LONDONASSEMBLY

September 2025

Planning and Regeneration Committee

This document contains the written evidence received by the Committee in response to its Call for Evidence, which formed part of its investigation into London's energy infrastructure.

Calls for Evidence are open to anyone to respond to. In July 2025 the Committee published a number of questions related to its investigation, which can be found on page 2. The Call for Evidence was open between the 11 July 2025 and the 22 August 2025 (later extended to the 29 August).

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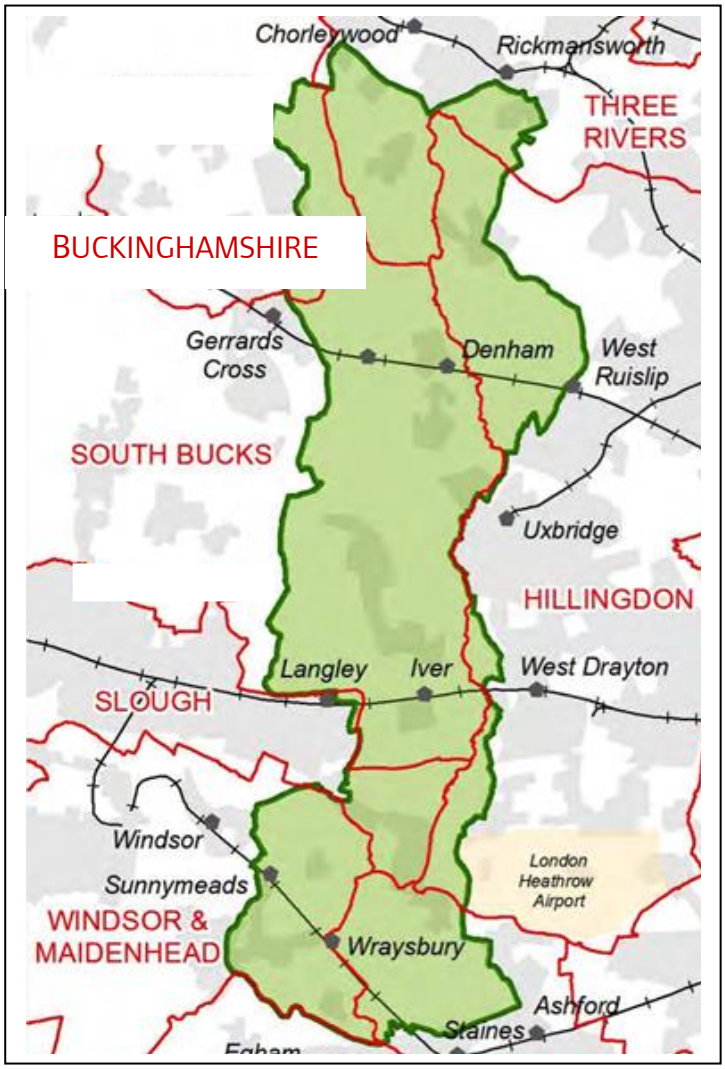
    c. Are London boroughs adequately empowered and resourced to engage with energy providers and shape energy infrastructure planning?

Colne Valley Regional Park: Ref No. 001

This response is from and on behalf of The Colne Valley Regional Park

The Colne Valley Regional Park was founded in 1965 when local authorities – including Bucks County Council – showed great foresight in agreeing to work together to preserve and enhance this precious area for recreation and nature conservation.

It is supported by nearly 100 member organisations including local authorities, businesses, residents' associations, environmental charities and user groups. Groundwork South acts as the Park's managing agent.



The Colne Valley Regional Park has six objectives:

https://www.colnevalleypark.org.uk/whats-special/

In the middle part of the Colne Valley centred on the villages of Iver and Iver Heath in Buckinghamshire surrounded by Green Belt there has been considerable recent demand for data centres. So far 5 have been permitted, two on appeal, and all on Green Belt sites. This demand is created by proximity to the Iver substation and the recently granted permission to extend the substation by 50%. National Grid justified the expansion of the substation onto agricultural land due to the demand for data centres who have paid large sums of money in advance for the connections. This expansion in provision could have served housing developments in West London instead it is solely serving the demand driven by data centres.

Responses from the Colne Valley to Buckinghamshire Council on all these planning applications can be found on our website.

Apart from loss of Green Belt and harm to the Colne Valley Regional Park in most cases without any form of mitigation, these gigantic buildings are completely out of scale and proportion to the surrounding villages and countryside. They will affect local AQMAs, pump out surplus heat and demand large quantities of water for cooling purposes. It is no coincidence that they are located in close proximity to the Grand Union Canal or local watercourses.

Their location is justified by the lack of alternative sites and the need to connect with cables which run alongside the M4 and Great Western railway.

But is it technically necessary to locate them in the Green Belt on the edge of London? Surely they could be located anywhere along the M4 corridor, for example on the old Honda factory in Swindon, a brown field site unencumbered by statutory designations or indeed in Wales where electricity supply is perhaps more plentiful.

Jane Griffin
Trustee
Colne Valley Regional Park
August 2025

West London Business: Ref No. 002

WLB Response - Call for Evidence: Can London's energy grid support new housing and economic growth?

Please send evidence in a Word document format (not PDF) by email to: scrutiny@london.gov.uk
The deadline for submission is Friday 22 August 2025 (extended to 29 August)

1. **How have electricity capacity constraints impacted you? In particular:**
    a. **Have the grid capacity constraints impacted investment in West London?**
    b. **Have the grid constraints impacted your ability to bring forward new industrial and residential developments?**
    c. **If applicable, are you able to estimate how many homes or industrial units have been delayed or affected as a result? *Please note: you do not need to provide precise figures to respond. Any information, even approximate or anecdotal, is welcome.***
    d. **What activities are you undertaking to reduce the demand for energy?**

West London Business is a non-profit business leadership forum that serves to maintain the area's global economic competitiveness, whilst catalysing action for people and planet.
With ambitious targets for residential and commercial growth, West London is home to Park Royal – London's largest industrial and business location – and Heathrow Airport, the UK's largest single employment site. It is also at the confluence of other major transport infrastructure such as HS2's Old Oak Common station and the West London Orbital, as well as a high concentration of energy-intensive industries such as manufacturers, logistics, data centres and engineering firms that are critical to the UK economy. Perhaps unsurprisingly, therefore, West London's electricity networks urgently need substantial reinforcement to meet growth and decarbonisation targets.
We first became aware of constraints through our members in 2021, where serious concerns over investment slowing down were raised due to the constraints, impacting the development of new housing and industrial investment in the area, in particular the London Boroughs of Hillingdon, Ealing and Hounslow. In response, we supported the West London Alliance (WLA) and Greater London Authority (GLA) to commission a Local Area Energy Plan (LAEP) to clarify future demand forecasts and current constraints.
Over the past two years since the LAEP's publication, West London Business has actively worked with West London stakeholders to engage with SSE, Ofgem, NESO and National Grid to ensure grid capacity is unlocked for the region through accelerated investment. This will ensure that West London can continue to grow and prosper, as well as supporting local and national net zero transition objectives.
Whilst a new '1 MVa ramping solution' has been established to enable smaller projects to still access energy successfully, the continued constraints are particularly impacting the progress of larger strategic projects in the three affected boroughs; and this was amplified by NESO having temporarily paused new connection applications from February to June 2025.
We continue to support open information exchange and the incorporation of data from the West London Local Area Energy Plan (LAEP) into transmission and distribution network demand forecasts. To this end we have now commissioned ARUP to dissect the LAEP demand forecast by GSP area. Most of our boroughs are also in varying stages of developing their Phase 2 LAEP reports; London Borough of Hounslow published their Phase 2 LAEP report earlier this month.

We are encouraging developers to adopt high density PassivHaus standards and championed best practice in the Net Zero Neighborhoods report (2024) by AESG supported by the LDN Collective and West London Business. It is worth noting the scale of ambition in the Barratt London and Places for London's first PassivHaus scheme at Bollo Lane.

