# PLANNING STATEMENT

## WOODLANDS PARK LANDFILL SITE, LAND SOUTH OF SLOUGH ROAD, IVER, BUCKINGHAMSHIRE

**Date: 4th March 2024 | Pegasus Ref: 22-3246**

**Proposal**

**Outline planning application with all matters reserved except for principal points of access for the redevelopment of the former landfill site to comprise a data centre development (B8 (Data Centre)) of up to 72,000 sqm (GEA) delivered across 2 buildings. The scheme includes site wide landscaping. The data centre buildings include ancillary offices, internal plant and equipment and emergency back-up generators and associated fuel storage. The development will also include cycle and car parking, internal circulation routes, soft and hard landscaping, security perimeter fence, lighting, earthworks, sustainable drainage systems, ancillary infrastructure and a substation.**

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**APPENDICES**

# 1. INTRODUCTION

1.1. This Planning Statement has been prepared on behalf of Greystoke Land (the Applicant). It relates to an Outline Planning Application in connection with land at Woodlands Park Landfill Site, Land South of Slough Road, Iver, Buckinghamshire, (the Application Site).

1.2. In summary, the application seeks outline planning permission for a Hyperscale Data Centre and other associated works.

1.3. A more detailed description of the development proposals is set out in Section 4 of this Planning Statement and within the separate Design and Access Statement that accompanies the application.

## The Purpose and Content of the Planning Statement

1.4. This Planning Statement provides a summary overview of the application proposals and identifies the Planning Policy Framework within which it should normally be considered.

1.5. **Section 2** provides a description of the site and its surroundings. The relevant planning history is outlined in **Section 3**. A description of the development proposals is set out in **Section 4.** The Planning Policy Framework that is applicable to the application is provided in **Section 5. Section 6** then provides an assessment of the main planning issues and provides a reasoned justification for the scale and nature of the development that is now being proposed. **Section 7** deals with the overall planning balance. The summary and conclusions are set out in **Section 8.**

## The Previous Planning Application and Appeal

1.6. The same Applicant previously submitted an outline application for a larger data centre on the same site (LPA ref. PL/21/4429/OA).

1.7. The LPA refused the application by notice dated 2nd September 2022 and it was then the subject of an appeal, which was called-in by the Secretary of State his own determination. The appeal was dismissed on 30th October 2023. The Appellant (the Applicant in this case) has since lodged a legal challenge to the decision which has yet to be heard.

1.8. The revised proposals are materially different in terms of the amount, volume, height and built footprint of the proposed development. This is in response to the SoS's conclusions regarding the impact of the previous proposals on the Green Belt and the character and appearance of the area more generally, whilst still delivering a development that can make a very significant contribution to the undisputed need that exists in the Slough Availability Zone (SAZ).

# 2. SITE LOCATION AND DESCRIPTION

2.1. The application site (the site) is situated on land to the south of Slough Road and to the east of the M25 motorway, between junction 16 (M40) to the north and junction 15 (M4) to the south.

2.2. The eastern boundary of the site is formed by the River Colne, which predominantly forms the boundary between Buckinghamshire Council and the London Borough of Hillingdon. To the east of the River Colne is a towpath and the West London Industrial Estate. The southern boundary of the Site lies to the north of the rear of residential properties which front Iver Lane (which are predominantly two storeys in height). The existing properties accessed from Palmers Moor Lane (which is accessed from Iver Lane) are excluded from the Site boundary.

2.3. The Site has two main access points, with the primary access being to the north from Slough Road. The second vehicular access to the Site is from Iver Lane, via Palmers Moor Lane which is a bridleway (IVE/9/1) and includes a section of the National Cycle Network and Colne Valley Trail.

2.4. The site itself extends to some 22.15 hectares. Whilst the site was previously worked for gravel and was subsequently infilled, the main body of the site is now dominated by large expanses of open grassland, with scattered and some dense areas of scrub and trees. Along the eastern and western boundaries of the Site there are mature trees, as well as to the south (to the north of Palmers Moor Lane).

2.5. There is a large established manmade lake in the north-west of the site, which is used informally by a fishing club, and a smaller fishing pond in the south-east. There are high-voltage power lines which run along the eastern and southern boundary of the site. The land to the south of Palmers Moor Lane is used for grazing.

2.6. The Site is located within the Green Belt, a Biodiversity Opportunity Area, the Colne Valley Regional Park, an Air Quality Management Area, and in part within Flood Zones 2 and 3.

# 3. PLANNING HISTORY

## Historic Uses and Applications

3.1. This is not an un-spoilt area of rural countryside in agricultural use. It has seen a range of activities some of which have been harmful and have adversely affected its character.

3.2. The application site comprises an area of land formerly worked for gravel extraction and subsequently used for landfill in the mid to late 20th Century. The topography of the site is characterised by the raised plateau of the landfill with localised steeper slopes at its margins. Running the length of the eastern and southern boundaries within the site are high-voltage power lines, which together with the West London Industrial Estate beyond form a prominent industrial feature along this boundary.

3.3. Up until the 1930s, the majority of the land to the north of Palmer's Moor Lane was in use as Woodlands Park Golf Course (with the Club House located in the position of the former Warner's Farm buildings).

3.4. From the 1940s flint gravel was extracted from an area at the northern end of the Site (west of the River Colne) to be used in the manufacture of flint bricks. In the 1950s the brickworks (located outside the Site boundary to the east) started producing asbestos insulating boards as well as bricks. Waste from both processes was deposited in the void created by the excavation of the flint gravel on the application site.

3.5. By circa 1972, several buildings had been constructed within the vicinity of the former mineral workings, with a floating jetty and slipway present on the south-western bank of the now-flooded gravel pit in the location of the former golf course club house.

3.6. By 1984 the majority of the site, apart from a lake (now remaining on the site), had been the subject of extraction and filled with production waste. Some of the gravel extracted was used in the construction of the M25 which was built across the western part of the land, opening in 1986. The construction of the M25 necessitated realignment of approximately a 200-metre-long section of the Colne Brook.

3.7. The site has been subject to extensive workings, excavation and filling, as well as previously hosting built form. It is not an unblemished parcel of land and its recent history is tied more closely to the industrial nature of the built form to the east and the fabric of London.

3.8. The site was also the subject of applications and appeals for a motorway service area (MSA) during 1994-1995. Whilst the appeal was dismissed, it is important to note that this was only

on highways grounds. The SoS was satisfied that the proposals would not cause unacceptable harm to the Green Belt and he was at one stage minded to allow the appeal.

