in the UK, given that the technology and fuel sources already exist, and the Government has already financially supported R&D?

The establishment of SMRs in the UK faces challenges due to a wide range of factors, including design maturity, site availability, funding, licenses, consents and permits. Government support, often focused on technology, should expand to address these aspects, and WSP suggests that parallel work streams should be considered to progress suitable sites.

The impact of the current Great British Nuclear (GBN) Generic Design Assessment (GDA) competition on credible technology and funding providers warrants further examination, as developers with differing degrees of maturity may require tailored support. Consideration should be given to separate programmes for developers with private funding and those reliant on Government support. Additionally, addressing sector capacity constraints will be paramount to advancing SMR implementation in the UK.

How realistic are the current targets for SMRs (Final Investment Decision by 2029, deployment mid-2030s)? How should the Government's targets be revised, if at all?

WSP believes that the current targets are realistic contingent on all stakeholders, including vendors, developers, investors, regulators and Government, working collectively and collegiately to address the challenges outlined above.

Major failures and risks in nuclear new build projects are often linked to financing and delays resulting from environmental programmes being ahead of engineering programmes, which can hinder planning and permitting processes.

We would suggest that GBN concentrate efforts toward bringing SMR projects to investment decisions and expediting regulatory approval. Consideration should be given to reducing the number of technologies that are put through the GDA process. Indeed, the Office for Nuclear Regulation (ONR) has stated its openness to taking evidence from the international community in order to accelerate the licensing process.

Successfully corralling the nuclear community will be essential to both ensure alignment and meet the Government's targets.

SMR regulation and financing**How should SMRs and larger gigawatt scale reactors be balanced to help the UK meet its net-zero targets and targets to decarbonise the national grid?**

From WSP's perspective, balancing SMRs and larger gigawatt-scale reactors to aid the UK in achieving its net zero and grid decarbonisation targets requires a holistic approach.

Decisions should be grounded in the evaluation of various factors including programme feasibility, cost considerations, energy demand and site suitability. Simultaneously, efforts to expand grid capacity must run in parallel with the deployment of SMRs and larger reactors in order to ensure seamless integration into the grid. The significance of grid capacity was recently underlined by the National Infrastructure Commission's second National Infrastructure Assessment (NIA2).

How effective are existing financial models (e.g., Contracts for Difference, Regulated Asset Base) for SMRs? Should new financial models be considered for SMRs?

It is safe to assume that the existing financial models for SMRs, such as Contracts for Difference and Regulated Asset base, are likely effective considering the substantial interest from global vendors in the UK market. Therefore, WSP would not consider exploring new financial models to be an immediate priority.

What is the overall benefit or cost to the public purse from the UK's adoption of SMR technology in its generating mix?

WSP advocates that a holistic view of multiple factors should be taken here, such as ensuring security of energy supply and reducing dependence on imported sources, while the comparative benefit will be influenced by the agreed strike price(s) in relation to the other energy technologies.

We believe that SMRs provide a versatile solution that can contribute to a balanced mix of generating solutions. The financial aspect, represented by the price per unit of SMR-generated electricity, must be carefully balanced with the priorities of security of energy supply, energy independence and environmental performance.

Moreover, it is important to note the substantial economic and employment benefits as a result of their high UK content and long operational life. They have the potential to create thousands of domestic

jobs in the supply chain and thousands more in operation in maintenance – this is only augmented further through potential export opportunities.

Delivery process

How does the current SMR technology design competition impact on the delivery of SMRs to commence generating capacity on time and on budget?

The current SMR technology design competition has had varied effects on the timely and cost-effective delivery of SMRs.

Some vendors and developers have secured their funding to proceed with delivery, and concerns have arisen that the competition might act as a barrier to accelerated progress in these cases, other vendors are more reliant on Government support. GBN should work to align reactor technologies with suitable sites and support vendors in developing these technologies on-site.

What benefits might accrue, and what issues might arise, if the Government were to select more than a single design to commission?

While a range of technologies could potentially offer flexibility for site-specific challenges, vendors require a threshold of orders to trigger SMR production. It is WSP's view that it remains uncertain if success in the competition will meet the viability threshold for multiple vendors.

Additionally, it may place additional strain on UK regulators and bring into question investment in UK industry, especially given previous Government investment in the UK-led Rolls Royce SMR technology.

What are the advantages and disadvantages of a prototype SMR being required to be delivered by a winning competitor ahead of installation of the initial SMR?

Requiring a prototype SMR ahead of the initial installation offers the advantage of providing a proof of concept. This demonstrates the technology's viability, instilling in it both Government and public confidence, while also attracting additional funding and establishing leadership in the field.

However, in WSP's experience, this approach involves an additional phase that can result in further delays to the overall rollout of multiple reactor technologies. This should also be viewed in the context of the many technologies that must be delivered in parallel with the multiple gigawatt facilities and energy infrastructure projects that are ongoing and resource constraining.

Delivery has lagged given the maturity of the SMR concept, so a focus on execution is paramount.

What export opportunities for the UK arise from the winning SMR design or designs?

Winning SMR designs offer countless export opportunities for the UK as well as an opportunity to seize a role as a global leader in SMR rollout, thereby benefitting UK vendors, manufacturers, contractors and consultants.

If the winning design is not from the UK, to maximise export potential the UK should seek timely adoption of the design to position itself as a supplier rather than risk becoming a customer.

Further communication

Should the Committee require any additional information on any of the above WSP would be very happy to provide further details, case studies, and guidance.

November 2023