Data Centers MythBusters Series

PART 1
Community & Economic Benefits

By The REA's Data Centre Coalition

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Executive Summary

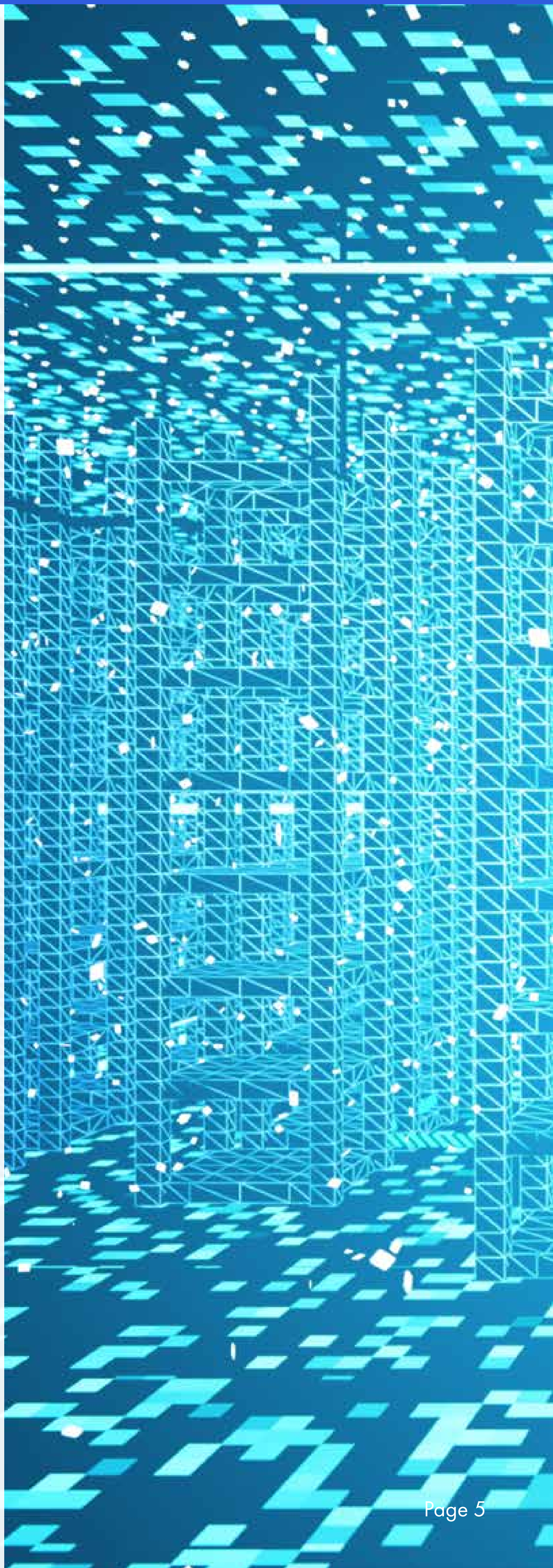
So many myths now surround data centres that, unless they are addressed, they risk holding back both the UK's clean energy transition and its wider economic potential. The REA's Data Centre Coalition is producing this myth-buster series because, if the UK is serious about decarbonising its power system and securing long-term, digital-led growth, these misconceptions need to be replaced with clear, evidence-based understanding.

Three things stand out about modern data centres. First, they are core infrastructure for daily life and the wider economy, quietly enabling everything from local shops taking card/phone payments to manufacturers using digital tools. Second, when well-designed, and paired with clean energy, data centres can support the faster shift to a low-carbon energy system by offering flexible demand, supporting additional renewable capacity and improving efficiency (vs. scattered in-house server rooms). Third, they are major long-term economic anchors: they create well-paid jobs, stimulate local supply chains and provide the computing foundation the UK needs if it wants to be an AI leader, have higher productivity and grow a modern, digital economy. For example, Slough's 675MW of hyperscale capacity (under operation/development) supports around 14,000 jobs and contributes over £30 million annually in business rates, while 95% of its data load is backed by 100% renewable electricity procurement/ supply agreements.

This document is intended to help inform policy and planning decisions about where and how data centres are built in the UK, and on what terms they should be accepted. It aims to help national and local decision-makers shape planning frameworks, grid and heat network investment, and communities benefit so that new data centres are low-carbon, well-sited and closely aligned with local economic development, skills and net-zero plans.

