

UK ENERGY APPROACH TO 2025 - GETTING MAJOR PROJECTS MOVING



Highlights from the Major Projects Association event held on **10th November 2016**

This Major Projects Association full day seminar set out to cover the topics at the heart of the UK energy industry today. Hosted by CMS Cameron McKenna, the event covered topics from power system flexibility, storage technology and decentralisation of supply to nuclear generation, financial models and interconnection.

'Part of the challenge that we have at the moment is the massive revolution that is going on in the energy sector. A huge amount has changed in the last five years, and the pace of change of technology is part of the issue in this space where people are trying to create policy frameworks that have the robustness to go out 10 or 20 years in a world in which there is huge uncertainty.'

Steve Holliday, Former Chief Executive, National Grid

INVESTMENT IN ENERGY

Historically the UK has been viewed as an attractive investment market thanks to its mature economy, clear regulation and well-prepared projects. However, current political uncertainty is making finance more difficult and certainly more expensive to obtain, which could ultimately impact on tariffs. As the Brexit negotiations take place over the next few years banks will be hesitant to invest. Looking ahead, the future of financial resources that had previously been accessed by the UK such as the European Investment Bank may no longer be available.

'As Hinkley Point shows it is almost impossible to finance a large station on a standalone basis. Very significant government involvement is needed, as is the involvement of a very large electricity company and/or contractor, such as EDF, that is prepared to take many of the risks.'

Alexander Johnston, Former Managing Director, Lazard, London

For major projects such as new nuclear schemes and combined-cycle gas turbine power stations this means that more support from government will be required – either through policy instruments or financial involvement. The UK's failure to move these schemes forward sooner means that the country faces a backlog of projects that are required to replace the massive amount of nuclear and coal-generating capacity that will be offline by 2030.

This is particularly critical for the nuclear industry, where over 52TWh of generating capacity will be decommissioned by the end of the next decade.

Alastair Dick explained that the start of the UK's new nuclear capacity would come from four key sources: Hinkley Point C, Wylfa, Moorside and small modular reactors (SMRs). Each of these will involve new technology, new construction and delivery models, and changes to the regulatory approach. It might also mean asking the supply chain to get involved at a time where the future plan and investment available is uncertain, creating a huge need for government to provide clarity in the early stages and potentially to lend financial support. And again it was highlighted that its ability to do this would no longer be hampered by the EU state-aid rules, which delegates discussed as being a possible silver lining of Brexit.

TECHNOLOGICAL DEVELOPMENTS

For new SMR technology a five-year £250m investment plan is already underway, and in March 2016 the UK launched its first SMR competition. Such a competition has already been held in the US, the winner of which was NuScale Power. NuScale's first US SMR site in Idaho is scheduled to begin operation in 2024. The organisation, which works in strategic partnership with Fluor, has already begun working with firms in the UK. It was explained that as a technology provider, not a manufacturer, NuScale would be dependent on building a UK supply chain.

One of the advantages of small modular reactors (which typically deliver less than 300MW) is their ability to be deployed in tandem with intermittent power sources to even out demand. NuScale's 50MW factory-built power modules are installed in a concrete-framed building; each operate independently, with their own power-generation equipment enabling scaling up and down of the generation.

NuScale has investigated pairing its technology with wind farms and says that this would enable overall output consistently to meet demand.

For the UK, where wind generation constitutes around 9.5% of total capacity, solving the variability challenge is key as the technology continues to be deployed. The UK's most mature renewable technologies are onshore wind and solar power, which are now the cheapest forms of new-build electricity generation. Offshore wind has been politically favoured but remains more expensive to build. However, build costs are falling and one of the major benefits of offshore wind is its industrial potential for job creation in areas outside of London.

For renewable generation, and the future of decentralised networks, energy storage is becoming increasingly crucial. Dr Panos Papadopoulos described the past 12 months as a boom year for battery storage. This was mainly due to a competition launched in September 2015 by National Grid, which issued its first ever request for Enhanced Frequency Response, leading to 68 expressions of interest. Ultimately eight new battery storage facilities are expected to be built in the UK.

Further positive developments have been underway in terms of interconnection. Delegates had an update from National Grid on the latest interconnector currently being built between the UK and Norway. At 720km the 'NSL' connection is the world's longest, and will add 1.4GW of potential by 2021. Also under construction is the 140km 'NEMO' link between the UK and Belgium, which is set to open in 2019. Future projects are also planned between France and Denmark. However, something that will clearly affect future schemes will be the UK's renegotiated relationship with the EU energy market, and our desire to remain trading partners with neighbours could be used as a negotiating tool.

'What we are seeing is a rapid reduction in the cost of offshore wind. So already in 2016 about one third of the cost has been taken out since 2011. The cost was over £160 per MWh and today it's just over £100. That number is likely to reduce substantially again in the coming years.'

Jonathan Cole, Offshore Business Managing Director, Scottish Power

POINTS FOR FURTHER DISCUSSION

- What financial and policy mechanisms are most needed from government to catalyse energy projects in the critical early stages?
- How should regulatory regimes be adapted for new technologies such as nuclear energy and battery storage?
- What are they key requirements for the UK energy sector in Brexit negotiations?

BREXIT: A GAME OF 3D CHESS

Robert Lane, Partner from CMS Cameron McKenna, outlined the effect of Brexit on the UK energy industry, likening the negotiations to a game of 3D chess. Negotiations must cover all trade sectors and the UK's relationship with the 27 EU states, the European Parliament, and some national parliaments. A further 53 trade deals with non-EU countries and potentially the 161 World Trade Organization countries must also be considered.

Maintaining the UK's position on energy, where it has historically taken a lead as a strong advocate of the single market, may be difficult if EU negotiators use the energy position as a bargaining chip. Furthermore, current UK energy legislation is intermeshed with European law, meaning that following Brexit existing projects may become open to litigation if project partners seek to exit deals. More uncertainty is introduced for project disputes, which may no longer be resolved at The European Court of Justice.

Regarding the Article 50 process it was suggested that the UK had learned from David Cameron's previous European negotiations, which were widely considered not to be ambitious enough, deadlines were poorly managed and too much of the negotiation left to civil servants. To mitigate some of the deadline challenges, government is putting plans in place for a transitional arrangement, which means there will be some form of ability to move forward for a period as agreements continue to be made. Creation of the Government's Great Reform Bill, which says the day after the UK's formal EU exit every law that applied will continue to apply unless agreed otherwise, will work well for the UK but would require equivalent legislation for EU states.

With grateful thanks to [CMS Cameron McKenna](#) for hosting this event.

Chair:

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Atkins plc
Bechtel Ltd
CJ Associates
CMS Cameron McKenna LLP
Carillion plc
Copper Consultancy
Crossrail Limited
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