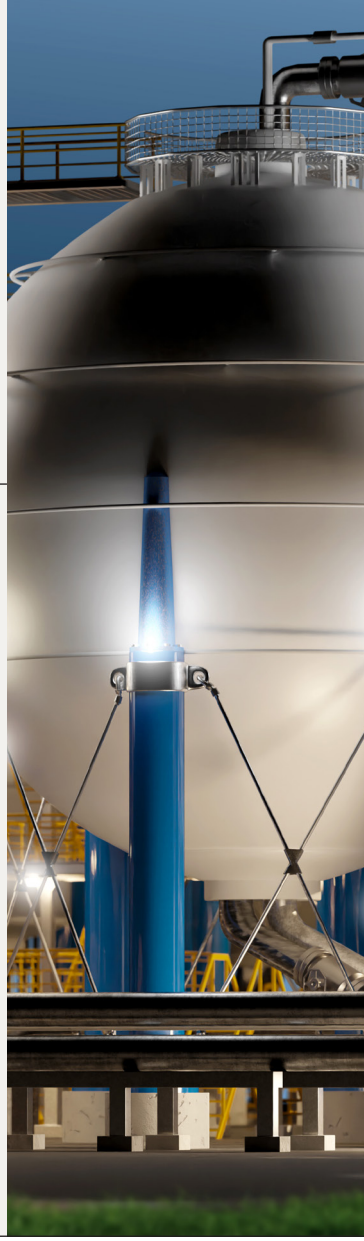
Stantec

# Power *Pulse* June 2025

A monthly snapshot of the ever-changing power outlook in the UK



*"We can't afford to put all our eggs in one basket"*

**Neil Calder,**
**Principal Consultant**

**Earlier this month, I attended the Energy Industry Council's (EIC) Energy Exports Conference in Aberdeen. Delegates from around the world gathered to discuss global energy opportunities.**

There were lots of positive takeaways, but it's clear the journey towards net zero is not without its challenges. We need to move more quickly. And we can't afford to put all our eggs in one basket. With increasing demand, we need to keep pursuing a diverse range of clean energy technologies as we look to fully decarbonise and build a resilient, sustainable energy future.

In the same way that Power Pulse tracks changes across the energy spectrum, it was great to see a wide range of energies being represented including nuclear, hydrogen, and hydrogen derivatives.

## Spotlight of the month

### TIA threshold. What's the impact?

Ofgem has approved NESO's plan to increase the threshold for an Evaluation of Transmission Impact Assessment (TIA) in England and Wales from 1 megawatts (MW) to 5 MW. The threshold in Scotland remains at 200 kilowatts (kW).

The TIA considers the impact a distribution project will have on the transmission network. If reinforcement work is needed, this can increase costs and cause delays. The previous threshold created an artificial ceiling of 990 kW. We can expect this to rise to 4,990 kW.

Let's consider the impact.

**On-site generation:** Landowners and developers can more easily expand their on-site renewable energy generation to further reduce their bills, carbon emissions, and reliance on the grid. First, complete a comprehensive energy consumption audit to guide the appropriate sizing of renewables and storage technologies. This will improve the design and make it more cost-effective.

**Community energy projects:** There are some great examples of these across the country, but their growth has been stifled by the previous threshold. Benefits include lower bills, lower emissions, funds for community projects, and greater energy awareness.

**Faster connections queue:** The reform sits alongside the introduction of a 'first ready, first connected' two-gate process to connect to the grid. The removal of an additional lengthy process should help to speed up connections and prevent the gridlock we've seen in recent months.

OFGEM'S DECISION →

*"The Gate 2 evidence submission window opens on 8 July 2025"*

## Grid

Part of NESO's **Connections Reform** project, the Gate 2 evidence submission window opens on 8 July 2025. Customers will be given at least four weeks' notice. There are two routes for submitting evidence:

**Land route:** Customers must submit the original red-line boundary from their application, meet minimum acreage requirements (or provide a separate letter to NESO), and submit evidence of secured land rights (via ownership or a lease agreement for at least 20 years).

**Planning route:** Submit and validate an application for planning consent via a planning reference number, application, or (for transmission-connected customers) confirmation of the queue management milestones in their Gate 1 or transitional offer.

To show that projects are needed, customers must submit their technology type as part of the readiness declaration. NESO will assess this against its strategic alignment criteria.

**Jesal Chandi, Senior Utilities Consultant**

READ OUR PREVIOUS SPOTLIGHT ON THE REFORMS AND WHAT HAPPENS NEXT →

*"Battery storage is essential to store and shift solar energy for evening use"*

## Solar

The UK government's plan to require solar panels on most new homes by 2027 is a welcome move. It will help ease power capacity pressures. It will reduce grid strain. And by embedding renewable energy into new developments, it supports a more sustainable future.

However, solar energy is typically generated during the day when many residents are out. This creates a mismatch with household energy use. To truly realise the benefits, battery storage is essential (either at the home or neighbourhood level) to store and shift solar energy for evening use.

Ownership models also need careful consideration. With multiple parties often involved in housebuilding, and solar arrays paid back over years, we need clear frameworks to support the fair sharing of costs and benefits.