Introduction

Data centres are a vital, often unseen, component of modern life. Walk down any street, enter any home, and you'll struggle to find a business/individual that doesn't rely on digital services: online bookings, cloud-based social media, AI-searches or card payments. All of these depend upon an essential layer of infrastructure, the data centres. Unfortunately, when data centres do make the news, it is often in the context of misplaced alarms: fears about skyrocketing energy and/or water use (note: water use to be dealt with, in detail, in part 2 of the REA's myth-buster series), concerns about 'warehouses full of computers' spoiling the landscape or even fires. This essential myth-buster sets out how well-planned data centres can support local prosperity, help integrate cleaner energy, provide valuable flexibility to the power system and underpin the UK's ambitions in AI and the wider digital economy.



Myth 1

"Data centres are just energy sapping warehouses"

This myth completely fails to capture the vital role that data centres provide to economic activity, supporting a surgent digital economy and providing a foothold for communities embracing rapidly developing technological change.

The data centres of the future will not simply be passive consumers of power. Modern data centres are increasingly engineered with sophisticated controls, real-time monitoring and automation, which can help operators shift computing tasks over time, adjust load within agreed limits and work more closely with the wider power system. The best-practice sites of the future will become finely tuned consumers, rather than the blunt, inflexible loads that many still fear. It is important to remember that data centres connect to the grid through the same regulated connection process and planning frameworks as every other electricity user. As large, predictable consumers, they can help justify and unlock investment in grid upgrades and reinforcements, strengthening the system for all users. Many future data centres will also ease pressure on the grid at peak times by using on-site battery storage or by reducing demand when the system is under stress, whether through short-term curtailment or AI-driven demand-side response. As AI and high-performance computing workloads grow, the value of this controllability only increases: the more flexible load that can be aligned with periods of low-carbon generation, the easier it becomes to run a cleaner, more-resilient grid for everyone.

It is also worth noting that the alternative to building a lot of UK data centre capacity is often less energy efficient server rooms spread around the UK and/or overseas (i.e. losing jobs). Consolidating the required computing capacity into highly optimised data centres improves both efficiency and reliability, even before the additional system benefits are factored in.

Myth 2

“They don’t really help the local or national economy”

A persistent misconception is that data centres sit outside the ‘real’ economy, serving tech companies but offering little wider value. The truth is very different as data centres underpin much of modern economic activity. Retail, logistics, advanced manufacturing, life sciences, financial services, the creative industries, policing and the NHS all depend on reliable digital infrastructure.

TechUK’s Foundations for the Future report depicts that data centres have already contributed billions of pounds to the UK economy and supported tens of thousands of jobs nationwide. As cloud computing and AI services continue to growth, these contributions will increase substantially. Apatura’s planned Ravenscraig data centre campus, for example, will boost Scotland’s annual GDP by 0.4% and create nearly 2,400 long-term jobs. Greenscale’s Northern Ireland data centre campus will increase renewable deployment and benefit local communities, collaborating with local utility companies, governments and renewable energy providers. KAO Data’s recent report estimates that the 675MW Slough data centre cluster has “created 14,000+ jobs and +£30 million annual contribution … (as) data centres replaced declining manufacturing employment in the Slough region on a near one-to-one basis, and created approximately 8,000 construction jobs between 2010 and 2025, alongside hundreds of permanently skilled operational roles – including mechanical, electrical and network engineering, construction, building, facilities management, legal and architectural positions … (while) 95% of Slough’s data centre electricity demand is backed by 100% renewable procurement.”

The wider economic impact of building UK data centres stretches through construction and equipment chains, specialist engineering and maintenance firms, and the many local businesses that support large infrastructure sites. A dynamic rapidly expanding UK economy requires organisations that rely on secure, resilient digital infrastructure to operate efficiently, compete internationally and expand their services. A 2025 McKinsey study concluded that “AI investment could drive significant GDP growth, create thousands of high-paying jobs, and spur innovation across various sectors.”