## The Previous Data Centre Application and Appeal

3.9. This latest planning application follows on from a previous planning application and subsequent appeal for a much larger Data Centre complex on the same site. The previous application sought planning permission for a development comprising:-

> **"Outline planning application with all matters reserved except for principal points of access for the redevelopment of the former landfill site to comprise a data centre development (B8 (Data Centre)) of up to 163,000 sqm (GEA) delivered across 3 buildings. The scheme includes site wide landscaping and the creation of Parkland. The data centre buildings include ancillary offices, internal plant and equipment and emergency back-up generators and associated fuel storage. The development may also include cycle and car parking, internal circulation routes, soft and hard landscaping, security perimeter fence, lighting, earthworks, District Heating Network, sustainable drainage systems, ancillary infrastructure and a substation."**

3.10. The application was never reported to the LPA's Planning Committee. Instead, it was refused under officers' delegated powers.

3.11. The Decision Notice which is dated 2nd September 2022 identified a single reason for refusal. It reads as follows:-

> **"1 The proposed development would constitute inappropriate development in the Green Belt, would result in harm to the openness of the Green Belt in both spatial and visual terms, and would conflict with four of the purposes of including land within the Green Belt. Substantial weight is given to the harm to the Green Belt. Other harm has been identified to the character and appearance of the site and its surroundings, including the value of the open and undeveloped site in an edge of settlement location, and to the impact on the ecological value of the site within a Biodiversity Opportunity Area. The harm to the Green Belt and the other harm identified, is not clearly outweighed by other material considerations such as to constitute the very special circumstances necessary to permit inappropriate development in the Green Belt. The proposal is thereby contrary to Policies GB1, GB4 and EP3 of the South Bucks District Local Plan (Adopted 1999, Consolidated September 2007 and February 2011), policies CP 8 and CP 9 of the South Bucks Core Strategy (February 2011) and sections 12, 13 and 15 of the National Planning Policy Framework (2021)."**

3.12. The appeal was called-in by the Secretary of State for his own determination. It was dismissed on 30th October 2023. The Secretary of State concluded that the proposals would not accord with the Development Plan and it was considered that very special

circumstances did not exist to justify permitting this development in the Green Belt. The conclusions are encapsulated in paragraphs 36 to 41 of the SoS decision letter which read as follows:-

> **"Planning balance and overall conclusion**
>
> **36. For the reasons given above, the Secretary of State considers that the appeal scheme is not in accordance with Policies GB1, GB4, EP3 and CP8 of the development plan, and is not in accordance with the development plan overall. He has gone on to consider whether there are material considerations which indicate that the proposal should be determined other than in line with the development plan.**
>
> **37. Weighing in favour of the proposal is the need for additional data centre capacity within the UK and the SAZ, the level of investment in the UK economy and the creation of permanent operational jobs, which each carry significant weight. Also weighing in favour are the site's locational advantages, the absence of an alternative site and local education and employment initiatives which each carry moderate weight. The creation of transient construction jobs, social benefits and climate change considerations each carry limited weight. The creation of a parkland with public access and the external connection for a potential district heating system each carry minimal weight.**
>
> **38. Weighing against the proposal is the harm to the Green Belt from inappropriate development, harm to openness and harm to the purposes of the Green Belt, which collectively carries substantial weight. Also weighing against the proposal is the harm to the character and appearance of the area, which carries substantial weight.**
>
> **39. In line with paragraph 148 of the Framework, the Secretary of State has considered whether the harm to the Green Belt by reason of inappropriateness, and any other harms resulting from the development, is clearly outweighed by other considerations. Overall, he considers that the other considerations in this case do not clearly outweigh the harm to the Green Belt and to the character and appearance of the area. He therefore considers that very special circumstances do not exist to justify permitting this development in the Green Belt.**
>
> **40. Overall, in applying s.38(6) of the PCPA 2004, the Secretary of State considers that the conflict with the development plan and the material considerations in this case indicate that permission should be refused.**
>
> **41. The Secretary of State therefore concludes that the appeal should be dismissed and planning permission refused."**

3.13. Notwithstanding the ultimate outcome of the appeal, there are some important points to be drawn out of the decision for the purposes of this application:-

a. The SoS was concerned that the buildings' size and bulk would be emphasised by the buildings being significantly higher and bulkier than those on the nearby WLIP [SoS 13].

b. Similarly, the SoS felt that overall, due to the size, bulk and height of the proposed buildings, the proposal would significantly harm the openness of the Green Belt in this location, both spatially and visually [SoS 18].

c. The SoS nonetheless agrees that there is a significant and substantial demand for new data centres in the Slough Availability Zone (SAZ) [SoS 21]

d. The SoS agreed that the provision of data centres would make a significant contribution to the UK economy [SoS 21].

e. He agrees and that the appeal proposal would make a significant contribution to this need [SoS 21].

f. He agrees that significant weight should be given to the need for additional data centre capacity within the UK and the SAZ [SoS 21]

g. The Secretary of State has taken into account the appellant's conclusion that there is no alternative site in the SAZ currently available for the appeal proposal, and the fact that the Council agreed it had not identified any alternative sites for a hyperscale data centre [SoS 23]

h. However, he has also taken into account that there are other Availability Zones within London which are not within the Green Belt and that no analysis of sites that might be located in other Availability Zones in London has been undertaken. On this basis he differs from the Inspector and gives moderate weight to the absence of an identified and readily available alternative site for a hyperscale data centre in the SAZ [SoS 23]

i. The SoS rejected the LPA's concerns about biodiversity and concluded that the proposal would not result in significant harm to biodiversity [SoS 16].

3.14. The Applicant has challenged the decision of the Secretary of State. The outcome of the legal challenge is still awaited. However, the latest application has reduced the amount, volume, height and built footprint of the proposed data centre buildings such that this represents a significant change since the SoS decision. This requires that the revised and materially different scheme must be considered afresh on its own merits.

3.15. Furthermore, the application should now be considered in the context of an undisputed need for data centre capacity in the Slough Availability Zone and in the context of there being no alternatives to meet **that** need.

# 4. THE APPLICATION PROPOSALS

4.1. Without prejudice to the ongoing legal challenge, the Applicant has made significant changes to the development proposals. The Applicant now seeks outline planning permission for a proposed development comprising:-

> **"Outline planning application with all matters reserved except for principal points of access for the redevelopment of the former landfill site to comprise a data centre development (B8 (Data Centre)) of up to 72,000 sqm (GEA) delivered across 2 buildings. The scheme includes site wide landscaping. The data centre buildings include ancillary offices, internal plant and equipment and emergency back-up generators and associated fuel storage. The development will also include cycle and car parking, internal circulation routes, soft and hard landscaping, security perimeter fence, lighting, earthworks, sustainable drainage systems, ancillary infrastructure and a substation."**

4.2. As noted in the description, the application is submitted in outline with all matters of detail reserved for subsequent determination except for the principal points of access to the site.

