What the US and Slough tell us to expect in Scottish data centre boom

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Across the world data centre construction is booming, despite worries about the power-hunger of this expanding industry. So what does the experience of towns and cities in the US, Ireland and England already hosting large data centre clusters tell us about the potential impact of similar projects on Scotland's electricity grid?

And why are some of the places which welcomed the industry for decades now implementing policies to make operators pay more for electricity or facing a community backlash?

What the United States tells us

US electrical industry research institute EPRI highlights that surging electricity demand is a common feature of data centre cluster growth. EPRI's 2026 Powering Intelligence report estimates that by 2030 data centres will consume between 9 and 17 percent of total US electricity demand, up from 4-5 percent today.

The state of Oregon on the US West Coast has a long history of working with data centre operators. Google, Amazon and Meta started building their own hyperscale campuses around twenty years ago. A data centre hotspot later emerged in the city of Portland attracted by fast internet connections through the submarine data cables traversing the Pacific Ocean to Australia, New Zealand, Japan, China, and South Korea.

The share of Oregon's electricity consumed by data centres compared to the industry's contribution to paying for grid infrastructure has been a key question. The sector is on track to use over 20 percent of Oregon's electricity by 2030, according to EPRI. Earlier this year, Oregon became the first state in the US to bring in regulations designed to ensure data centre operators pay a larger share of the costs of upgrading and expanding the electricity grid.

Charlotte Shuff from consumer advocacy group Citizens Utility Board said, "Our old system of dividing costs between customers ended up putting too much on households and small businesses, despite these groups not seeing the benefits of the investments made for data centres."

What Ireland tells us

US-based cloud computing companies, including the Big Tech giants Microsoft, Amazon and Google arrived in Ireland in the 2000s. As in the US, an intense clustering effect soon took hold, leading to a concentration of data centres in the Dublin area. According to Ireland's Central Statistics Office, consumption by data centres rose from 5 percent of all metered electricity in Ireland in 2015, to 11 percent in 2020, to 23 percent in 2025.

Ireland's data centre expansion has taken place alongside a dramatic growth in clean energy, with the share of electricity generated from renewables rising from under 10 percent in 2006 to nearly 40 percent by 2024. But as data centre clusters took off, a significant mismatch between demand from the sector and the growth of generation capacity developed. Research by the Irish parliament in 2025 noted that the rise in data centre electricity demand was "outpacing new renewable electricity sources".

Declan Owens from EcoJustice Ireland is an environmental lawyer who has represented Irish community campaigns challenging large data centre projects. "Instead of helping to green the public supply, these clean energy sources are ringfenced for Big Tech," he said. Irish environmental and community campaigns are now arguing that "because renewables are being diverted, Ireland is forced to keep fossil-gas plants running longer to meet the rest of the public's needs," he added.

What Slough tells us

For over two decades, the Berkshire town of Slough has welcomed data centre operators to the Slough Trading Estate (STE). The location is close to London's financial centres and big urban consumer markets.

Recently released government figures show that Slough's electricity consumption is now dominated by data centres. In 2024, they consumed 65 percent of electricity across the entire local authority. Langley resident Dr Ambily Banarjee, one of the organisers of a new Slough Against Data Centres campaign, said this statistic was "shocking", adding "we know there are reports across the country where lack of grid capacity delays housing developments. Are we going to be impacted in terms of numbers of houses that can be built for the community in residential areas?"

What all this means for Scotland

What does this mean for Scotland? The government-backed AI Growth Zone in Lanarkshire will eventually provide 500 MW of "AI-ready" compute, says operator DataVita. That is round the same scale as the entire Slough data centre cluster had reached by October last year. It would also mark a huge jump in size for Scotland.

Kat Jones from countryside charity Action to Protect Rural Scotland has been campaigning against these giant facilities. "Just one of the data centres proposed in Scotland, Auchtertool, would use much more energy than all of the data centres in Slough, Europe's data centre capital. This shows how unrealistic the whole data centre boom in Scotland is," she said.

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