The positive economic impacts, from data centres, are

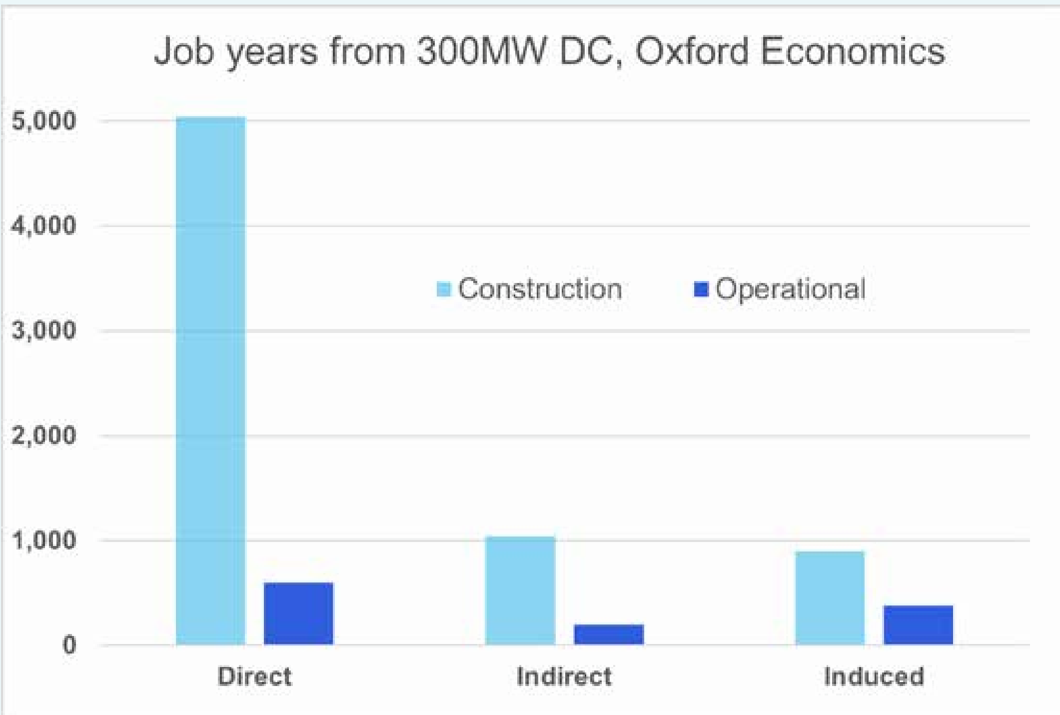
Myth 2 cont...

"They don't really help the local or national economy"

particularly visible at a local level. A typical 300 MW hyperscale data centre can support thousands of direct and indirect jobs over a ten-year period, alongside billions of pounds of economic activity. A 2025 paper by the Regional Economic Consulting Group, for example, found that communities in regions data centres are built "benefit significantly from this technological transformation through immediate construction impacts, sustained operation returns, and increased tax revenues that can be used to enhance community resources such as education and emergency services". The additional jobs often paying salaries above local averages in areas of long-term deindustrialisation (where a lot of the UK AI zones are being planned).

Oxford Economics' research on the Havering data centre project, a 600MW facility supports "14,000 job years of employment, and £428 million in wages" during the construction process (proxied to 7,000 job years for 300MW facility, see chart, summation of direct, indirect and induced) and "2,300 jobs and £100 million in wages" operating the data centre (or a 1,185 job proxy for a 300MW data centre, see chart, split by direct, indirect and induced roles).

The Regional Economic Consulting Group study concluded that "communities that successfully attract and integrate data centre developments position themselves at the forefront of the digital economy transformation, capturing the substantial economic



Myth 2 cont...

benefits that will drive growth throughout the 21st century."

This does not mean every data centre proposal should proceed automatically, but it does highlight the key point that properly planned data centres, integrated into local communities (and with plans for associated clean energy) are a core part of the infrastructure that enables the rest of the economy to function and grow.

Public First's 2025 analysis showed that "increasing data centre access has positive economic effects at the local level, with the full return appearing five years after the construction." Nicol Economics' concluded that UK data centres trigger "indirect (supplier-linked) and induced (spend) multiplier effects...in the range of 1.2 to 1.9... (and concluded that) data centre capacity is part of the critical digital or data infrastructure that currently underpins the UK economy. Its importance to the UK economy increases year on year." Recent analysis, from Finland (by FDCA) showed that a single 300MW data centre can deliver €1 billion in annual economic value, with multiplier effects across operations and construction, implying an economic multiplier of €3-4/MW.

Myth 3

“Data centres are incompatible with clean energy”

One of the most persistent misconceptions about data centres is that they are incompatible with a country’s clean energy ambitions. However, modern data centres employing closed-loop water cooling systems (rather than requiring ongoing top-ups) can support a more rapid and stable transition. It is a fact of modern life that demand for computing (especially from AI) is increasing and with it demand for electricity. The IEA report, Energy and AI, cited that “global data centre electricity consumption has more than doubled since 2022, reaching around 415 TWh in 2024… (and) data centres could consume up to 945 TWh of electricity in 2030.” The IEA’s modelling thus depicts global data centre demand in 2030 to be roughly equivalent to total Japanese electricity demand today. The IEA estimates that roughly “half of the global growth in data centre demand is met by renewables, supported by storage and the broader electricity grid… (with) renewables generation… projected to grow by over 450 TWh to meet data centre demand to 2035.” Modern data centres are not only increasingly energy efficient, but they can also provide additional vital flexibility to the grid. By providing stable, long-term customers for energy, data centres provide the certainty and creditworthiness necessary to drive new renewable projects, helping the energy system to decarbonise faster.

