

**BOWESFIELD FLEXIBLE ENERGY PARK: QUESTION AND ANSWER SHEET FOLLOWING THE WEBINAR & OTHER CHANNELS**

**FILE NOTE**

	<b>Question</b>	<b>Answer</b>
1	When will the asset be carbon neutral, i.e. carbon used to manufacture and install the facility verses claims this will assist with CO2 zero?	<p>Peaker plants such as the ones we are proposing at Bowesfield have a vital role to play in balancing the grid and making sure it can handle more intermittent renewable generation.</p> <p>The proposed three gas peaker engines and electricity storage battery will not be carbon neutral in themselves.</p> <p>The peaker plants are essentially engines that run on gas (which is a fossil fuel). If this project receives planning permission, they will initially run-on natural gas. In time, when it becomes available, at scale and at a cost-effective price, we hope to run the engines on hydrogen (and ideally green hydrogen). The ability to be fuelled by either blended or pure hydrogen will form part of the engine tender.</p> <p>Peaker plants produce electricity when energy demand is high and in danger of outpacing available generation. It is important to note that these power plants are flexible and run only occasionally. They can start to generate quickly in response to increased demand from the National Grid.</p> <p>The National Grid is changing – both in generation and use. Consequently, it is having to move from a centralised system to a more localised one. This moves investment away from large thermal plants, with huge costs and uncompetitive long-term contracts to smaller, cheaper and agile generators like Bowesfield, presenting better value for the consumer and the ability to change the generation mix in time.</p> <p>These peaker plants are a transitional technology, a steppingstone on our path to Net Zero and an important one for grid security.</p>
2	Will this site simply be a storage facility? I am working for Swagelok, we are very much interested in the hydrogen aspect of the project / site.	<p>No. The development is predominantly a generation site with an element of electricity storage. There will be no gas storage on-site.</p> <p>Members of The Banks Group team will be in touch directly re the possibility of Swagelok getting involved in his project.</p>

3	If you get planning permission when do you envisage the scheme being up and running?	Subject to planning permission being granted and the impacts of COVID-19, we hope to hold tenders at the beginning of 2021, start on-site works during the summer and have an operational site by October 2021.
4	Will this be noisy?	<p>As part of the planning application, which we hope to submit in the coming weeks before Christmas, we have undertaken baseline noise assessments and acoustics modelling at the site on the Bowesfield Crescent Industrial Estate.</p> <p>The site sits between the Compass Royston coach car park and depot and one of Northgate plc's Teesside commercial vehicle hire depot.</p> <p>The noise emitted by the peaker plants and battery, even when running at full capacity have been assessed and judged to be "negligible".</p> <p>Based on data from other such peaker sites around the UK, it is expected that there would be minimal noise disturbance out with the development site itself. Indeed, considering the site location, any noise you could detect would be drowned out by existing background noise.</p>
5	How will green hydrogen affect the 8MW output compared to natural gas as calorific value of hydrogen is much lower?	<p>The peaker engines being considered are designed to run efficiently on natural gas, and after a small adjustment, a 20% blend of green hydrogen with little effect.</p> <p>Depending upon the final manufacturer, engines can run on 100% hydrogen with some changes to their inlet manifold and ignition system which results in a peak power derating of 40%.</p>
6	Could you please explain where the hydrogen comes from / how it gets to site? Is this safe?	The hydrogen, and indeed the natural gas, will be delivered to the site through the existing gas pipe network. Transporting hydrogen in this way is as safe as transporting natural gas.
7	Why not put it on the old ICI Wilton Road site in Middlesbrough ....and not next to the river and bird sanctuary?	We have chosen this site because it is well screened and naturally protected by vegetation in that corner of the industrial estate. The site is also close to key electricity distribution network operator and National Grid infrastructure. It's also an opportunity to utilise a vacant site with benefits to local security and management. Finally the site owned by Banks Group so there are no landowner issues.
8	Do you need a permit to run these gas peaker engines and battery?	An environmental permit is not required for the battery element of the scheme, however an environmental permit will be required for the gas engines, as the thermal output of the engines exceeds 1MW. Environmental permits are granted on application to the Environment Agency and generally contain conditions relating to emission levels and atmospheric pollutants

		which must be adhered to throughout the operation of the development.
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*Bowesfield Flexible Energy Park Project Team, November 2020*