## The Illustrative Masterplan

4.3. Whilst the application is submitted in outline, an Illustrative Master Plan has been submitted to demonstrate how the application site could deliver the scale and nature of the development that has been proposed. It demonstrates how the development could be laid out to respond to the constraints and opportunities of the site.

4.4. The main components of the scheme are as follows:-

a. A Hyperscale Data Centre capable of 90 MW of IT load.

b. Up to 72,000 sqm GEA of data centre development including ancillary office space.

c. The main Data Centre would be arranged across 2no. buildings

d. The buildings would now have a (reduced) maximum height of 14m (18m in total with the 4m high external flues).

e. Provision for emergency back-up generators on the 'wings' of each building,

f. Comprehensive scheme of landscaping and biodiversity enhancements (at least 10% BNG) and

g. Associated roads, car parking and other supporting infrastructure including an electricity substation.

4.5. The proposals have been landscape-led. This is to ensure the new built development assimilates with the site and its surroundings and it offers opportunities to limit landscape and visual effects and to provide for landscape and biodiversity enhancements.

4.6. Extensive parts of the site would remain free from buildings and hard surfacing. This means that existing desirable landscape features can be fully retained including the western margins of the River Colne riparian corridor, the lakes and their riparian margins and existing established vegetation along the southern and western margins of the site.

4.7. Whilst the application is an outline application it can be seen that considerable thought has also been given to the design and appearance of the proposed data centre buildings. The buildings would still have living green walls. This along with the architectural treatment reflects and responds to the Government's policy to create high quality, beautiful and sustainable buildings and places. Conditions can be used to ensure that the guiding principles are carried forward into the final detailed design of the scheme.

4.8. The Design and Access Statement provides further detail on the proposed design and layout of the scheme.

## The changes since the previous application and appeal

4.9. The application proposals are of the same character as the previous proposals in terms of the proposed land use. However there are material differences in the following respects:-

a. The number of data centre buildings would reduce from 3no to 2no.

b. The height of the proposed buildings is reduced from 23m (27m with flues) to 14m (18m with flues).

c. There is a reduction in the number of backup generators as a result of the reduced scheme.

d. The overall bulk, mass, height and footprint of built development is therefore significantly reduced.

e. Whilst landscape enhancements are still proposed the country park is deleted as it was considered to be a minimal benefit by the SoS.

4.10. The changes enable the Applicants to still deliver a hyperscale data centre to help address the critical, urgent and national need for data centre capacity but with a reduced impact on the openness of the Green Belt and the broader character and appearance of the area in response to the findings of the SoS in the recent appeal decision.

# 5. PLANNING POLICY

## The Development Plan

5.1. The Development Plan for the area comprises:-

- The Saved Policies of the South Buckinghamshire District Local Plan (adopted 1999),
- The South Buckinghamshire Core Strategy (Adopted February 2011), [and
- Buckinghamshire Minerals and Waste Local Plan 2016-2036 (adopted July 2019)

## The Emerging Neighbourhood Plan

5.2. The latest version of the emerging Neighbourhood Plan comprises:-

- Ivers Neighbourhood Plan 2021-2040 (Referendum Version October 2022)

5.3. The most important policies and guidance and the weight that ought to be afforded to them is set out in the assessment of the application proposals at Section 6 and in the Overall Planning Balance (Section 7).

# 6. ASSESSMENT OF THE PROPOSALS

6.1. In this section it will be explained why we consider that the application proposals represent sustainable development, and it will be demonstrated that there are compelling reasons that justify the grant of planning permission.

6.2. The Applicant acknowledges that the proposals represent "inappropriate development" in the Green Belt, but it will be explained that there are very special circumstances (VSC) that justify development (in accordance with Green Belt policy) in this particular case.

## The Main Planning Policy Issues

6.3. At the previous inquiry the Inspector identified the main issues as follows and these remain appropriate for the purposes of this revised planning application:-

| | |
|---|---|
| **Issue 1** | **The principle of development** |
| **Issue 2** | **Whether the proposal would harm the openness of the Green Belt, including whether it harms any purpose that the Green Belt is meant to serve** |
| **Issue 3** | **Other harms to be considered as part of the very special circumstances test** |
| **Issue 4** | **Whether there are any other considerations which weigh in favour of the proposal and whether those other considerations clearly outweigh any harm the proposal might cause so as to generate very special circumstances.** |

6.4. The overall planning balance is addressed in Section 7. It will identify the main benefits and other considerations that weigh in favour of the proposal and weight is attributed to each of these. The same is done for any potential adverse effects.

## Issue 1 – The principle of development

6.5. At the previous appeal it was common ground that there is a critical need for the development and there was no objection about the location of the site (in the context of data centre development) in terms of its accessibility or its compatibility with neighbouring land uses.

6.6. The LPA's objections were essentially about the impact of the proposals on the GB and then the consequential effects of developing the application scheme on this particular site, in terms of the character and appearance of the site and its surroundings, and the impact on the ecological value of the site.

6.7. It is however important to address matters of principle at the start of this statement to ensure that the background context is properly understood.

## The Context for this Appeal

6.8. It is acknowledged that the application proposals involve major development in the Green Belt. The Applicant does not seek to argue that the proposals would preserve the openness of the GB (no significant new building on an undeveloped site is likely to preserve GB openness) and it is accepted that the proposals would cause some harm to two of the purposes of the GB.

6.9. However, national policy does not preclude development in the GB (including inappropriate development). Where it can be demonstrated that there are very special circumstances (VSC) that justify such development, then national policy regards it as sustainable development that should be approved (i.e. where very special circumstances are demonstrated, there is policy compliance).

6.10. Other potential harms must obviously be taken into account, but despite the scale and nature of the proposed development, the other non-GB concerns from the last appeal are few in number and have been narrowed down essentially to the impact on the character and appearance of the area.

6.11. This is no ordinary development proposal and nor is it one that meets a generic need that could be met anywhere. If this application is granted then it would provide for a sizeable hyperscale data centre, building upon what is recognised to be the largest data centre cluster in Europe, and second only to North Virginia globally. Nicol Economics explain (and the SoS agreed) that the proposals represent critical infrastructure and its timely delivery is a matter of national importance.

6.12. The evidence identifies the rapidly growing need for data storage and in doing so, the pressing need for the proposed development. The need is overwhelming and the evidence of Nicol Economics identifies the economic benefits of the proposed development and the economic consequences for the country if needs are not met (the SoS failed to address this latter point in the recent appeal decision).