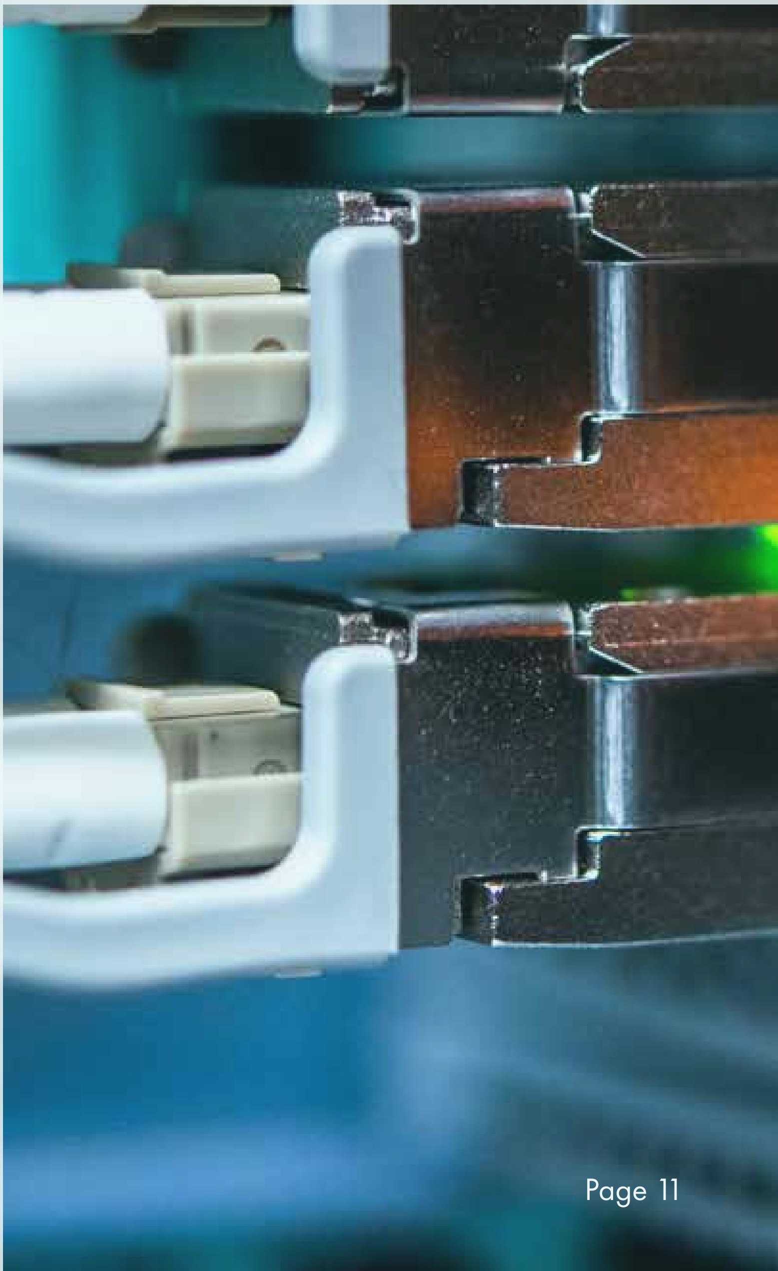
A growing number of data centre developers are proving what’s possible through co-location and clean power partnerships (REA’s Data Centre Coalition members being a prime example). By building data centres alongside solar or biogas facilities, for example, and securing long-term power purchase agreements (PPAs), investors can make more renewable projects bankable. Bloomberg NEF, for example, found that roughly a half of global corporate PPAs were bought by big tech firms. The outcome is a triple win: data centres decarbonise their own energy use; creating more green jobs/infrastructure; and the data centres can support the grid in handling variable generation.

The energy benefits don’t stop at where the electricity comes from, the benefits extend to how intelligently the electricity is used, a game changer for the grids of the future. Modern data centres are designed for efficiency, utilising increasingly advanced closed-loop cooling systems, smart energy management, on-site battery and long-duration energy storage (LDES)

Myth 3 cont...

solutions, which collectively allow co-located modern data centres to minimise waste and support grid stability. Modern data centres can shift workloads, charge batteries/ LDES when renewables are plentiful, and supply energy back to the grid when needed.

