Purcell and Rousell in Infrastructure Investor: How SMRs Could Power Data Centres

May 13, 2025 Conrad Purcell, Kayley Rousell

PRACTICES Energy, Power and Natural Resources, Nuclear Energy

Haynes Boone Partner Conrad Purcell and Associate Kayley Rousell authored an article for *Infrastructure Investor* discussing how small modular reactors can meet growing energy demands while reducing carbon emissions.

Read an excerpt below.

The data centre industry is growing rapidly, driven by the increasing consumption of digital services, cloud computing, artificial intelligence and data-driven technologies. This increase in demand has resulted in rising energy consumption. The UK grid is largely powered by fossil fuels, so this extra demand is contributing to both environmental concerns and rising energy costs. Small modular reactors (SMRs) could provide a solution.

Unlike traditional nuclear reactors, SMRs are smaller, scalable, potentially safer and have a significantly smaller output capacity. Their modular nature means they are designed to be manufactured in factories and assembled onsite, making them potentially more cost-effective, flexible and quicker to deploy than conventional nuclear power plants.

Power Potential
SMRs' ability to provide stable, low-carbon energy could play a vital role in transforming the energy landscape of the UK, especially when it comes to powering energy-intensive facilities like data centres:

- Reliability and stability: data centres require a constant and uninterrupted supply of energy to ensure the smooth functioning of their operations. Any disruption in power can lead to significant losses in terms of data processing, security and operational downtime. SMRs can operate continuously without the fluctuations seen in renewable sources which makes them a reliable and stable source of power for data centres.
- Carbon emissions reduction: one of the most compelling reasons to consider SMRs for powering data centres is their potential to dramatically reduce carbon emissions. As the UK transitions towards a low-carbon economy, data centres will need to move away from fossil fuel-powered electricity. By using nuclear power, specifically SMRs, data centres can significantly reduce their carbon footprint.
- Energy security: the use of SMRs for data centres could also help improve the UK's energy security. They can be deployed close to data centres, reducing dependence on external power sources and improving energy resilience in the face of supply chain disruptions or other challenges.

To read the full article from *Infrastructure Investor*, click here.