6.13. It was of no surprise that the LPA did not advance any evidence (including expert evidence) to support a contention that there is no (or even limited) need for the development. The planning system has simply not kept pace with addressing the need for new, large-scale data centres. The market will not wait and there will be serious consequences for the economy and society if this appeal is dismissed. There would also be serious implications for the

environment which must not be overlooked. Indeed, paragraph 71 of the Inspector's Report to the SoS records the following important concessions:-

> **"71. The Council also accepts that;**
>
> - **the level of need is properly described as <u>overwhelming</u>,**
> - **the need is <u>urgent,</u>**
> - **data centres comprise <u>critical infrastructure of national importance,</u>**
> - **the appeal scheme will make a <u>significant contribution</u> to meeting that need, and,**
> - **there are <u>no alternative sites</u> that can meet that need."**

6.14. Inevitably, a central issue for debate will be harm to the Green Belt and the other harms. However, it is equally important to assess properly the benefits of the Application Scheme and the (associated) harmful consequences of the failure to achieve its delivery

6.15. The reality of the current and growing need for modern data storage is that it requires large buildings arranged in a way that ensures they are highly connected, highly available and resilient. Those buildings have very particular locational requirements in relation to existing infrastructure and so the location and clustering of existing data centres is no coincidence. They are located where they can be provided with the necessary power and digital infrastructure and where they can meet stringent customer and regulatory requirements.

6.16. Without the necessary data centre infrastructure and investment, the UK will not achieve its ambition to be a global leader in areas such as research & development (eg. medicines, energy production, electronics, engineering or defence) and nor will it be able to maintain its position in financial markets. The scope for economic diversification away from traditional industries and the ability to keep pace with other competing and emerging economies during the 21st century will be restricted.

6.17. Globally, across Europe, and in the UK the evidence shows rapid growth in the amount of data that is being generated. That data needs to be stored and processed. The amount of data being generated is growing exponentially. It is driven by the radical transformation in the way people interact and how technology is used for personal, administrative, governmental and business activities.

6.18. The roll out of technologies such as machine learning, artificial intelligence and the 'Internet of Things' is continuing to fuel this growth at record levels. We are informed that **every 1.2 years** the amount of digital data being stored globally **doubles**.

6.19. This gives rise to real world land use planning issues that need to be addressed and solutions must be found.

6.20. The social and economic benefits of this scheme are considerable and are also far from the ordinary. The direct inward investment alone amounts to over **£1bn** in this case. That being at a time when the national economy is at best stagnating and its position amongst leading economies is weakening.

6.21. As well as the social and economic benefits there are also significant environmental benefits that can be captured through this development. Some of these benefits closely align with national policy on reducing the effects of climate change and delivering enhancements in the GB in terms of landscape and biodiversity net gain.

6.22. This is the broader context within which the assessment of harm to the GB (and any other harms) must be considered.

## National Policy

6.23. NPPF paragraph 11 states that plans and decisions should apply a presumption in favour of sustainable development. For plan-making this means that:

> **a) all plans should promote a sustainable pattern of development that seeks to: meet the development needs of their area; align growth and infrastructure; improve the environment; mitigate climate change (including by making effective use of land in urban areas) and adapt to its effects;** (our emphasis)

6.24. The Development Plan in this case comprises a Local Plan adopted in March 1999 and a Core Strategy adopted in February 2011. The evidence base that supported those plans obviously pre-dated their adoption. Even the most recently adopted part of the plan, the Core Strategy, pre-dates the first NPPF. This leads to a situation where certain policies are inconsistent with more recent national policy and the Development Plan does not provide for the current needs for development.

6.25. It is no surprise that the Development Plan does not address the need for data centres. Most of us probably did not have a smart phone or even broadband when these plans were being formulated. Yet these are the policy documents that we must use when making decisions about the critical infrastructure that homes, business and research institutions will rely upon as we move into the 21st century. It would be inconceivable that the tech giants responsible for the storage and processing of data would consider basing their business decisions on out of date plans and strategies of that vintage.

6.26. Whilst the term "data centre" does not appear in national policy there is strong national planning policy support for this type of development. NPPF Paragraph 85 is of particular importance. It states that:-

> **"85. Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation44, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential."** (our emphasis)

6.27. The Applicant would make the following observations:-

a. Data centres are essential for creating conditions for investment, expansion and adaptation.

b. They support economic growth and productivity.

c. National policy recognises both local and wider opportunities for development, this being a development which will transcend local administrative areas.

d. There is a recognition of building on existing strengths. This development would be located in the second largest data centre cluster in world, in an area with high levels of productivity and on the edge of London; a truly global capital city and financial centre.

e. Such development is essential if the UK is to be a global leader in driving innovation.

6.28. Reference is made later to a letter from the Department for International Trade which backs up these observations [Appendix 1].

**APPENDIX 1 – LETTER FROM DIT**

6.29. NPPF footnote 44 must not be overlooked. It refers to the Government's Industrial Strategy and states that:-

> **"[44]The Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, identifies a number of Grand Challenges facing all nations, and sets out a delivery programme to make the UK a leader in four of these: artificial intelligence and big data; clean growth; future mobility; and catering for an ageing society. HM Government (2017) Industrial Strategy: Building a Britain fit for the future."** (our emphasis)

6.30. Data and data storage is intrinsically linked to at least four of the grand challenges. The Nicol Economics Statement examines this further in his evidence as well as other related Government strategies. The DIT confirms that data centres are at the heart of the UK's digital infrastructure and represent the focal point where HMG's Industrial Strategy and the Digital Strategy meet. These are all relevant expressions of Government Policy and attract weight as per NPPF paragraph 6.

6.31. National Policy at paragraph 86 explains that planning policies are also expected to amongst other things:

> **"86 .....**
>
> **.....**
>
> **c) <u>seek to address potential barriers to investment ,such as inadequate infrastructure</u>, services or housing, or a poor environment; and**
>
> **d) <u>be flexible</u> enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices (such as live-work accommodation), and to enable a rapid response to changes in economic circumstances."** (our emphasis)

6.32. We must therefore address barriers to investment and be flexible to unforeseen challenges. Mr Nicol's evidence highlights how the failure to provide additional capacity will restrict the growth of our increasingly data driven economy.

6.33. NPPF paragraph 87 also recognises the specific locational requirements of different sectors. Hyperscale data centres have particular locational requirements and so this part of national policy will be especially important in this case. It states:-

> **"87 Planning policies and decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations at a variety of scales and in suitably accessible locations."** (our emphasis)

6.34. The final part of paragraph 87 may be read with traditional logistics development in mind. However, the same principles also apply to data centres. Data centres need to be located where they have access to power and fibre and hyperscale cloud providers need to be within close proximity to other data centres for resilience reasons.