The data centres of the future won't be barriers to net zero but enablers. They will be flexible assets that help balance a high-renewable energy system and accelerate the UK's journey to a cleaner, smarter grid. By enabling the broader adoption of AI, data centres can also help other sectors in their decarbonisation journey, providing the compute needed to optimise energy networks, transport, manufacturing and heating systems. For example, the Alan Turing Institute's [State of AI for Decarbonisation 2025] shows that AI-driven tools are already helping to maximise flexibility in energy networks, optimise EV charging and reduce emissions in heating and building systems, as well as improve efficiency in manufacturing and freight. For example, "in 2025 AI has a measurable impact on the UK's ability to operate a low carbon electricity grid. AI-powered solar… reduced emissions by an estimated 300,000 tonnes, smart EV charging lowered peak electricity usage from EVs by 42% and virtual power plants helped balance the grid." Data centres provide the backbone that makes these AI applications possible, turning data-rich models into real-time control systems than can cut energy waste and lower carbon intensity across the economy. Well-located, low-carbon data centres are not just tech infrastructure; they are a key part of the UK's decarbonisation toolkit.



Myth 4

"Heat from data centres is wasted"

It is true that, in the past, a lot of the heat produced by data centres was wasted. As the UK increasingly focuses on improving overall energy efficiency and building circular, low-carbon systems, that model is now rapidly evolving. Data centres generate an almost constant flow of low-grade heat, which can be captured and re-used. This surplus heat can be captured to support district heating networks, warm homes/offices/etc., and sustain industrial processes, a boon to local authorities, developers and wider net-zero ambitions.

There is currently no specific legislation on UK data centres reusing waste heat, although achieving certain thresholds has been cited as a potential means of moving up future grid connection queues (the UK government is desperately looking for methods prioritise applications). In contrast, several European countries have already gone further, with more explicit planning and energy-efficiency requirements. Germany, for example, has brought large data centres into the scope of the Energy Efficiency Act, requiring those which commenced operations after June 2026 to reuse 10% of their waste heat, rising to 20% by 2028 (though there are already rumours these commitments could be watered down in the light of current economic and industrial pressures). Elsewhere, the EU's revised Energy Efficiency Directive is pushing member states to consider mandatory heat-recovery for large energy-intensive installations, including data centres, in future national plans.

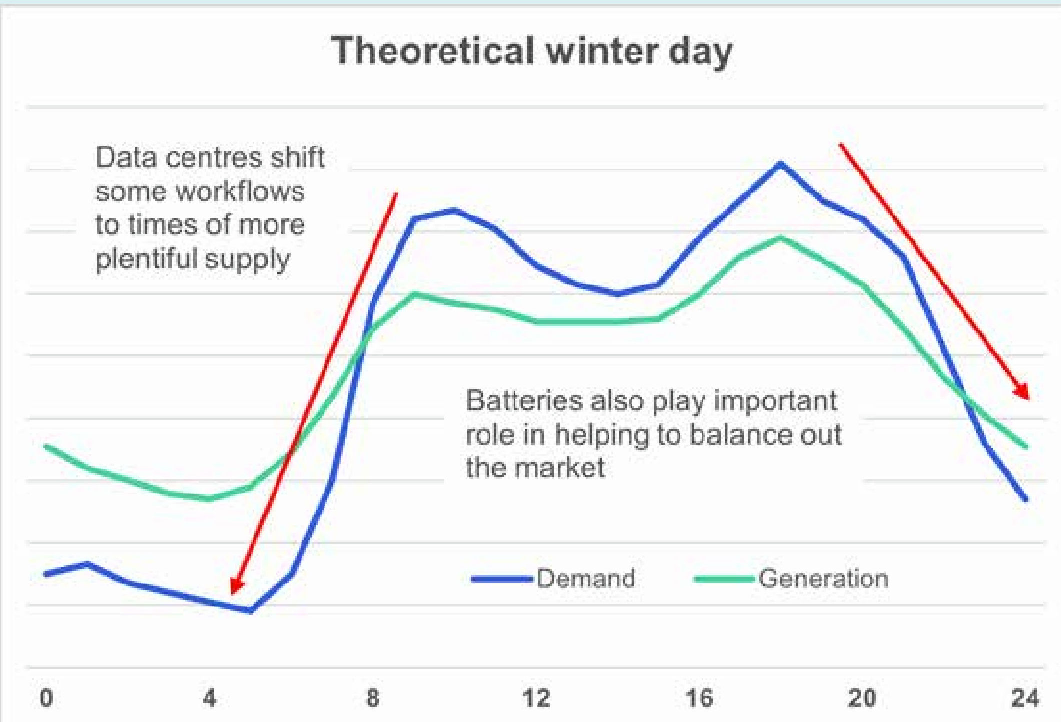
This policy momentum is backed by increasingly robust evidence. Recent academic research on data centres shows that "up to 60% of heat rejected...can be used to meet an energy service," highlighting just how significant the untapped potential is. With the right planning frameworks, incentives and technical standards, the UK could turn waste-heat-reuse from an optional nice-to-have into a core feature of its data centre policy and wider decarbonisation strategy.