2. **Can electricity demand meet the Mayor's ambitions for London over the next ten years? In particular:**
    a. **How can the construction of new data centres be planned to align with available grid capacity and ensure timely grid connection?**
    b. **Can London's new housing targets be achieved given London's grid capacity now and into the future?**
    c. **Are capacity constraints limited to West London, or are they experienced more widely?**
    d. **Is the GLA doing enough to factor in energy constraints when considering economic and housing strategy?**
    e. **How can the GLA improve its coordination of infrastructure reinforcement via the ICS (Infrastructure Coordination Service)?**

The Mayor needs to be actively engaging with the rising number of data centres across West London taking advantage of the competitive location. Planning policy should ensure data centres support the capital's overall transition towards net zero and decarbonisation goals, through connecting residual heat into centralised heat networks, as proposed in the OPEN heat network in the Old Oak and Park Royal area.
We are observing that data centres are either having to run stretch cables from the UKPN DNO area into the SSEN geography or connect directly into the transmission network. Given how National Grid split GSP capacity (and headroom) between DNOs and other direct customers we would welcome the Assembly to push for Ofgem to develop a simple dashboarding tool for local stakeholders to review and monitor this. If this already exists and we have not found it, perhaps it can be integrated as a data layer on the new GLA LAEP DataHub?
The Assembly could join West London Business in calling on NGET to provide greater visibility of wider interdependencies for the West London pipeline of projects and how these may or may not prevent this accelerated delivery.
On housing, as it stands currently, we believe that it is unlikely that London's new housing targets will be achieved on schedule, especially with the recent announcements that these targets will be rising. Current energy capacity in West London does not align with Government's housing targets putting councils, City Hall and developers in an impossible position. We are concerned that despite the urgency in delivering more energy to West London, much of the current projected new capacity will only become operational in a decade - from 2036 onwards. Given our focus on West London, we are unable to comment on capacity constraints elsewhere within the capital.

3. **How can planning best respond to the challenges of factoring energy demands into planning processes?**

As you put solutions forward to the Mayor, we would like to stress the following points:
Reiterating the urgency of unlocking new supply as soon as possible to meet demand – Since 2021 energy system constraints have been restricting new developments in three of our West London boroughs: Hillingdon, Hounslow and Ealing. This is now directly contributing to a slowdown in economic productivity and commercial viability of the region, blocking investment opportunities including the development of new housing projects. West London needs targeted and accelerated delivery of new capacity to prevent there being more severe long-term

ramifications to the economic health of the region, and this should remain a top priority for the Mayor of London.

Wider stakeholder clarity over West London transmission supply/network funding gap - We strongly urge for there to be greater transparency over when new capacity will be delivered, and to which grid supply points, so there is a better understanding of when the needs of each borough will be met. We have an outstanding request for National Grid to share any modelling they have undertaken to ascertain the cumulative additional electricity supply that will reach constrained GSP areas because of the T3 and T4 project pipeline, and timing. Without this it seems impossible for Ofgem, NESO and West London stakeholders to ascertain whether the scale of the investments proposed are sufficient and consumer needs will be served. This is also vital insight to ensure the DNO and overall mayoral investment plans are aligned and feasible if constraints are to remain until a future date.

Welcoming proposed reforms accelerating UK grid connections – In February, the House of Lords Industry and Regulators Committee called for written evidence during the proposed reform of how UK grid connections currently operate and on removing barriers within energy network regulation. We welcomed the NESO connection queue proposals and urged that grid upgrades should not simply help new power generators and developments but also support existing customers and clients within the region, especially within housing, a key goal for the Mayor.

Network resilience and protection of Critical National Infrastructure (CNI) – After the North Hyde fire report, it has become apparent that there needs to be a more critical reflection of West London's CNI such as Heathrow Airport and the HS2 Old Oak Common station currently in construction. The Mayor must ensure that National Grid and Ofgem are aware of these sites and robustly and routinely manage and maintain the network assets supporting these sites, alongside the capacity growth programme.

Greater engagement with local council work through the LAEPs – The varying stages of development amongst our boroughs of their Stage 2 LAEPs is largely determined by staff resource and funding available. Supporting underfunded boroughs to progress work on their individual LAEPs would be useful in establishing a concise unified map of current energy forecasts and needs for both urban planners and district network operators.

4. **How are energy capacity constraints affecting the delivery of different types of housing and wider economic growth? For example:**
    a. **Are certain types of developments, such as those in areas of high housing need, more likely to face delays or constraints due to limited grid capacity?**
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The recent pause on the NESO Connections queue raises significant concerns over whether the 'first-come, first-served' method for new applications is the most effective in ensuring developments can receive timely grid connection and investment. Instead we welcome NESO's proposed new strategy of prioritising projects that appear 'shovel-ready' up the pipeline to ensure swifter delivery of new capacity for projects that are ahead of or on schedule for completion. However this leaves a risk that the pipeline is not balanced and critical but slower to fund projects cannot access the capacity they need.

Following capacity constraints, encouraged and supported by City Hall, SSEN and NGET have developed a new solution allowing schemes which could not receive their full required connection to gradually ramp up the size of their connection year-on-year. This has unblocked

the connection of almost 8,000 homes in West London. These smaller but proactive investments can ensure that capacity is available exactly when it is needed, without overwhelming the network and blocking other projects from progressing. We welcome the efforts to put in place this solution.
On recent SSEN Willesden and Iver GSP SDP consultations we have stressed the need for the DNO to be clear about how LAEP forecasts are integrated into their DFES and any differences in the respective forecasts.

techUK: Ref No. 003

techUK response to the London Assembly

Planning and Regeneration Committee Call for Evidence *"Can London's energy grid support new housing and economic growth?"*

29 August 2025

Introduction

techUK welcomes the opportunity to respond to the London Assembly's Planning and Regeneration Committee Call for Evidence "Can London's energy grid support new housing and economic growth?".

Currently, the tech sector contributes over £150 billion GVA annually to the economy, and reforms to planning rules and construction to rebuild outdated infrastructure could help play a role in boosting this to £200 billion.

To get there, the UK needs to better facilitate the construction of digital infrastructure such as data centres. This infrastructure is essential for underpinning a vast array of tech use cases, from the most advanced AI to business technology for small companies such as CRM systems. Our analysis demonstrates that data centres currently contribute £4.7 billion in Gross Value Added (GVA) annually to the UK economy, with the potential for an additional £44 billion in GVA between 2025-35, if data centre capacity can be increased above its recent annual trend growth rate.

What are data centres? A data centre is the physical infrastructure that houses the computing and networking equipment (primarily servers) that businesses use to store, process and share data. It is important to note that the times when business-critical computing and storage requirements could be adequately supported within a general office facility are now largely in the past. Now, every email sent, online search made, or webpage scrolled is processed in a data centre.

Data centres enable online work and education, telehealth, financial transactions, emergency services coordination, and artificial intelligence (AI) solutions that are being deployed today. The recent surge of AI tools onto the market are likely to accelerate digitisation across the economy. In order to keep pace with this innovation and boost tech-led growth, it is vital that investment is prioritised to expand data centre capacity and capability.

The Government is making early progress in providing a more supportive data centre policy landscape. This includes designating data centres as Critical National Infrastructure (CNI) and

consulting on directing data centres into the NSIP consenting regime process, as part of updates to the NPPF.

Despite these developments, the level of integration into planning, and awareness and expertise on data centres, across central and local government, remains relatively limited. Stakeholders across both the public and private sectors have repeatedly made clear the need for better education around what a data centre is and the economic activity it enables in the UK.

Questions

1. **How have electricity capacity constraints impacted you?** In particular:
    a. **Have the grid capacity constraints impacted investment in West London?**
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    d. **What activities are you undertaking to reduce the demand for energy?**

The UK is recognised as a leading tech economy, boasting a robust digital sector and a thriving research and start-up ecosystem. But despite this impressive standing, concerns are growing that the country's infrastructure is not evolving at the pace needed to support the rapid expansion of its digital tech sector. Issues such as planning delays, grid connection challenges, incoherent policy, and insufficient data visibility across sectors are threatening to hamper future growth, as well as the increasingly high cost of energy in the UK. This has contributed to London being the second most expensive place to operate a data centre in Europe, after Zurich.