**Ben Bowler, Technical Director**

READ THE GOVERNMENT'S LATEST COMMITMENT →

*"Noise remains a critical factor in wind turbine projects"*

## Wind

Noise remains a critical factor in the planning and development of wind turbine projects. While advances in turbine technology have significantly reduced operational noise levels, potential impacts on nearby receptors must still be carefully evaluated.

To mitigate planning risks, it is essential to conduct thorough noise assessments early in the design phase. Robust acoustic modelling will help to optimise turbine siting. Low-noise turbine models and proactive stakeholder engagement are also key to fostering community support. If required, operational strategies can be used to further manage the impact and improve planning outcomes.

**Joseph Padbury, Associate Director**

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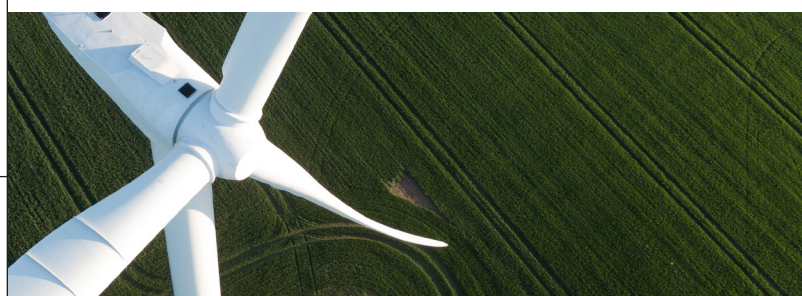

## Battery storage

As the UK targets 27 gigawatts (GW) of battery energy storage systems (BESS) to meet its Clean Power 2030 goals, deployments continue to be challenged due to public concerns about fire risks. In a recent parliamentary debate, MP John Milne called for a national fire safety standard. He argued that this would accelerate BESS rollout by building the public's confidence.

While BESS fires are extremely rare, the industry is taking proactive steps. The Health and Safety Executive enforces a strong regulatory framework. The Department for Environment, Food, and Rural Affairs is exploring new measures to manage risks. This includes environmental permitting.

A key best practice is the early inclusion of a battery safety management plan in project development. This not only reduces risk. It strengthens planning applications. And it helps to reassure local authorities and communities. Clear safety standards and transparent planning are essential to overcoming resistance and unlocking the full potential of BESS in the UK's energy transition.

**Ben Bowler, Technical Director**

SEE JOHN MILNE'S COMMENTS →

## eMobility

A note of caution regarding the news that homeowners and businesses **no longer need planning permission** to install an electric vehicle (EV) chargepoint on their site.

While the relaxation of planning restrictions is positive and will likely increase customer choice, there is a risk that new chargers will be built but not used if they are not in the right locations. Importantly, this would add to existing grid capacity constraints as even unused chargers reserve capacity.

When advising on installations, we often find that the need has been overstated. Installers should consider driver behaviour and the attractiveness of the charging facility to users to determine the right location and mix of chargers. This will help to reduce costs, increase utilisation, future-proof assets, and support net zero.

**Ben Bowler, Technical Director**

READ HOW A LOCAL AUTHORITY DETERMINED ITS CHARGING NEEDS UP TO 2035 →

# Nuclear

There's no question that public sentiment is key to delivering the nuclear renaissance. It was encouraging to see the results of YouGov's biannual tracker of which form of energy generation the public supports the most. In April, **nuclear jumped to the top of the list**. This will be linked to the government's continued support for growing our nuclear capacity and energy security.

It's also interesting to see how the nuclear tide is turning **across Europe and beyond**. After the previous government shut down its last power stations, Germany's new chancellor has vowed to invest in new technologies such as small modular reactors and nuclear fusion. Switzerland and Belgium have said they will lift bans on developing new projects. Also, the Danish parliament has approved an analysis of the potential use of nuclear, which has been banned for 40 years. Meanwhile in the US, plants are being revived to power data centres.

**Peter Sibley, Director**

**PODCAST: HOW ADVANCED NUCLEAR CAN POWER UK DATA CENTRES →**

# Geothermal

A recent assessment by the British Geological Survey confirms the potential for deep geothermal energy in the UK. In a new report, it identifies eight 'goldilocks zones' across all UK countries where geological conditions are favourable for energy transition technologies.

The outcome of the government's £40 billion annual investment in clean power and its impact on geothermal development remains to be seen. However, a focus on deep geological characterisation and regulatory reform would be logical next steps. Financial support or risk sharing mechanisms would also help to accelerate the growth of this underused resource.

**Mark Griffiths, Associate**

**SEE WHERE THE GOLDILOCKS ZONES ARE →**

*"The UK has the greatest share of the global pipeline"*

# Hydrogen

The EIC's Energy Exports Conference provided a useful snapshot of the market. Globally, there are around 1,250 projects in the pipeline. Most involve green electrolytic hydrogen. However, only about 9 percent have reached construction. The fact that many have a single source of supply and a single off-taker, without any shared infrastructure, can be a barrier for investors.

The UK has the greatest share of the global pipeline, with around 130 active hydrogen projects. This reflects the UK's political will and an ambitious strategy to deploy up to 10 GW of low-carbon hydrogen by 2030, creating thousands of high-skilled jobs and supporting the reindustrialisation of key manufacturing regions. The UK is well-positioned to be a global leader in the emerging hydrogen economy, with the potential to tap into a burgeoning export market.

**Neil Calder, Principal Consultant**

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