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## Powering data centres – from atoms to bytes

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**E**ven by conservative estimates, the future demand for power from data centres is likely to be huge. When we combine this with the increased demand from the broader electrification of industry and society, questions are being raised as to how data centres will meet their future power needs, whilst also meeting the pressure to decarbonise their footprint to meet net zero targets.

Over recent years, hyperscalers have partnered with power generators and suppliers to secure power from renewable sources. Power purchase agreements (PPAs) have been the leading strategy for hyperscalers to fulfil their renewable energy commitments with Amazon, for example, acquiring more PPAs globally than any other company in the last year.

While renewables have the potential to meet a significant proportion of the increased power needs from data centres (particularly when combined with storage), their intermittent nature means that they cannot produce power consistently enough to be the only energy source for data centres, which have a 24/7 demand. Baseload power generation is therefore essential. Whilst gas fired plants with carbon capture could provide a low carbon baseload solution, the geographic constraints of carbon storage means that carbon capture gas plants are unlikely to be the answer for data centres globally.

Nuclear is therefore attracting greater attention as a potential solution for the new power demands from AI and data centres.

In [this article](#), we explore the challenges of powering data centres and the particular benefits of nuclear power which may provide a solution.



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