The GLA remains concerned about how quickly the reforms to the electricity connection process will take effect and show results; and how much impact they will have to their case in West London, compared to other parts of the UK. It remains the GLA's view that proactive investment ahead of demand is needed across London to support the delivery of Net Zero by 2030, as well as affordable housing delivery.

techUK members have flagged that the restriction in availability of additional power to the London area is severely restricting many businesses across many sectors. For many, a combination of lack of immediate power combined with delays in future power is preventing them from growing within the Southeast of England via the addition of new sites or increased power capacity in existing sites. It is further preventing the region from reaping the benefits from future technological advancements in areas such as artificial intelligence (AI), an area in which the UK wishes to become the global centre for excellence.

In 2023, our members estimated that a wider issue that the restriction in power and further delays to new power could prevent a further approximately £5.5bn of investment in data centres alone in the next few years, along with the associated employment and career opportunities.

Energy is no longer viewed merely as a utility issue but as a foundational platform for industrial renewal and productivity. According to the Office for National Statistics, infrastructure investment is a leading determinant of productivity, yet the UK faces a staggering £600 billion funding gap by 2030 to meet energy transition goals, only half of the estimated £1.3 trillion required is expected from current investment sources.
West London, home to over 30 data centres, is facing acute grid saturation. The Hayes Digital Park and other strategic developments have encountered delays due to limited power availability. The West London Alliance's Local Area Energy Plan is a step forward, but proactive forecasting and coordination with digital infrastructure providers are essential.

Despite a 340% increase in workloads since 2015, UK data centres have maintained flat electricity demand. This is due to investments in energy-efficient technologies such as liquid cooling, modular construction, and renewable energy procurement. Average Power Usage Effectiveness (PUE) has improved from 1.878 in 2014 to 1.531 in 2022.

2. Can electricity demand meet the Mayor's ambitions for London over the next ten years? In particular:
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Demand-heavy sectors such as data centres, manufacturing, and industrial processing are increasingly challenged by limitations in Britain's electricity grid infrastructure. Significant backlogs exist: roughly **400 GW of renewable projects** are queued for connection, with many scheduled only for 2030 or later, delaying critical power access and hampering decarbonisation efforts. The grid connection reform has a clear pathway for supply but currently lacking clarity on how demand will be prioritised, guided through the grid queue and assessed as ready and vital to be accelerated and connected.

Furthermore, without substantial grid enhancements, anticipatory investment, and strategic planning, **42% of large industrial sites are projected to face capacity constraints by 2030**, climbing to **77% by 2050**, with the most pronounced impacts on heavy industry. This shortage of headroom intensifies the challenge of transitioning to electrified, net-zero operations.

These constraints result in long connection delays—some spanning **2 to 12 years**—which deter industrial decarbonisation and project viability. The overarching issue is a grid unable to scale quickly to the evolving demand landscape, risking stranded assets and slowing the UK's progress toward clean energy and industrial transformation.

These constraints are already dampening innovation. AI applications, which require high-intensity computing environments, are particularly vulnerable. As of November 2022, the UK represented only 1.3% of global compute capacity and had no system in the Top 25 of the Top500. By mid-2025, it features several systems within the Top 500, most notably ARCHER2 at around 75th place, but none in the top tier. This is an alarming shortfall for a nation that aspires to lead in quantum computing, advanced semiconductors, and AI[1].

If power cannot be delivered where and when it's needed, capital will go elsewhere. And there are signs this is already happening. We have a very short period of time to be competitive on a global scale.

Gridlock and Grid Reform

[1] https://www.techuk.org/resource/the-2024-industrial-strategy-green-paper-what-s-in-it-for-tech.html

The government's recent *Connections Action Plan* and Ofgem's fast-track proposals for grid reform represent steps in the right direction, but remain unclear where demand industries are and will be, especially Critical National Infrastructure.
What is needed is a fundamental reset in the way the UK manages energy infrastructure for digital demand. techUK advocates for a "readiness-based" queue system to prioritise viable, strategically important projects, and the introduction of binding service standards with compensation for missed delivery deadlines. Crucially, the sector demands greater transparency and digitisation across Distribution Network Operators (DNOs), with real-time data on grid capacity and connection timelines.
The Strategic Spatial Energy Plan (SSEP), with its zonal modelling approach, could play a useful role, but plans must truly align with the Industrial Strategy. However, the regional energy plans also have to align with the strategic direction of NESO. It is imperative for local government to also collaboratively work with network operators and NESO to design local economic plans and align economic ambition with infrastructure development.
Under the current price control framework, network operators are not permitted to make anticipatory investments. This means they can only begin planning for new data centres once a formal application has been submitted by a developer. However, the construction of network infrastructure typically takes much longer than the build-out of the data centre itself—especially where upgrades at the transmission level are required, or where wider system reinforcements are triggered by the connection. To address these mismatches, a more strategic and forward-looking approach to network planning and delivery is essential, with substantial work already being progressed by NESO and others in this space.

3. How can planning best respond to the challenges of factoring energy demands into planning processes?

Planning processes and departments need to be responsive to applications and provide a high quality of service, which requires funding

Ensuring energy is available for digital infrastructure is paramount, as the construction of digital infrastructure is an essential underpinning of modern life, with this consultation being rendered impossible without telecoms and data centres infrastructure. Similarly, digital transformation plans drawn up by businesses in the wider UK economy will be rendered impossible without the digital infrastructure necessary to support them.

However, the current planning system is not fit for purpose and is throttling UK growth. Since 2012, the average time it takes to get consent for national-infrastructure projects has increased by 65 per cent, rising to 4.2 years from 2.6 years. Planning departments have also faced significant cuts which have made them less effective, with a 16% fall in planning funding in England, 50% fall in Wales and 38% fall in Scotland since 2010, alongside declining numbers of lower-paid planning officers.

Planning departments are in great need of not just more planning officers to combat the backlog of applications, but also more highly skilled planning officers able to deal with the technically-complex applications often submitted by the tech sector.

techUK and our members welcomed the Infrastructure Strategy's holistic view of infrastructure needs, planning out energy and digital needs before developments begin to prevent costly retrofitting. We would encourage adherence to these principles.

We welcomed the Infrastructure Strategy's recognition of the importance of a 'digital first' approach to infrastructure construction, which will ensure all developments have the infrastructure they need from day one and avoiding costly retrofitting. Part of being 'digital first' though means ensuring that the energy infrastructure required for digital infrastructure is available at a competitive price. We would therefore encourage the principles in the Infrastructure Strategy be followed to ensure necessary energy infrastructure is built.

Connection times to the grid need to be significantly reduced to ensure infrastructure can actually access the data it needs. Furthermore, there must be a recognition that the explicit identification of data centres and digital infrastructure includes the necessity of not only timely connection to the grid but constant energy supply (subject to having the appropriate energy capacity to address the 24/7 operational requirements of the new digital infrastructure), without which they are rendered not useful to the wider UK economy.

Grid connection reform is underway for demand industries; however real change will take time. We believe that a more proactive and collaborative approach is needed together with industry to assess suitable locations across London. Due to the challenges cities could proactively drive investment in suitable areas and assess where capacity is available or could be appropriately developed and allocated.

The GLA must improve strategic forecasting and collaborate with boroughs and industry to align energy infrastructure with housing and economic goals. The Local Area Energy Plan is a good foundation, but more granular data on future digital demand is needed. techUK encourages the GLA to establish forums with industry and local government, use regional planning bodies to pool expertise, and integrate data centres into broader infrastructure strategies.

Planning departments require increased funding and training. Since 2010, planning budgets have been cut by 46%, leading to delays and inconsistent decisions. techUK recommends training LPAs, setting permit deadlines, and embedding data centres in local and regional plans.

Planning processes and departments need to be responsive to applications and provide a high quality of service, which requires funding

We welcome the Infrastructure Strategy's holistic view of infrastructure needs, planning out energy and digital needs before developments begin to prevent costly retrofitting. We would encourage adherence to these principles.

techUK encourages boroughs to collaborate through Combined Authorities and regional structures to pool resources and expedite decision-making. This will enhance engagement with energy providers and align infrastructure with regional priorities.