6.35. National policy also supports high quality communications. Whilst much of NPPF Chapter 10 relates to mobile phone networks it also applies to the appeal proposals. It states that:-

> **"118 Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution)."** (our emphasis)

6.36. There is therefore no policy vacuum at the national level. Policies and strategies are in place in the NPPF and in other Government documents. They are supportive of the development proposals and recognise the need to address the specific locational requirements of different sectors.

6.37. Nicol Economics draw out the following from their review of government policy, which is said to be highly important to data centres:-

a. First, the recognition of the importance of the digital economy to UK prosperity and effective functioning of our public services, government and society.

b. Second, further recognition that this role is becoming ever more important, presenting great opportunities and also challenges.

c. Third, the importance of a secure and reliable digital infrastructure to ensure the smooth functioning and to maximise the growth prospects of the economy.

d. Fourth, a recognition that data centres are a critically important part of that digital infrastructure.

## The Development Plan

6.38. The starting point for the determination of any planning application or appeal is the Development Plan. The planning system is "plan led" and planning law requires that applications for planning permission must be determined in accordance with the Development Plan unless material considerations indicate otherwise.

6.39. The Development Plan in this case is in many ways not up to date or consistent with the NPPF. A recent appeal decision involving Land at Beeches Park adjacent Amersham Road and Minerva Way described the adopted Development Plan as being "woefully out of date." Whilst that was a decision related to housing development in the GB, a similar conclusion can still be drawn in the context of the current application proposals.

6.40. There are no policies or allocations in the Development Plan that make sufficient allocations or other specific provision for the development of hyperscale data centres. Given its age, the plan simply does not address the pressing need for this type of development or provide the flexibility to respond to changed circumstances as the NPPF requires.

6.41. Core Policy 10 deals with employment development. The supporting text at paragraph 3.4.3 refers to the dated evidence base that was prepared for the now long since revoked South East Plan which underpinned the Core Strategy. It states:-

> **"3.4.3..... it concluded that the need for additional employment floorspace in the area which extends to the west of London (including South Bucks District) could largely be met through the more efficient use of employment land in town centres and on established employment sites. Such an approach is particularly important in South Bucks, given the Green Belt constraint."** (our emphasis)

6.42. The underlying strategy of Core Policy 10 is to deliver new employment development in the District and Local Centres, on a small number of Opportunity Sites and through appropriate intensification on existing employment sites excluded from the Green Belt. The identified need for data centres cannot be properly addressed in these locations alone.

6.43. Given that the Core Strategy was prepared in the context of the South East Plan rather than the NPPF, it took a constraints led approach rather than one which would meet the identified needs for development and positively encourage growth. The policy needs to be read in that context.

6.44. There is some support for the appeal proposals in Core Policy 10 in that it says:-

> **"The Council will work with key stakeholders to improve access to high speed and next generation broadband throughout the District by supporting the provision of necessary new ICT infrastructure."**

6.45. The LPA did not rely upon any conflict with Core Policy 10 in its RfR or its SoC and nor did the SoS. Presumably that is because the policy is out of date in that it cannot meet the up to date needs for new development if it is rigidly applied.

6.46. The Economic Development and Employment Topic Paper that was prepared as part of the (now abandoned) Joint Chiltern and South Bucks Local Plan 2036 highlighted the problem with employment land availability at paragraph 90. It recognised that more land would be needed for employment purposes. It can be seen that part of the strategy was to release land from the GB on the basis that the LPA agreed that exceptional circumstances existed. That was the intended strategy of the joint Local Plan. It proposed to release 7.83sqkm from the GB.

> **"90 The evidence provided through the HEDNA and HELAA indicate that the availability of commercial floorspace is insufficient to meet the**

> **anticipated demand. To address this, the Local Plan has proposed a multi-faceted approach based upon the protection of strategic employment sites; the identification of appropriate sites for release from the Green Belt, a focus upon spaceless growth and through co-operation with the other districts in Buckinghamshire, the accommodation of some employment provision within the wider FEMA."** (our emphasis)

6.47. The joint Local Plan had made significant progress having been submitted to PINS for independent examination. However, on 21st October 2021, the newly formed Buckinghamshire Council decided to withdraw the Local Plan. This followed on from a letter from the Examining Inspectors that criticised the LPAs for not meeting the duty to cooperate. Had it done so then the plan would have needed to have provided for even more development in addition to the already proposed GB releases. Obviously, no weight can be afforded to the withdrawn policies of the draft joint Local Plan, but the evidence base that supported the draft plan is material to this appeal.

6.48. There are no other locational policies in the Development Plan that the LPA relied upon to oppose the principle of development previously, aside from GB policies.

## The Emerging Local Plan

6.49. The LPA is at an early stage in the preparation of the Buckinghamshire Local Plan. No draft policies have been published for consultation.

## The Emerging Neighbourhood Plan

6.50. There are no policies in the NP that would preclude the application proposals as a matter of principle.

6.51. The only policies that the LPA relied upon previously were Policies IV1 and IV13. Neither policy precludes the principle of development and the SoS decision did not rely upon any conflict with these policies either.

6.52. The NP recognises that it has progressed ahead of the Buckinghamshire Local Plan, which will deal with the more strategic planning matters. An early review will therefore be required.

## Summary

6.53. To summarise on the principle of development:-

1. The LPA did not previously object to the principle of data centre development on the appeal site per se. It is agreed that there is a need for the development and there is no

objection about the location of the site in terms of its accessibility or its compatibility with neighbouring land uses.

2. The LPA's objections were essentially about the location of the proposals within the GB. National policy does not preclude development in the GB including inappropriate development (subject to the demonstration of VSC).

3. The appeal proposals would inevitably cause harm to the GB but this inquiry is not just about harm to the GB and any other harms (as important as they are). It is also about meeting the critical, urgent and national need for digital infrastructure where and when it is required.

4. Whilst the previous appeal was dismissed, the decision is the subject of a legal challenge. In any event the latest application is materially different and must be considered on its own merits and having regard to the reduced scale, massing, height and footprint of the revised proposals which seek to respond to previous objections.

5. This is no ordinary development proposal. It would provide for a large hyperscale data centre and would represent an investment of over £1bn. As a matter of necessity it is located in the 2nd largest data centre cluster in the world. Its timely delivery is a matter of national importance to support economic growth and society more generally.

6. The proposals attract significant support at the national level. The NPPF requires the planning system to meet development needs and to align growth and infrastructure. §118 states that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being.