Myth 5

"Data centres can't help with grid flexibility"

As the UK power system becomes increasingly reliant on non-flexible sources of supply (i.e. the renewable power share rises), the role of demand-side flexibility becomes increasingly important. Without additional flexible demand-side responders, like modern data centres, the costs of balancing supply and demand will become increasingly prohibitive. This is where data centres (utilising the latest AI) will play a particularly active role in helping to deliver clean flexibility. Unlike most traditional industrial loads, modern data centres are built around advanced digital controls, detailed operational data and automated systems that can respond in real time to price and grid signals.

A recent [ECA insight] (titled "Is there a data centre sized hole in flexibility forecasts?") highlighted how "a common misconception (including among system planners and regulators) is that data centres operate 24/7/365 at near-maximum demand. However, there is much heterogeneity within and across data centre types. Data centres may operate over 80% of the time when training AI models, but this drops to ~40% when utilised for AI inference. For hyperscale data centres providing mass scale internet services, this figure may be 50%, while multi-tenant, strategically co-located data centres may have operation rates of only 20-35%."



Myth 5 cont...

Following a recent trial of AI data centre demand-side capabilities, Steve Smith (President of National Grid Partners) concluded that AI data centres "can be connected and managed without major new network capacity, flexing their power up or down in real time to support the whole system... (enabling the UK) to connect significant new demand more quickly and, help to lower network charges for customers over time."

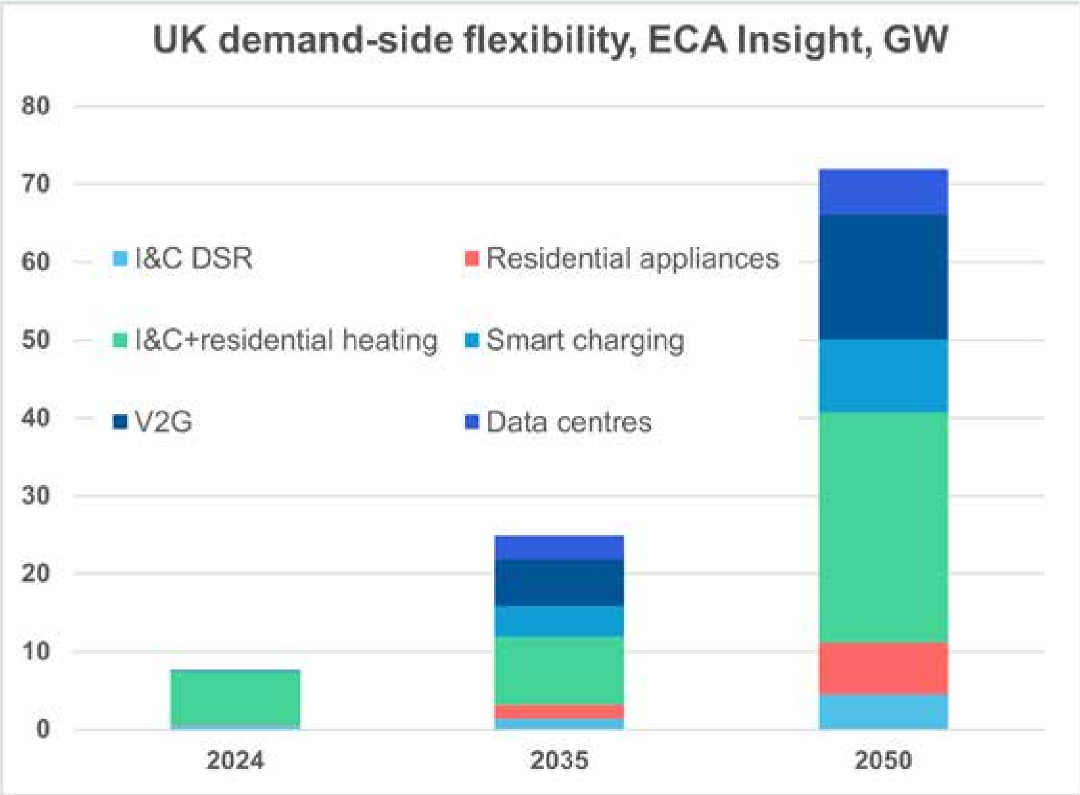
The additional demand-side flexibility that data centres provide takes several forms. Data centres can shift non-time-critical workloads (such as AI training, large-scale data processing or backups) into periods when renewable generation is plentiful (e.g. when it is very windy, or very sunny, or at night). Data centres can also coordinate directly with network operators to reduce or adjust demand during periods of local constraint. Together these measures provide vital flexibility on the demand-side to support a much more flexible UK grid.