4. **How are energy capacity constraints affecting** the delivery of different types of housing and **wider economic growth**? For example:
    a. **Are certain types of developments, such as those in areas of high housing need, more likely to face delays or constraints due to limited grid capacity?**

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Data Centres in London: There are several commercial and historic factors which have led London to become a hotspot for data centres. Transatlantic cables run from Cornwall to London through the M4 corridor, a well-connected digital highway. The Park Royal, Slough, Docklands, City, and Isle of Dogs clusters are all situated along this highway, and near businesses with increasing demands for digital services. They have become attractive locations for digital investment due to the existing infrastructure and local technical expertise. To satisfy the requirements of their customers there is often a need to be close to the demand to be competitive and suitable for customers who demand high speed services (low latency). For specialist industries that require high speed digital functions, such as the financial sector, closely situated data centres are essential to global competition.

This leads us on to the main economic value of urban data centres, the way they enable digital services and global competition. Industries which are either digitalising their operations or those growing sectors which are selling digital services rely on a thriving data centre sector. The internet has revolutionised the economy, speeding up action times, driving efficiencies, creating new markets (as a service, cloud services), and helping the UK compete in overseas service markets, creating new jobs, industries, and significant economic value in the process. This is only possible with data centres.

Grid connection reform has established a new way of assessing projects based on a readiness criterion rather than first-come-first. However, the readiness criteria only correspond to supply/generation projects connecting to the grid. Their strategic priority is identified in Clean Power 2030. There is no strategic priority yet designated for demand industries grid connection. Ofgem, NESO, and DESNZ are working with techUK to establish the criteria. The industrial strategy identified that DESNZ will publish an Accelerated Demand Service guidance to network operators by end of 2025.

In addition to the constraints caused by limited anticipatory investment, mentioned earlier in this response, new demand projects (such as data centres) face significant delays, technical hurdles, administrative complexity, and inconsistencies in connection processes across all levels of the electricity network. Some sites in Great Britain have been given connection dates as far out as 2035, while others are offered phased connections granting partial access in the first stage but leaving critical capacity dependent on subsequent phases, which are often subject to long delays. For data centres, where reliable 24/7 energy supply is essential, these phased arrangements are often impractical without broader mitigation measures.

Reforms are underway to speed up the connection of energy assets and to align planning rules with the faster delivery of network infrastructure. However, the current prioritisation framework for strategic connections remains largely focused on energy generation projects, with no equivalent coordinated treatment for new sources of large demand such as data centres. Work is now progressing across NESO, Ofgem, and the Department for Energy Security and Net Zero (DESNZ) to establish clearer processes for incorporating certain

categories of major demand into both the reformed connections queue and the wider system planning framework. That said, further attention is required at the distribution level, including how anticipated demand growth is integrated regionally an issue highlighted by the National Infrastructure Commission in its recommendations on electricity distribution networks.

Data centres power purchase energy (often renewable) in advance due to the sheer volume of the investment required up-front for new facilities to meet consumers growing demand for digital services. Over half of generation customers in the transmission queue today have a connection offer date at least 5 years in the future, with over 10% due to wait 10 years or more. This trend is continuing, with 70% of recent applicants (offered in the last 12 months) receiving connection dates 5 or more years away and over a quarter receiving connection dates beyond 2032 – some beyond 2037. This means having a data centre facility developed, ready to operate, without the appropriate power connection promised in their connection agreements.

We are not only striving for a fully electrified infrastructure (energy, heat, transport) but also to become a science and tech superpower. To attract investment, we must address with immediacy how we plan and recognise digital tech such as machine learning, AI, quantum computing, and digital twins could make power dispatch more efficient.

About techUK

techUK is the trade association which brings together people, companies and organisations to realise the positive outcomes of what digital technology can achieve. With around 1,000 members (the majority of which are SMEs) across the UK, techUK creates a network for innovation and collaboration across business, Government and stakeholders to provide a better future for people, society, the economy and the planet. By providing expertise and insight, we support our members, partners and stakeholders as they prepare the UK for what comes next in a constantly changing world.

techUK's award-winning Data Centres programme provides a collective voice for UK operators. We work with Government to improve the business environment for our members.

To date we've saved UK operators over £150M, alerted them to business risks, mitigated regulatory impacts and raised awareness, most recently negotiating key worker status for the sector. techUK is a signatory of the Carbon Neutral Data Centre Pact.

www.techuk.org

Greater London Authority: Ref No. 004

London Assembly – Planning and Regeneration Committee

Call for Evidence – Can London's energy grid support new housing and economic growth?

GLA response

The GLA continues to support the effective co-ordination of London's energy networks, to ensure new housing and our economic growth priorities are planned for and provided with the energy they need. The London Growth Plan[2] recognises the importance of increasing grid capacity to accommodate growth and meet the Mayor's decarbonisation goals, highlighting several commitments already underway to support this.

This includes the refresh of London's Infrastructure Framework[3], which will set out the priority infrastructure projects London needs to unlock climate resilient economic and housing growth across the city. The GLA's programme of Local Area Energy Planning also supports better co-ordination of local growth priorities with the network planning and investment processes of London's energy networks. The GLA has been collaborating closely with Government, regulators and utility companies to support broader reform to the connection process. These initiatives are helping to ensure that London's electricity grid is adequately prepared to support our longer-term growth trajectory.

Additionally, the GLA's Infrastructure Coordination Service (ICS) provides direct support to strategic developments affected by electricity connection issues across London. In July 2022, the GLA was made aware of electricity capacity constraints in the west London boroughs of Ealing, Hounslow, and Hillingdon. New developments coming forward in the affected area were receiving electricity connection dates several years ahead, in some instances as far as the late 2030s.

In response, the ICS has been convening local electricity distribution network Scottish and Southern Electricity Networks (SSEN), the transmission operator National Grid, the National Energy System Operator (NESO), Ofgem, affected boroughs, and developers to better understand the extent of the constraints and set out potential solutions.

The ICS has published several documents on the GLA's website to provide further technical information and updates on the evolving issue. These include:

- June 2022 GLA background document – setting out the context of west London's capacity constraints and providing detailed local electrical capacity data from National Grid and SSEN.

[2] london-growth-plan.pdf
[3] 25-03-28-FINAL-DESIGN-London-Infrastructure-Framework-Overview-003.pdf

- September 2022 joint letter from the electricity networks to the Mayor – establishing the 1MVA ramping solution for west London. This has allowed developments that require in excess of 1MVA in electrical capacity to ramp or phase their connection to no more than 1MVA demand increase per year. This allows the projects to progress without being subject to the capacity constraints present at the National Grid transmission level.
- November 2022 GLA update document – providing an update on solutions proposed by the electricity networks and NGESO (now NESO), as well as the initial results of a questionnaire shared with developers in the affected area in July 2022. This questionnaire was to better understand the potential impacts of the capacity constraints on housing delivery.
- June 2023 GLA update document – providing an update from the electricity networks on available capacity and progress against proposed solutions. This update also included findings from several workshops held by the ICS with data centre developers, and with affected housing developers in the west London.
- March 2024 GLA update document – outlining the known impact of the capacity constraints on housing delivery, as well as number of schemes previously stalled that can now progress thanks to the solutions implemented. This document also introduces a new >1MVA ramping solution which allows affected developments to take advantage of more significant phasing of their energy requirements (subject to meeting certain technical requirements).
- February 2025 GLA update document – providing updated figures on schemes now unlocked through solutions being deployed in the affected area. This update also discusses SSEN's use of flexibility and summer electricity capacity allocation study to further bring forward stalled sites, as well as provide an update on on-going connection reform.
- February 2025 GLA suggestions for west London developers – a short guidance note prepared with advice for developers looking to progress projects in the affected areas of west London.

The following responses to the Call for Evidence questions provide additional information and updates beyond those already provided in our published update documents.

1. How have electricity capacity constraints impacted you? In particular:

a. Have the grid capacity constraints impacted investment in West London?

b. Have the grid constraints impacted your ability to bring forward new industrial and residential developments?

c. If applicable, are you able to estimate how many homes or industrial units have been delayed or affected as a result? Please note: you do not need to provide precise figures to respond. Any information, even approximate or anecdotal, is welcome.

The GLA itself has not been directly impacted by the electrical capacity constraints in west London. However, we are aware of the impact it has had on development supported by the GLA through the Affordable Housing Programme, as well as within the broader development activities of the GLA Group (including OPDC, TfL, and TfL Places for London).

Connection offers between SSEN / National Grid and developers are confidential. As a result, the GLA does not have full visibility of all developments potentially affected by the west London capacity constraints. Instead, the GLA has relied on proactive engagement with the development industry, with the support of Boroughs and industry bodies, to identify affected schemes and offer support.