7. NPPF §85 states that significant weight should be placed on the need to support economic growth and productivity. Areas should build on their strengths and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation.

8. The NPPF requires policies to address potential barriers to investment, such as inadequate infrastructure and to enable a rapid response to changes in economic circumstances. Those types of policies are absent from the Development Plan here.

9. NPPF §86 is supportive of this type of proposal. It says decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations in suitably accessible locations.

10. Nicol Economics explain that the Government recognises the importance of the digital economy to UK prosperity and effective functioning of our public services, government and society and this role is becoming ever more important, presenting great opportunities and also challenges.

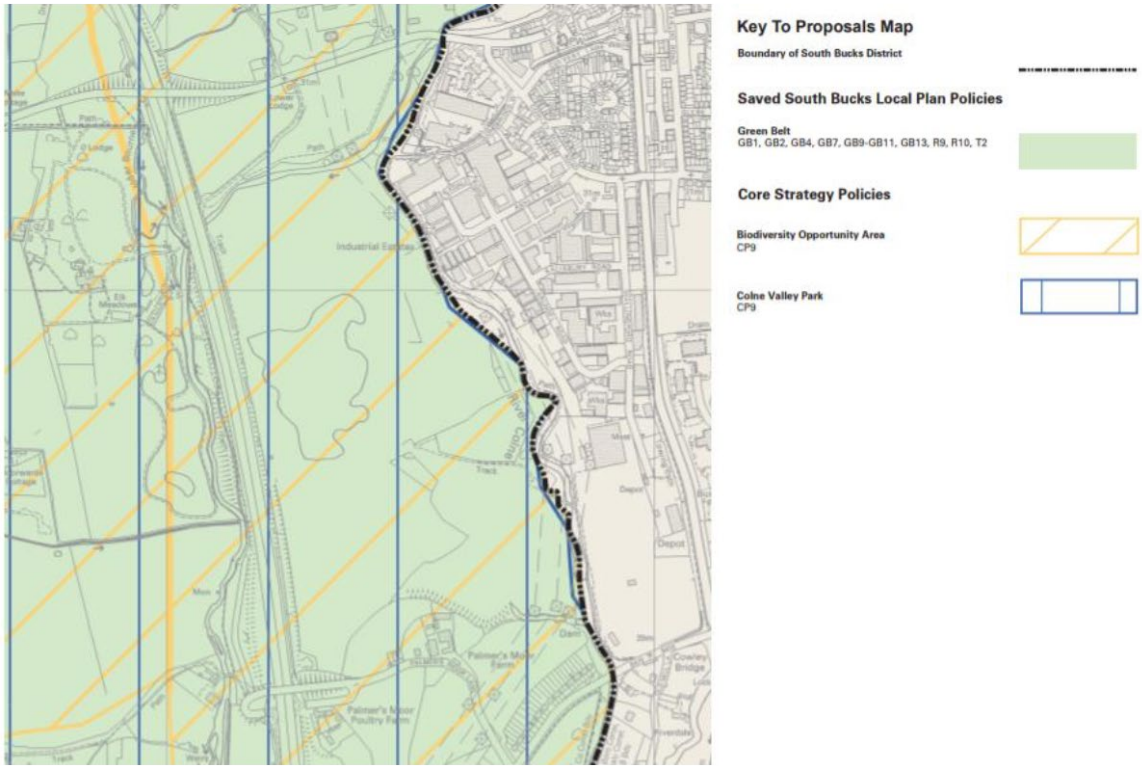
11. It also recognises the importance of a secure and reliable digital infrastructure to ensure the smooth functioning and to maximise the growth prospects of the economy to the extent that data centres are referred to as a critically important part of that digital infrastructure.

12. The Development Plan is out of date in that it pre-dates the NPPF and it does not respond to up to date development needs including the challenges that we now face with regards digital infrastructure. The abandoned Joint Local Plan is evidence that needs for development could not be met under the old strategy. New allocations were required, including land in the GB. A new Local Plan is years away.

13. There are no policies in the emerging NP that would preclude the appeal proposals as a matter of principle.

## Issue 2 Whether the proposal would harm the openness of the Green Belt, including whether it harms any purpose that the Green Belt is meant to serve;

6.54. From the Core Strategy Proposals Map it can be seen that the application site is located entirely within the Metropolitan Green Belt. The proposals must therefore be considered against National Policy and Development Plan policies relating to Green Belt (GB).




## Green Belt - National Policy

6.55. The most relevant parts of national policy relating to development in the Green Belt (GB) can be addressed briefly.

6.56. The NPPF at paragraph 142 identifies the importance of GBs. It states that:-

> **"142. The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence."** (emphasis added)

6.57. At paragraph 143, the NPPF identifies the 5no. purposes of GB. These are:-

**a) to check the unrestricted sprawl of large built-up areas;**

**b) to prevent neighbouring towns merging into one another;**

**c) to assist in safeguarding the countryside from encroachment;**

**d) to preserve the setting and special character of historic towns; and**

**e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.**

6.58. It is also important to draw attention to NPPF paragraph 150. This states that once Green Belts have been defined, local planning authorities should plan positively to enhance their beneficial use, such as:-

> **"……. looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land."** (emphasis added)

6.59. We will return to this point later when considering the important benefits and enhancements that the application scheme can deliver for this part of the GB.

6.60. It is recognised that the proposals represent "inappropriate development" in the GB. National policy on "inappropriate development" in the GB reads as follows:-

> **"152. Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.**
>
> **153. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations."** (emphasis added)

6.61. The outcome of the very special circumstances (VSC) test is determinative for this application.

6.62. Whilst the application scheme as a whole comprises inappropriate development in terms of GB policy, we note that the proposals include extensive areas of landscaping and biodiversity enhancement that also comprise an integral part of the application scheme. When viewed in isolation the latter would not represent inappropriate development and nor would it harm the purposes of GB[1].

[1] See NPPF 154(b)

6.63. Whether there are very special circumstances (VSC) to justify inappropriate development in the GB will obviously turn on the facts of the individual case. It will be explained why VSC do exist here.

## Green Belt - The Development Plan

Saved Policies of the South Bucks Local Plan 1999, consolidated 2011

6.64. The relevant Development Plan policies relating to the GB are to be found in the saved policies of the South Bucks Local Plan 1999. The Local Plan was adopted in 1999. It obviously pre-dates the NPPF by over 22 years (and the first NPPF by 13 years). The policies should be read in that context.

