

Press Release

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Taking a novel approach to energy storage will be key in 2025

By Richard Chacksfield, Energy Transition Director in the Capital Projects Team at Bilfinger UK

The end of 2024 saw a wave of storms hit the UK, with Storm Darragh in particular battering the country with a weekend of gale force winds. These storms provided a key example of the UK's energy storage challenges.

Wind accounted for as much as 66% of the UK's energy output over the first weekend of December during Storm Darragh, against gas's 1% share¹. That compares to wind providing a 32% share of the UK's energy output over the last 12 months on average².

As the storm passed and wind dropped, gas generation shot-up to provide 60% of the UK's energy needs on 11th December³.

Yet the mass of renewable power from events like Storm Darragh could have powered the UK into the next week if energy storage was more advanced, meaning wind farm operators wouldn't have to switch off turbines to prevent the grid being overloaded.

With the Labour government reaffirming its commitment to a green grid by 2030, developing more novel approaches to the technology, and getting storage projects off the ground, will be key as the five-year countdown begins.

All eyes on energy storage

Encouragingly, energy storage is taking more of a centre stage position in the decarbonisation and energy transition debate.

Energy storage was well represented at this year's COP29 in Azerbaijan. This is where the Green Energy Storage and Grids Pledge emerged, which has called on governments to work towards increasing global

¹ According to Drax, reported by [Proactive Investors](#).

² According to <https://grid.iamkate.com/>

³ According to <https://grid.iamkate.com/>



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energy storage capacity to 1,500 gigawatt hours (GWh) by 2030, more than six times the current global capacity. Several countries including Germany, Saudi Arabia, Brazil, the US and the UK have committed to this attempt to boost renewable power.

So how is this extra capacity going to be created? In the UK there is currently a lot of good intent and well-meaning discussion around this, but not a lot of action being taken just yet.

The initial investment required for starting energy storage projects is often substantial, which can be a deterrent to investors. Alongside this, the use of new, complex technologies can create a sense of risk, creating further complications for contractors needing to advise on costs.

Uncertainty around both costs and potential revenue is a combination that has historically prevented the UK from starting the number of projects it needs to make real inroads into increasing our energy storage capacity.

But we are seeing more projects navigate such hurdles.

A novel approach

This year has also seen work commence on Highview Power's new facility in Carrington, which will be the first Long Durations Energy Storage (LDES) of its kind in the UK.

This facility will use innovative technology to refrigerate and liquefy air, which it can then store for days or even weeks. Then, when it is needed, the air is used to power a turbine, meaning the energy has been recycled to help generate green power.

Once complete, the facility will have a capacity of 300MWh, providing a real boost to the UK's energy storage infrastructure. That's enough energy to power electric vehicles for over a million miles.⁴

The technology behind this is also scalable, and Highview Power has already lined up four further sites in Scotland and Humberside for similar developments. These four sites will use the same sustainable technology to provide 10GWh of long duration energy storage, which is more than 10% of the UK's current LDES targets.

This presents a huge opportunity for the UK. So, while the feeling may be that too many projects are getting stuck in the planning phase, Highview Power perhaps provides a blueprint for how to actually get the projects we need off the ground.

⁴ Based on one MWh powering an electric vehicle approximately for 3,600 miles.

Partners to get projects off the ground

At Bilfinger UK we were involved with the scheduling, estimating and construction planning during the front-end design phases of the project, and are now moving into the construction of the Highview Power project. During the initial phase of work, the key was to engage with clients and subcontractors early, to provide time to seek ideas and create clarity to enable accurate cost estimating. At the same time, it was essential to have a transparent relationship with all key stakeholders, to build the trust that can help overcome uncertainties.

This allowed the project to reach a point where construction is now underway on the first site, with an appetite to start more projects across the country.

Right now there is a huge opportunity within the energy storage sector for the UK to be implementing innovative solutions that can make it a world leader when it comes to decarbonisation. But to do this we need to actually start projects, like Highview Power, which means working closely with stakeholders to give them the assurance they need to allow this to happen.

So as we move into the new year, we need to make 2025 the year where we take a new approach in this country that allows us to make real progress when it comes to expanding our energy storage capacity.

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