When designed and located intelligently, alongside renewable generation, with built-in flexibility, modern data centres become powerful, responsive partners in a resilient, renewably powered energy system. Josh Parker (Head of Sustainability, at NVIDIA) noted that AI-powered infrastructure "can act as a grid-aware asset, modulating demand in real-time to support stability. By making AI workloads responsive, we accelerate deployment while reducing the need for costly grid upgrades." Crucially, this extends beyond data centres to AI platforms that learn user preferences for managing demand (e.g. EV charging, heat pumps and other dispatchable power), automatically shifting usage to save money for consumers while easing peak grid stress and maximising renewable utilisation.

NESO's Future Energy Scenarios (FESs) suggest that UK data centres demand could reach 5.4GW by 2035 (compared to the average UK power load of around 37GW in 2024), with scenarios that range from 4.9-11.5GW for 2050, but these numbers crucial do not include data centre flexibility. ECA Insight assumes that 50% of data centre loads can flex (see chart), increasing "available flex capacity by 1.6-3.3GW (or 9%-16%) by 2035 and 2.5-5.8GW (or 7%-12%) by 2050...they could immediately offer large scale load flexibility as soon as they are installed...this can turn into an opportunity for a more resilient and cheaper grid through higher volumes, more granular

Myth 5 cont...

network planning, flexible tariffs and connection charges, and more dynamic flexibility and ancillary service markets."



Myth 6

“Data centres don’t employ many people”

The employment and skills impact from data centres are far greater and more wide-ranging than this myth suggests. Building a new data centre is a huge project, that can last several years, drawing in civil engineers, construction teams, electrical and mechanical contractors, heat/air conditioning specialists, security providers and logistic firms, collectively a huge stimulation to employment. Once operational, data centres require permanent staff across a diverse range of occupations, including engineers, technicians, IT and network professionals, facilities managers, security staff, cleaners and catering. Collectively these workstreams represent a broad workforce spanning graduates, vocational and entry-level positions.

The wider economic benefits of building domestic data centres are equally significant. Large data centre campuses generate long supply chains that extend from local trades and material suppliers to national manufacturers, specialist service providers and professional consultancies. A Microsoft study (October 2025) concluded that a typical “300MW hyperscale datacentre campus can contribute as many as 1,600 jobs to a local community, across both construction and operational roles...(rising) to 5,240 total jobs when indirect and induced effects are accounted for... datacentre jobs in the UK are high-skilled, high-wage jobs and can offer average annual salaries approximately £10,000 higher than comparable roles in other industries.” A recent case study, on Slough, concluded that “there is now 675MW of hyperscale capacity under operation, or under development within Slough... (supporting) around 14,000 jobs and contributes over £30 million annually in business rates.”

Myth 7

“Data centres don’t matter for AI - that’s just ‘the cloud’”

It’s easy to think of AI and ‘the cloud’ or simply theoretical entities or effectively weightless, but every large language model, AI-driven medical diagnostic, or intelligent transport algorithm relies on physical hardware: rows of servers and high-performance networking housed within purpose-built data centres. Without that infrastructure, there is no cloud and no AI revolution. As the UK rolls out AI across healthcare, education, manufacturing, finance and public services, its success will rest on access to secure, modern, low-carbon data centre capacity. Without sufficient infrastructure, the UK risks becoming an ‘AI taker’ and not an ‘AI maker’. The UK can’t afford to miss out on the economic and strategic resilience a robust domestic data centre industry would bring.

The opportunity extends far beyond large hyperscale sites. Regional data centres can anchor local innovation clusters, giving start-ups, universities, colleges/schools and SMEs access to state-of-the-art computer power. Data centres add value by providing vital demand-side flexibility and reducing the carbon footprint of intensive AI workloads.

At a national level, how the UK develops and connects its data centres with universities, research labs and business will largely determine how far it can use AI to boost productivity, modernise public services and grow exports. In practice, a country that wants to set the pace on AI, rather than rely on others, must invest in the essential data centre infrastructure that underpins that ambition.