The ICS currently holds a monthly call with the affected west London boroughs (also including OPDC and the West London Alliance) to share information and escalate affected housing schemes. Another mechanism through which affected housing developments have become known to the GLA is via escalation from developers who are recipients of grant under the GLA's current Affordable Housing Programme.

The ICS has undertaken 2 online surveys with developers in west London to identify affected parties (in July 2022 and October 2024). This has been shared via the ICS's existing contacts with developers acting in London, with the support of Boroughs, as well as circulation to the G15 group, the GLA's former London Development Panel 2, together with the Home Builders Federation and National Housing Federation.

In terms of affected commercial investments, the ICS is in frequent contact with West London Business to better understand the impact of the capacity constraints on commercial development. A survey of Major Energy Users in west London is currently underway to understand attitudes towards decarbonisation and future energy use by the larger commercial operations in west London. This is due to be completed in September and should provide additional intelligence on the impact of the capacity constraints on the commercial sector.

The ICS maintains a webpage[4] on the Mayor of London website on the status of the capacity constraints and progress on solutions. In February 2025, we also created a new e-form[5], allowing developers to raise their affected schemes with us directly.

Current known impact of the west London capacity constraints (September 2025)

Residential schemes
Since June 2022:

- **21** residential schemes (comprising **12,674** homes) have been directly supported by the ICS to find solutions for significant connection delays.

[4] West London electricity capacity constraints | London City Hall.
[5] E-form for Developers Requesting ICS Support | West London electricity challenges | London City Hall

- **28** additional residential schemes (comprising of **8,969** homes) have had their connections secured through measures introduced by the electricity networks to mitigate the on-going constraints.

Non-residential schemes
Since June 2022:

- **7** non-residential schemes have been directly supported by the ICS to find solutions for significant connection delays.
- **9** additional non-residential schemes have had their connections secured through measures introduced by the electricity networks to mitigate the on-going constraints.

As of September 2025, the ICS is currently directly supporting **3** schemes in west London (2 residential and 1 non-residential) to accelerate their connection timeframes.

2. Can electricity demand meet the Mayor's ambitions for London over the next ten years? In particular:

a. How can the construction of new data centres be planned to align with available grid capacity and ensure timely grid connection?

Recent changes to the National Planning Policy Framework[6] now require that planning policies pay particular regard to facilitating the development to meet the needs of the modern economy including by identifying suitable locations for uses such as data centres. However, the effective coordination and planning of data centres in London is hampered by some uncertainty regarding the planning use class of data centres and related planning controls, and the limited transparency around proposed data centre growth. This is in part due to the nature of the sector being especially dynamic, with significant levels of growth seen in the past few years due to AI and cloud computing

Data centres tend to secure electricity capacity many years in advance of becoming known to Local Planning Authorities given the importance of energy to these schemes' basic viability. This contrasts with other types of development (such as residential), which often do not pursue an electricity connection offer until after planning has been achieved. This creates a challenge to boroughs and the GLA in identifying and responding to emerging data centre development in a holistic way. The GLA has formally raised this issue with Ofgem as an important consideration to be factored into on-going connection reform[7].

[6] Paras 86-87, National Planning Policy Framework
[7] Letter to Ofgem - Response to the ESO's proposed reformed connection process.pdf

The visibility of the connection queue concerning major demand projects (such as data centres) is confidential, and not available to Local Planning Authorities to inform more effective foresight of major energy users coming forward in their areas.

Within the GLA's consultation response to Ofgem's Connections End-to-end Review[8], we have supported moves to ensure networks provide more transparency as to their local connection queues for major energy users (such as data centres), as a key dataset for boroughs and the GLA to enable more effective co-ordination of data centre development. The GLA welcomes proactive work by London's Distribution Network Operators (DNOs) in providing further transparency on the data centre pipeline within the bounds of their current regulations on customer confidentiality. This includes work by UKPN in publishing a 'large demand dashboard[9]' and insights into data centres pipelines within their area[10].

Additionally, the ICS is increasingly seeing newer data centres projects requiring large power connection requests undertaking longer physical connections to electricity supply points much further away from their development site in London. In some scenarios this involves connections that extend across multiple London boroughs, or across DNO area boundaries. These connections are often pursued by customers seeking to achieve a connection faster than waiting for necessary reinforcement at their nearest relevant substation. These longer connections generate significant knock-on impacts, in the form of avoidable disruption to Londoners arising from the additional streetworks, which in turn generate congestion, create losses to local businesses, affect London bus operations, whilst also negatively contributing to emissions and worse air quality. More broadly, these connections are also further compounding asset congestion (i.e. occupying available subsurface space in highways and at strategic pinch points, especially across bridges and through ducts) issues, affecting reliability and resilience.

It is clear that the cost of undertaking very long connections is not proving to be a suitable mechanism to deter disruptive connection routes, or a strong enough signal that major energy user developments in London should locate in areas with better energy availability. For data centres, this is often linked to their spatial requirements to be located within 'availability zones' that meet strict digital connectivity requirements. This behaviour of seeking longer connections also further complicates the visibility of capacity impacts across London, as data centre development coming forward in one area may be impacting capacity in a different area that would not expect to see significant data centre development come forward. As part of the GLA's response to Ofgem's Connections end-to-end Review, the issue of these long connections has been raised as an opportunity for improved regulatory process around connections[11].

In response to the challenges listed above, the ICS has commissioned a Data Centre Forecasting project. This will form an evidence base on the expected growth in data centre development across London, including implications to London's broader growth priorities. This

[8] 12-02-2025 Ofgem End-to-End Review Consultation - GLA Response.pdf
[9] New dashboard for large demand — UK Power Networks
[10] Data Centre Insights
[11] 12-02-2025 Ofgem End-to-End Review Consultation - GLA Response.pdf

evidence would support the development of the next London Plan, help address existing data gaps and allow the GLA and its partners to better plan for this growing industry in a holistic way.

The core objectives of the Data Centre Forecasting project are:

- To define the supply and demand drivers of London's data centre growth, including historic and emerging trends across different data centre typologies.
- To develop evidence-led growth pathways for data centre development in London, over the proposed timeframe of the new London Plan (to 2050).
- To assess risks to infrastructure capacity of these growth pathways for the GLA's broader growth priorities.

The project is due to be completed in October and will be published publicly as part of the next London Plan evidence base. The project has included close collaboration and engagement with NESO, UKPN, SSEN, National Grid and the data centre industry.

b. Can London's new housing targets be achieved given London's grid capacity now and into the future?

As part of the preparation of the next London Plan, testing of the development capacity of land esting is being undertaken to identify how and where the government's new assessment of housing need can be met. This testing will consider, among other things, the deliverability of otherwise suitable and available housing capacity against infrastructure capacity (including electricity). This would include accounting for where there are clear pathways for infrastructure capacity to expand/improve to meet growth needs, as appropriate. As part of this, due consideration should be provided to ensure land for new electricity infrastructure, such as substations. Liaison with the DNOs will be a key part of this process, and improvements in DNO network data provide a key opportunity to underpin this engagement.

In tandem, the GLA has completed 3 of 4 sub-regional Local Area Energy Plans (LAEPs), with the remaining sub-regional LAEP covering the outer east boroughs to be completed later this year. These sub-regional LAEPs help establish a more local evidence base on how electricity demand is projected to change in the future across London. This process explicitly considers housing targets, local decarbonisation priorities, and anticipated Low Carbon Technology (LCT) uptake, such as heat pumps, solar PV and electric vehicles.

Three of the four sub-regional LAEPs (north, south, and west, covering 28 boroughs) have now been published[12] with the remaining East LAEP (covering the remaining 5 boroughs) due for publication in Autumn 2025. The sub-regional LAEPs form part of the evidence base of the new London Plan, as well as provide a broad evidence base to support boroughs in taking forward more detailed borough-level (phase 2) LAEPs. Currently 6 boroughs have now completed a

[12] Local area energy planning in London | London City Hall

phase 2 LAEP, with 14 other boroughs currently in the process of preparing one. Most of these Phase 2 LAEPs are partially funded by the GLA.