6.65. It is accepted that the saved Local Plan policies nevertheless remain part of the Development Plan and therefore they should continue to be taken into account in decision making until replaced. Due weight should be given to them, according to their degree of consistency with this Framework (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given). As explained later, there are significant inconsistencies with national policy which mean that certain policies should be afforded much reduced weight in the determination of this application.

Policy GB1 - Green Belt Boundaries and the Control Over Development in the Green Belt

6.66. Policy GB1 establishes the boundaries of the GB. It lists the **only** types of development that will be considered acceptable within the GB. The appeal proposals would not qualify as one of the types of development that would be permitted pursuant to the policy.

6.67. The supporting text at paragraph 3.17 says that:-

> **"3.17 The purposes of the Green Belt are set out in paragraph 3.2 above. In order that these purposes can be sustained it is important that only development which is appropriate to the Green Belt is permitted."** (our emphasis)

6.68. That does not align with national policy.

6.69. Whether or not there are VSC to justify this development in the GB will be the determinative issue for this application, yet there is no provision within the Development Plan for that test to be applied. The absence of a VSC provision is highly unusual in our experience and it is plainly inconsistent with the NPPF (and indeed PPG2 which was in place when the policy was adopted). The NPPF does allow for inappropriate development where there are "very special circumstances". Policy GB1 is unquestionably inconsistent with the NPPF and therefore out of date.

6.70. The previous Officer Report accepts that the policy is "not wholly in conformity with the NPPF" and the LPA afforded it reduced (moderate) weight [p.6]. It is considered that conflict with the policy should be afforded no material weight in this case.

Policy GB4 - Employment Generating and Commercial Development in the Green Belt (Excluding Green Belt Settlements)

6.71. Policy GB4 states inter alia that:-

> **"Policy GB4**
>
> **Proposals to establish new employment generating or other commercial sites or extend the curtilages of existing sites will not be permitted in the Green Belt……"**

6.72. The supporting text at paragraph 3.27 states that proposals to establish new employment generating or other commercial sites within the Green Belt will not be permitted, as such development would be contrary to long-established Green Belt policies. It also goes on to state that additional floorspace in Green Belt locations is likely to result in an increased demand for use of the car, since most Green Belt locations will be poorly served, or not served at all by public transport.

6.73. Read on its face, the proposals do not accord with Policy GB4. However we would afford this conflict with policy no material weight, on the basis that:-

a. There is no bar to new employment development in the GB in national policy.

b. Had the Development Plan correctly included a VSC test (in accordance with national policy) then Policy GB4 would not have been a bar to development.

c. The now abandoned Joint Local Plan and its evidence base confirmed that there would be a need to release land from the GB for employment purposes.

d. The LPA did not object to the Link Park proposals on the basis of Policy GB4 and nor did the Inspector rely upon this policy when the appeal was dismissed.

e. It was previously agreed that subject to conditions and planning obligations there is no objection to the proposed development on highways grounds [SoCG p.13]. In other words there is no suggestion that this site is in an unsustainable location in terms of accessibility as Policy GB4 presumes.

6.74. The relevant part of the policy adds nothing to out of date Policy GB1 which precludes all inappropriate development in any event.

## Harm to the Green Belt

6.75. The Applicant recognises and accepts that the appeal proposals would give rise to harm to the Green Belt. That harm can be addressed under the following headings:-

a. Definitional harm,

b. Impact on openness, and

c. Implications for the 5no. purposes of the GB.

## Definitional harm

6.76. The NPPF is clear that inappropriate development is by definition, harmful to the GB.

6.77. It is accepted that the construction of the proposed data centre buildings, and therefore the development as a whole is inappropriate development and that none of the exceptions to inappropriate development[2] apply in this case. Accordingly it is accepted that the proposals do give rise to definitional harm to the GB.

## Impact on openness

6.78. The concept of openness for planning purposes in the GB is normally taken as meaning the absence of built development. It is therefore necessary to consider the pre-development baseline position with the post development position.

6.79. Openness obviously has a spatial dimension, but it is common ground that other considerations are capable of being relevant as a matter of planning judgement. The PPG notes that the courts have identified a number of matters which may need to be taken into account in making an assessment. These include, but are not limited to:-

- **openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume;**
- **the duration of the development, and its remediability – taking into account any provisions to return land to its original state or to an equivalent (or improved) state of openness; and**
- **the degree of activity likely to be generated, such as traffic generation."**

**Paragraph: 001 Reference ID: 64-001-20190722**

6.80. The concept of "openness" was addressed in the *Turner* judgement. Sales LJ said at paragraph 14 that:-

[2] See NPPF paragraphs 149 and 150

> **"The concept of "openness of the Green Belt" is not narrowly limited to the volumetric approach suggested by Mr Rudd. The word "openness" is open-textured and a number of factors are capable of being relevant when it comes to applying it to the particular facts of a specific case. Prominent among these will be factors relevant to how built up the Green Belt is now and how built up it would be if redevelopment occurs (in the context of which, volumetric matters may be a material concern, but are by no means the only one) and factors relevant to the visual impact on the aspect of openness which the Green Belt presents."** (our emphasis)

**The effect of the proposals on openness in spatial terms**

6.81. The application site itself does not currently contain any built development.

6.82. The revised application proposals now include the construction of 2no. large buildings that comprise the main data centre complex along with other associated works. Taken together there would be an obvious increase in both the built footprint and the built volume of development on the site, although this would be significantly less than the previous proposal.

6.83. It is again accepted that the proposals could not "preserve" the openness of the GB. There would be a loss of openness and thus there would be harm in this regard. That would be an inevitable and unavoidable consequence of constructing large data centre buildings in the GB.

**The effect of the proposals on openness in visual terms**

6.84. When dealing with the landscape and visual effects of the development, MHP accept that there would be some impact on the openness of the GB in visual terms. However, the perceived impact would be limited.

6.85. The site is not publicly accessible and visual receptors do not generally enjoy open or extended views across or into the site. They are generally indirect views which are transient in nature. The openness that is experienced in these views is already limited by extensive, intervening tree and vegetation cover, screening by landform or screening by existing built form particularly from within the West London urban edge.

6.86. Dwellings off Palmers Moor Lane are oriented to the south and away from the former landfill site and motorway corridor. Views into the site are also limited by the landform of the edge of the capped landfill and associated vegetation.

6.87. Views into the site from west of the motorway corridor are almost all screened by established vegetation as are views from the motorway corridor.

6.88. The scale of the built form of the development proposals is large but the development footprint is contained to an area which is visually well contained by established features. As such the present openness of the site is not readily experienced beyond the site boundaries

and its landscape character is experienced as well treed and contained by the motorway corridor and the existing industrial urban edge. Pylons and power lines are seen as a component of the landscape contributing to a sense of the landscape having a strong correlation with the urban edge of West London. As such the site does not contribute to a strong sense of openness and the introduction of new built form would have a low magnitude of change on landscape character.