Myth 8

"Communities have little say and see no benefit"

It is often claimed that data centres are simply dropped into unsuspecting communities with little warning and that any benefits they bring flow outside these communities. Although this may unfortunately have sometimes been the experience in the past, it is far from inevitable and the REA's Data Centre Coalition strongly recommends it should not be the default in the future. Whether a data centre works for local people is ultimately dependent upon how well it is planned, governed and designed, not on the technology itself.

Recent research from CyrusOne, surveying over 13,000 people across the UK, Ireland, the Netherlands, Spain, Italy, France and Germany, depicts that "public attitudes towards data centres are more favourable than expected, with a total of 93% of people saying that they either feel positively (51%), or neutral (42%) about them. The survey…also found that positivity increases among those who know that they have a data centre located near them" and that economic benefits are the most important factor: two-thirds of respondents agree that investment in local communities is a key benefit, and 31% say broader economic growth in their area would make them more willing to accept a data centre nearby. The research also highlights that community-level amenities deeply influence acceptance: around half of respondents view investment in parks, playgrounds, sports facilities and community gardens as a clear benefit, with those living near data centres even more likely to value this kind of contribution.

Across the UK and Europe, clarity is increasingly emerging on what it means for a data centre to be a positive contributor to a host region/community. Well-designed data centre projects phase grid, heat and fibre so that they unlock benefits for nearby homes, education establishments, EV charging and local businesses, while supporting additional employment and cleaner air (when co-located with renewable energy projects). From a planners' perspective we recommend serious weight is given to energy use (ideally clean energy), heat recovery, economic impact and environmental impacts. Furthermore, local authorities need to be well informed to help guide projects towards locations that best support local plans, heat network strategies and net zero commitments.

Risks

The case for building more UK data centre capacity is usually made in terms of the extra investment, employment and AI-leadership that they bring. Those gains certainly matter, but the costs of not building enough capacity are often underreported and misunderstood.

The most immediate risk is increased digital dependence. If UK organisations cannot secure enough domestic data centre capacity, they will inevitably place more workloads in overseas facilities, which is not without additional risks. Data stored and processed abroad is subject to foreign laws, courts and policy decisions. The NHS, for example, cannot afford legal uncertainty over patient records under another country's jurisdiction, and the same is true of information at the Ministry of Defence, the City and other critical institutions. In that sense, control over data infrastructure is a question of national security as much as economics.

The second risk is to the UK's AI ambitions. Training and operating advanced AI-models is extraordinarily compute-intensive. Universities, research institutions and start-ups that cannot access affordable, nearby compute capacity will struggle to compete at the frontier of AI research.

The UK government has rightly identified AI as central to its long-term industrial strategy, a move we commend, but if such a move has no foundation in the underlying domestic infrastructure, it would lack resilience.

The third risk, from not building sufficient domestic data centre capacity, is the loss of the associated long-term investments. Once a hyperscale operator chooses a location, say Frankfurt over London, that decision is not easily reversed. The associated jobs, supply chains, business rates and downstream economic activity follow the infrastructure. That is why it is so important to secure the initial investments in the UK, supported by cleaner energy, so that the country can capture strong returns for many years to come.

Finally, there is the question of resilience. Critical sectors such as energy, transport, logistics and emergency services rely on robust digital infrastructure that must always be available. If that dependency is overseas, it creates single points of failure beyond UK regulatory reach. A policy change or outage in another jurisdiction can quickly affect UK public services in ways that domestic operators and emergency planners cannot control.

Risks cont...

For a country whose economy increasingly now runs on data, building sufficient well-located domestic capacity is basic national infrastructure policy.

Conclusion

Conclusion: Data centres are part of the essential infrastructure that keeps the UK economy and communities running, supporting everything from shops taking card/ phone payments, to hospitals using AI-driven diagnostics and taxi-services allocating drivers. They strengthen rather than strain our energy system and labour markets. Data centres bring high-quality jobs, support the energy transition, unlock new investment and provide the digital backbone that modern public services and businesses rely on.

The choice is not between having data centres or doing without them; it is between building them on our own terms or relying on overseas capacity. If the UK wants to lead in AI, drive productivity and create opportunities in regions that have previously been left behind, then modern, efficient, clean-powered data centres must sit at the heart of this strategy. Done properly, data centres are long-term community assets that help deliver growth, resilience and a faster transition to a robust net zero economy.

REA DATA CENTRE COALITION

Thanks to the founding members of the REA Data Centre Coalition for their contributions that have helped inform and produce this report.

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