The findings of LAEPs are used by London's two electricity Distribution Network Operators (UKPN and SSEN) in their annual process of network forecasting, known as the Distribution Future Energy Scenarios (DFES). As part of this, the networks request data from boroughs and the GLA annually to better forecast growth and therefore identify necessary investment in the network.

LAEP data is now a key part of this process, and the electricity Distribution Network Operators (DNOs) have welcomed the GLA's leadership in deploying local area energy planning as an important resource in supporting more accurate network planning and investment. The ICS is continuing to support the DNOs and the boroughs in progressing LAEPs and integrating them within network planning processes. This includes the recent introduction of the LAEP DataHub, a London-wide data tool available online, with any private data for London boroughs, Mayoral Development Corporations and utilities companies held behind a secure log in. The hub compiles data produced as part of the sub-regional LAEPs to help inform Local Plans, support the rollout of low carbon technologies, and plan how and when utility networks should invest to meet future demand.

c. Are capacity constraints limited to West London, or are they experienced more widely? AND d. Is the GLA doing enough to factor in energy constraints when considering economic and housing strategy?

The ICS maintains frequent engagement with the development industry to identify strategic utility issues across London and provide support. To date, the ICS has not seen evidence of further areas of capacity constraints in London affecting housing delivery in a way that is comparable to the affected area of west London. However, our engagement with National Grid and the data centre industry has revealed that major energy users (such as data centres) are receiving delayed timeframes for connection across all areas of London. Despite this, it should be noted that grid constraints impacted timeframes for major energy users and generation schemes is a national issue to which Ofgem and Government have committed to broader and on-going programmes of connection process reform to help alleviate these issues.

A core aim of the on-going Data Centre Forecasting project is to better identify evidence-led growth scenarios for data centres in London, and in doing so identify the potential risks of future capacity constraints. The project is intended to create a shared evidence-base to enable more co-ordinated planning across the London Plan, Regional Energy Strategic Plan (led by NESO), and the planning and investment activities of the networks (National Grid, SSEN, UKPN). This will provide better foresight to ensure we can foresee and mitigate potential future local capacity constraints emerging in London.

More broadly, the ICS is aware of the diverse challenges facing London's developers in connecting to local utility networks. The ICS undertakes regular engagement with the

development industry to understand the nature of these challenges and the impact these have on development. This engagement has formed the basis of GLA's representation to the Ofgem review of the broader connection process (the Connections End-to-End Review)[13]. The key concerns raised by developers to the GLA is with regards to the uncertainties in costing and timing associated with connection offers provided to developers from the DNOs. In response, the GLA is continuing to engage with Ofgem, DESNZ, and the networks to support improvements to the connection process, via the Government's ongoing programme of connection reform.

To date, the ICS has directly supported 9 development schemes outside of the affected area of west London who were facing delays due to electricity connections. However, these schemes required specific support with technical matters such as negotiating wayleave agreements for the routing of cables, resolving land registration documentation issues required for connection application, and requests for expediting connection design approvals.From a strategic perspective, the GLA remains committed to facilitating the coordinated development of London's energy networks. This ensures that new housing projects and economic growth initiatives are adequately supported by the necessary energy infrastructure. The London Growth Plan, the economic blueprint for London,[14] reinforces the Mayor's dedication to fostering economic expansion and underscores the critical need to enhance grid capacity to support growth and achieve decarbonisation targets.

Among the initiatives highlighted in the Growth Plan is the update of London's Infrastructure Framework[15], which will outline the essential infrastructure investments required to enable climate-resilient housing and economic development across the capital. This will include consideration of both energy network investment and generation projects, to support both the supply and resilience of energy to support London's growth.

Work is currently underway on the next iteration of the London Plan, which will prioritise housing and economic growth. As part of its development, the infrastructure requirements for growth, including energy, will be tested and factored into the development of the Plan. This process will incorporate sub-regional Local Area Energy Plans, which will contribute to the evidence base underpinning the London Plan.

e. How can the GLA improve its coordination of infrastructure reinforcement via the ICS?

[13] 12-02-2025 Ofgem End-to-End Review Consultation - GLA Response.pdf
[14] london-growth-plan.pdf
[15] 25-03-28-FINAL-DESIGN-London-Infrastructure-Framework-Overview-003.pdf

In addition to what has already been set out, the Mayor's London Infrastructure Group (LIG) was established to agree a common vision for long term infrastructure planning and jointly tackle issues in the infrastructure sector. The LIG convenes senior executives across key the sector on a biannual basis and serves as a strategic forum through which the ICS convenes, regulators, government and wider industry to discuss key challenges and opportunities facing London's infrastructure sector.

It is however worth noting that the Mayor of London does not have any regulatory or statutory powers that enable the GLA to direct infrastructure reinforcement. However, the GLA continues to play an important role in providing co-ordination across the multiple actors within London's energy sector, by proactively partnering with a range of stakeholders to research, identify, support and escalate infrastructure reinforcement issues. This includes both the on-going work of the GLA to deliver Local Area Energy Planning, as well as the GLA's on-going collaboration with NESO on the introduction of a Regional Energy Strategic Plan for London (discussed below in our response to question 3).

3. How can planning best respond to the challenges of factoring energy demands into planning processes?

Early engagement with the electricity networks is key to ensure they are aware of spatial growth plans and forthcoming connection requests, as it enables the networks to plan for new investments or other measures – such as the procurement of flexibility (i.e. offering financial incentives to customers to shift when they use energy) – to navigate constraints.

Encouraging a shared baseline of evidence between spatial planning and the planning assumptions of the energy network is also key to ensuring a more holistic and co-ordinated approach to planning. Evidence such as Local Area Energy Plans produced by both the GLA and boroughs, and subsequent engagement with the electricity networks on this data, provide an important evidence-base for aligning spatial growth strategies with network planning and investment.

The GLA has also welcomed increased transparency from the electricity networks in providing open data portals to provide greater clarity to developers around localised network constraints. This data can also be used by local planning teams when considering factors such as site allocations, areas for growth and location of assets such as substations or battery storage. Planning applicants should also seek to complete detailed information on energy demand for development sites when completing planning applications so that this data can be shared with network operators via the Planning London Datahub. Currently, developers often do not complete optional fields around energy demands in the PLD template, reducing this data sharing opportunity.

The recent introduction of Regional Energy Strategic Plans (RESP), which developed by the National Energy System Operator, will also see the production of a strategic energy plan for the Greater London area. The RESP will establish a clear plan for how London's energy system

needs to be developed to reach net zero, considering both the national targets set by government, and the local needs and most appropriate approach for each area. It will be cross-sector in focus, considering not just electricity but also gas and heat networks.

The GLA is already engaging closely with the London RESP team to better understand the emerging RESP methodology, and opportunities for better integration of the GLA's Local Area Energy Planning within the RESP process. While the proposed governance arrangement of the RESP is still in development, the GLA has continued to advocate (via formal consultation response to Ofgem[16]) for representation from London Councils and the GLA on the London RESP board, to enable proper scrutiny and sign-off on any proposed RESP.

4. How are energy capacity constraints affecting the delivery of different types of housing and wider economic growth? For example:

a. Are certain types of developments, such as those in areas of high housing need, more likely to face delays or constraints due to limited grid capacity?

Major energy users, such as data centres and other energy intensive industries, are most likely to face significant timescales to connection in London. This is due to their significant energy requirements which often require reinforcements to both the distribution and transmission networks. The ICS is aware of several instance in London where new data centre connections have triggered the requirements for the building of new Grid Supply Points (such as at Uxbridge Moor), which as substantial development projects can take many years to pass through planning, licensing, Ofgem approval, and construction.

For housing development, their experience of capacity constraints is determined by geography and the available headroom on the local distribution network, and upstream at the transmission network. Currently, connection applications by housing developments to the DNOs that require more than 1MVA (approximately 200 homes) are subject to a Transmission Impact Assessment (TIA). This is used to assess the impact of the connection upstream on National Grid's transmission network. This has led to incidences (notably in west London) where relatively minor applications are being held up by where the TIA demonstrates the need for more significant reinforcements at the constrained transmission level.

In the context of west London, the deployment of the 'ramping solution' by NESO, National Grid and SSEN has allowed housing schemes to bypass the need to undertake a TIA, where they can demonstrate the ability to phase their energy need to increase incrementally at a maximum of 1MVA per year. This has allowed schemes to come forward in areas affected by constraints at the transmission level. The use of the ramping solution has been particularly effective for housing development, as these types of development tend to be subject to phased delivery anyway.

[16] Ofgem RESP consultation response_GLA and London Councils.pdf

NESO and Ofgem have, in May 2025, raised the lower threshold at which a Transmission Impact Assessment must be undertaken to 5MVA[17]. However, this change only applies to generation connections at the distribution level (such as distributed solar panels). This change therefore does not apply to demand connections such as housing development, and hence does not represent a regulatory change that formally addresses the issue identified in west London. The GLA continues to recommend the increase of the TIA threshold to demand applications, via formal consultation responses to Ofgem as part of their Connections end-to-end Review[18].

The ICS is currently supporting SSEN in piloting another innovative new connection product for residential developments in the affected area of west London, called Community Smart Access[19]. This product allows new net zero residential development that use Low Carbon Technologies (LCTs) like EV chargers, solar panels, and heat pumps, to achieve faster connections in areas where local capacity constraints exist. This product essentially leverages the presence of LCTs to buy flexibility services in advance, i.e. asking developments to utilise their LCTs in such a way that the development draws less power from the distribution network at peak times. By reducing the schemes maximum electrical demand, it allows developments to come forward while network reinforcement is undertaken, rather than having to wait for network reinforcement to be completed first. This product has the potential to further accelerate housing delivery through the quicker deployment of low carbon technologies in the affected area of west London.

Increasing electrical demand across London, both through new development and decarbonisation, will require the development of extensive new electrical infrastructure. This can create issues in high-growth areas where there is a need to locate suitable sites within dense urban areas for new substations and associated network infrastructure. Physical network congestion (such as lack of space within highways or across bridges to accommodate new cables) is also an emerging issue in certain areas of London, where major roads, canals, rivers, and railways create natural severance to future connections.

The ICS continues to convene with National Grid, SSEN and UKPN to understand their future investments and supports spatial co-ordination with the boroughs to accelerate the delivery of the necessary infrastructure to support growth. The ICS is currently supporting both Tower Hamlets and the Royal Docks team on accelerating the delivery of new primary substations required to serve proposed housing and commercial development.

The GLA, in partnership with London Councils, is also currently preparing the London Infrastructure Framework Refresh (LIF)[20]. The 2025 refresh will set out the energy infrastructure needed to unlock sustainable, climate-resilient economic and housing growth in the capital. Alongside setting out London's infrastructure priorities to deliver on the vision of the London Growth Plan, the LIF will align with the development of the London Plan and other strategic processes. The LIF will draw on the Local Area Energy Plans, and engagement with the energy

[17] CMP446: Increasing the lower threshold in England and Wales for Evaluation of Transmission Impact Assessment (TIA) | National Energy System Operator
[18] 12-02-2025 Ofgem End-to-End Review Consultation - GLA Response.pdf
[19] New SSEN-led project offers options of faster connections for decarbonised new homes - SSEN
[20] 25-03-28-FINAL-DESIGN-London-Infrastructure-Framework-Overview-003.pdf

networks, to ensure a closer alignment between spatial growth priorities and the necessary infrastructure investment to address and prevent future capacity constraints.

b. Are current models of grid investment and connection—such as first-come, first-served—effective in supporting London's housing delivery and economic growth?

It remains the GLA's view that strategic, proactive investment in grid infrastructure is needed across London to support the delivery of net zero as well as affordable housing delivery and economic growth. While the Mayor does not have any regulatory powers over electricity networks, including the connections process, the GLA has been working closely with key stakeholders to advocate for the regulatory changes needed to support housing delivery, decarbonisation, and economic growth in London.

Reducing electricity network connection timescales is a top priority for the Government. Various initiatives are currently underway to improve outcomes for connections customers through reforms to the queue management process. These include the NESO and Ofgem's code modifications (TM04+)[21] for connections reform that will move away from the 'first-come, first-served' approach for connections. Instead, projects that are ready to connect and can demonstrate that they meet specific milestones will be prioritised to connect to the electricity network quicker. Similarly, projects that meet certain 'strategic alignment' criteria such as the Government's Clean Energy 2030 objectives will be prioritised. These reforms only apply to existing and new generation and demand connections at the transmission level only. Ofgem approved these changes in March 2025 and NESO is now in the process of undertaking an assessment of projects in the existing connections queue based on their readiness to connect. This will result in speculative schemes losing their place in the connection queue and has the potential to release further capacity on the transmission network, allowing others that are more suitable to progress. The reforms would also allow both NESO and National Grid the opportunity to further assess the planned reinforcements across their network using a more coordinated approach across industry processes. However, the full impact of TMO4+ on London's capacity will not be known until Q2 2026.

Ofgem have recently completed consultation on the framework for the next electricity distribution price control period, for April 2028-2033[22]. This will determine how London's electricity distribution network operators (UKPN and SSEN) are regulated during the next price control period. The GLA responded to this initial consultation[23], supporting the proposal for a more proactive stance to delivering network capacity. The balance of risks associated with network investment are changing – the risks of over-investment are much less pronounced compared to the need for more proactive investment ahead of demand to ensure capacity is available at the critical time when it is needed to support growth and a net zero future. We believe this could mitigate the existing capacity constraints in west London but also bring

[21] Decision on Connections Reform Package (TM04+) | Ofgem
[22] Framework decision: electricity distribution price control (ED3) | Ofgem
[23] 09-01-2025 ED3 Price Control Framework Consultation - GLA Response - Copy.docx

benefits across London in the long term as it sets the foundation for a regulatory environment that would minimise reactive steps to deal with capacity constraints as they emerge. Ofgem will be publishing their next round of consultations on the methodology for the framework in the coming months, and we plan on working closely with our utility partners to advocate for the specific infrastructure investments are needed in London.

The Department for Energy Security and Net Zero (DESNZ) and Ofgem have also been making progress to implement their Connections Action Plan[24], aimed at significantly reducing connection timescales, freeing up space in the connections queue, and better allocating available capacity. The implementation of the Plan is currently underway and has already resulted in some capacity to be freed up in the queue. The GLA is largely supportive of the various proposals and believe that the changes can improve quality of service and timely connection requests for distribution demand customers, such as those in west London. We have responded to Ofgem's consultation on the 'Connections End-to-End Review[25]', outlining London-specific case studies that should be considered when identifying opportunities to improve the overall experience for customers seeking an electricity connection, from the beginning of their application to when they secure a point of connection (i.e., "end-to-end")[26]. We continue to engage with Ofgem at the officer level to advocate on behalf of these connection issues.

In addition to the actions outlined above, the GLA continues to advocate for connection reform that serves London's priorities by supporting the National Infrastructure Commission's recent study of reforms required to the distribution network, being cited as a key partner in the publication of their report in Q1 2025[27]. We also responded to the recent Parliamentary Call for Evidence on the Energy Grid and Grid Connections, advocating for the measures mentioned above to support connection reform for demand projects[28].

We are currently working closely with DESNZ on the design and development of the Connections Accelerator Service, which was announced as part of the Government's Industrial Strategy[29]. The GLA will continue to advocate and identify opportunities where projects in London that are of strategic importance could be prioritised as part of this new government initiative.

c. Are London boroughs adequately empowered and resourced to engage with energy providers and shape energy infrastructure planning?

[24] Connections Action Plan: Speeding up connections to the electricity network across Great Britain
[25] Connections end-to-end review of the regulatory framework | Ofgem
[26] 12-02-2025 Ofgem End-to-End Review Consultation - GLA Response.pdf
[27] [ARCHIVED CONTENT] Electricity distribution networks: Creating capacity for the future - NIC
[28] 2025-02-24 Parliamentary Call for Evidence on the Energy Grid - GLA Response - CLEAN - Copy.docx
[29] The UK's Modern Industrial Strategy

Boroughs' overall resources, capacity and expertise varies across London, as monitored through the Mayor's Placeshaping Capacity Survey[30]. Specifically with regards to electricity capacity, r, through the GLA's Local Area Energy Planning (LAEP) work, the Mayor has sought to provide a consistent, accessible evidence base that can be used as a tool to support engagement with network operators.

The GLA is also providing financial support to boroughs via the Zero Carbon Accelerator to take forward phase 2 borough-level LAEPs. This includes up to £50k grant funding per borough to prepare an LAEP, and up to £10k grant each for technical support to the LAEP process. Some boroughs are also currently choosing to progress their LAEPs in consortium.

In addition, both DNOs have established in-house Local Authority support teams, which the GLA welcomes. This includes the development of new digital tools, such as SSEN's Local Energy Net Zero Accelerator (LENZA)[31], and UKPN's LAEP+ Planning Tool[32], to support boroughs in preparing LAEPs.

In relation to west London specifically, the ICS hosts a monthly call with the affected boroughs. This is to provide specific updates on the measures being undertaken to address the capacity constraints and provide bespoke support as required.

[30] Helping London authorities deliver with a Placeshaping Capacity Survey | London City Hall
[31] LENZA - SSEN
[32] LAEP+ Planning Tool - Your Local Net Zero Hub

Old Oak and Park Royal Development Corporation: Ref No. 005

1. **How have electricity capacity constraints impacted you?**

    i. There has been a general lack of clarity around the Distribution Network Operators (DNOs) commitment to network reinforcement or upgrades which creates:

    - greater risk for investors/developers
    - reluctance to invest
    - delays in programme

    ii. Significant Officer time has been spent mitigating risks and issues associated with bringing forward development in the context of known current and anticipated future power constraints.

    iii. OPDC's Local Area Energy Plan (LAEP) 2024 findings were used to inform the DNOs' future strategic planning and investment decision-making since network reinforcement is only triggered by demand. The links below are to UPKN and SSEN Distribution Future Energy Scenarios (DEFS):

    - UKPN: https://d1lf1oz5vvdb9r.cloudfront.net/app/uploads/2025/03/2025-DFES-Report.pdf
    - SSEN: https://www.ssen.co.uk/globalassets/about-us/dso/dfes/ssen-dfes-2024-introductory-report.pdf

    iv. OPDC has sought to proactively secure power ahead of the major regeneration of Old Oak, including working closely with HS2 as they release work sites from their operations at Old Oak Common in the coming years.

    v. There may be increased cost/risk/disruption associated with having to consider bringing in power into Old Oak from a greater distance.

In particular:

a. **Have the grid capacity constraints impacted investment in West London?**

    i. There is a risk that concerns about grid capacity constraints could impact investment in West London. . However, the GLA Infrastructure team's support to affected developments and its work on short term solutions has meant that these constraints have not so far caused any issues for implementation of development or attracting development interest in the OPDC area.

b. **Have the grid constraints impacted your ability to bring forward new industrial and residential developments?**

    i. No, but based on studies (LAEP, UKPN feasibility study demand report Aug 2024) - the anticipated requirement will be for 320 MVA by 2050 across the OPDC area. We are working with the GLA to ensure this will be available.

    ii. OPDC's understanding of slow / lagging investment by DNOs, means that there is a risk that capacity upgrades may not be brought forward in time to deliver our masterplan and Local Plan targets. However, the GLA Infrastructure team's work on short, medium, and long-term solutions is noted and welcomed.

c. **If applicable, are you able to estimate how many homes or industrial units have been delayed or affected as a result? Please note: you do not need to provide precise figures to respond. Any information, even approximate or anecdotal, is welcome.**

    i. n/a

d. What activities are you undertaking to reduce the demand for energy?

    i. A previous attempt to deploy large-scale solar PV within Old Oak and Park Royal was unsuccessful due to the limitations of outdated primary substations and the inability to connect under the current G99 and G100 requirements. This highlighted the fundamental challenge of relying solely on grid reinforcement to unlock local clean energy generation.

    ii. Building on this learning, OPDC is now advancing the Smart Energy Transformation Plan under the GLA's Zero Carbon Accelerator (ZCA). This programme is developing an investment-ready delivery plan for a Smart Local Energy System (SLES), combining private wire networks with up to 100MW of solar generation capacity. The plan will enable direct energy sharing between buildings without relying solely on the constrained grid, while also integrating flexibility and demand-side response measures. This represents one of the most ambitious local energy initiatives in London, capable of decarbonising dense energy demand and unlocking community energy at scale.

    iii. OPDC is developing the OPEN Heat Network which takes waste heat from the local data centres to provide low-cost, low carbon energy to local homes and businesses. This heat network reduces the power demand from new developments as they don't need to use their own electrically powered low carbon heating solutions such as air source heat pumps.

    iv. The Ramping Solution (which means gradual increase in power generation or flow over time, either to meet demand or to adhere to grid stability rules) and flexibility deployed by SSEN has brought benefit to some schemes in terms of accelerating their timeframes where previously they were delayed.

2. **Can electricity demand meet the Mayor's ambitions for London over the next ten years? In particular:**

    a. **How can the construction of new data centres be planned to align with available grid capacity and ensure timely grid connection?**

        i. Data centres often secure capacity at a very early stage and often before their intentions become known through the planning process. This can create difficulties in helping to plan for them holistically.

        ii. New data centres contribute substantially to demand, with an energy requirement that can sometimes be equivalent to a small city. To align their development with grid capacity, there must be tighter coordination with network operators, and planning conditions should require on-site or local renewable generation and flexibility services. Long term planning for the spatial distribution of data centres across London would help to prevent a disproportionate impact on West London's energy supply.

    b. **Can London's new housing targets be achieved given London's grid capacity now and into the future?**

        i. We know that our target housing and commercial trajectory will require significant increases in the grid capacity. However, the GLA Infrastructure team's work on short, medium, and long-term solutions is noted and welcomed and we are working with the GLA to ensure better integration of our growth priorities with grid investment.

        ii. It is worth noting that targets will be viability and capacity tested as part of new London Plan / OPDC Local Plan development to consider their viability

    c. **Are capacity constraints limited to West London, or are they experienced more widely?**

        i. OPDC does not hold that data. However, we believe other parts of London also face challenges, but West London has been identified as a hotspot due to a clustering of data centres, industrial demand, and housing growth.

    d. **Is the GLA doing enough to factor in energy constraints when considering economic and housing strategy?**

        i. Rather than seeing energy power supplies as a long-term barrier to future economic and housing growth in London, the GLA is working with affected boroughs, developers and Ofgem to define short-, medium- and long-term solutions and has already unlocked 12,000 + permitted new homes since 2022. Building on this work, continued lobbying of National Grid and the Government to bring forward upgrades and reform to the way power is allocated to developments would be welcomed.

e. **How can the GLA improve its coordination of infrastructure reinforcement via the ICS?**

    i. Continue to engage at the highest levels with utility companies, central government and other decision makers, to make the case for prioritised investment into London growth areas.

    ii. Facilitate the discussion and negotiation with DNOs and National Grid on allowing flexible, staged energy connections across investment periods and geographic sub-areas.

3. **How can planning best respond to the challenges of factoring energy demands into planning processes?**

    i. National policy would need to be modified to require applicants to demonstrate what their energy demands are and how they plan to source their supply of energy. This would enable the deliverability of energy to be a material consideration. Consideration would also need to be given to whether other infrastructure requirements would also need to be a material consideration. A coordinated approach to defining energy demand at different spatial scales would be required to support this.

4. **How are energy capacity constraints affecting the delivery of different types of housing and wider economic growth?**

    a. **Are certain types of developments, such as those in areas of high housing need, more likely to face delays or constraints due to limited grid capacity?**

        i. There is a risk that developments with viability challenges could be delayed (or abandoned) as their financial models may not be able to support the added cost of network reinforcement and/or risks associated with delays or uncertainty of power supply.

    b. **Are current models of grid investment and connection—such as first-come, first-served—effective in supporting London's housing delivery and economic growth?**

        i. No – the DNOs should be taking a more proactive approach to innovation, including spearheading and investing in flex systems and Smart Local Energy Systems rather than leaving it to developers, local authorities, etc.

        ii. Connection reform is currently underway led by the National Energy System Operator and Ofgem and this is a live conversation which the GLA is involved in.

    c. **Are London boroughs adequately empowered and resourced to engage with energy providers and shape energy infrastructure planning?**

        i. OPDC cannot speak for the boroughs, but we have been well supported by the GLA's ICS when engaging with energy providers.