6.89. Compared to the previous proposals, the reduction in the number of buildings from 3 to 2 and the additional reduction in height and mass for the retained buildings means that the proposals are materially different to the previous appeal scheme. In turn there would be a material reduction in the impact of the development on the openness of the Green Belt.

**Increased activity**

6.90. There would be an increase in activity associated with the proposals once it is fully operational.

6.91. However, most activity throughout the day would be contained within the buildings. The rest would be traffic arriving and leaving the site at each end of the day. The Transport Statement predicts that traffic generation would be a total of 130no. two way movements. Again, this is less than the previous proposals.

6.92. This activity should also be put into the wider context in which it would be perceived:-

a. The site is not visually prominent and so the perception of the increased activity within the site would be limited.

b. This is not a deeply rural location, isolated from other forms of activity. It is on the urban fringe of west London with an industrial estate on one side and the M25 on another.

c. Access is via Iver Lane which is already lined with development and the increase in movement to and from the site would be marginal according to the Transport Statement.

d. It is also land where activity has taken place in the past through mineral extraction and landfilling. The SoS was also minded to allow an MSA on this land (and all its associated activity).

6.93. We therefore consider that the increase in activity would have a very limited effect on openness.

## Impact on the 5no. purposes of the Green Belt

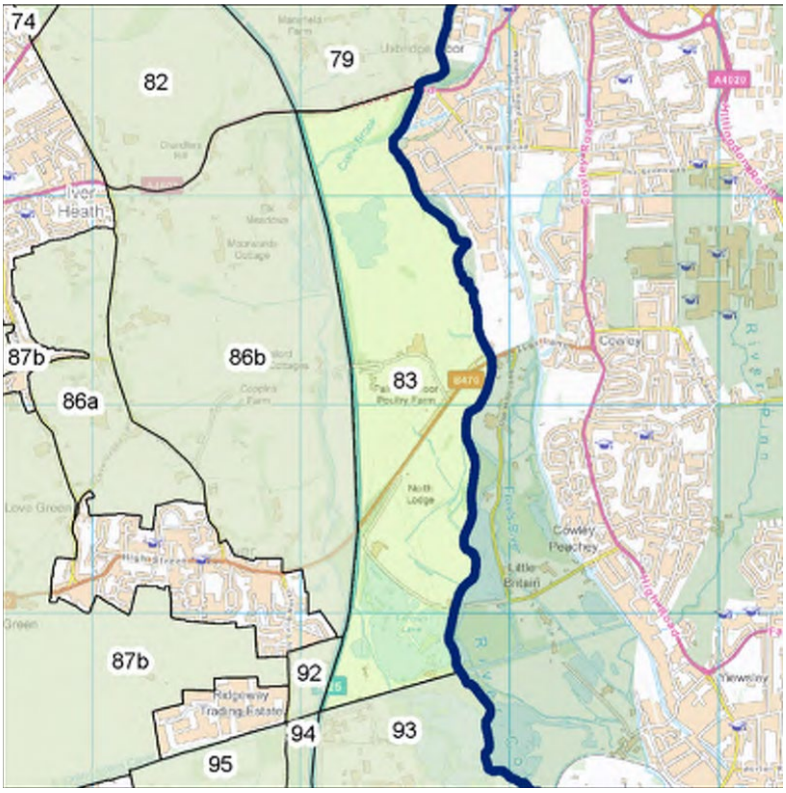
6.94. NPPF paragraph 143 identifies the five purposes of the GB. The Buckinghamshire Authorities previously commissioned an assessment of the Green Belt. In March 2016 the Buckinghamshire Green Belt Assessment (prepared by Arup) was published. This formed

part of the evidence base of the joint Local Plan. Whilst the Joint Local Plan was abandoned, The evidence base remains a material consideration and it provides a useful starting point.

6.95. The broad GB study area was split up into 100no. sub areas. The application site forms part of sub area 83 which extends to 160.6ha [see pdf p.38]. The sub area is described as follows:-

> **"General Area 83 is located to the south-west of Uxbridge (part of the Greater London large built-up area), to the south-east of Iver Heath and to the east of Iver. It is bounded to the north by the A4007 (Slough Road), to the west by the M25, to the south by the Grand Union Canal and to the east by the River Colne. Part of the eastern edge of the parcel directly abuts Uxbridge."**

6.96. The location plan for the relevant sub area is provided below.




6.97. Whilst the assessment is a material consideration, we would urge some caution in how it is used for the purposes of this application. That is because:-

a. The application site is much smaller than sub area 83 (50ha vs 160.6ha respectively). It represents just over 31% of sub area 83.

b. The main body of the site does not extend as far north as the A4007, or as far south as the Grand Union Canal when compared with sub area 83.

c. The part of the site that is proposed for built development is smaller area again. The majority of the site would remain free of buildings.

d. The GB assessment does not therefore assess the application site itself, and

e. The GB assessment does not assess the application proposal itself.

6.98. A more granular and project specific assessment against the 5no. purposes is therefore required when considering the latest application proposals.

**a) <u>to check the unrestricted sprawl of large built-up areas;</u>**

6.99. The Oxford Dictionary defines "urban sprawl" as:-

***"n.* the <u>uncontrolled</u> expansion of urban areas."** (our emphasis)

6.100. It is accepted that the site is located adjacent to a large built-up area (west London). The appeal proposals would also lead to the outward expansion of that built up area.

6.101. There is some existing development between the M25 and the urban area to the north and south of the site, but we would not regard the appeal proposals as a form of infill development or a rounding off of the built-up area. It would be an outward extension into this part of the GB and so it is accepted that there would be some harm to this purpose of the GB as a result of that outward movement.

6.102. However, the harm is tempered in this case because the site is well contained and we would not regard it as being "unrestricted" or "uncontrolled" sprawl. This is not just development spilling out on to undefined open land. The site has robust and defensible boundaries. These would also be reinforced by the well considered layout of the scheme. Taken together, there would be multiple layers of "control" and "restriction."

a. In this part of the GB the M25 serves as a robust and defensible barrier to unrestricted sprawl. It physically and visually severs Greater London from Buckinghamshire's rural countryside in this location.

b. Beyond sub area 83 there is also sub areas 86a and 86b. They provide an additional and wider corridor of more rural land which would continue to check unrestricted outward sprawl.

c. Within the site the lake in the northern part represents a clear physical barrier to further development.

d. The Land Use Parameter Plan and the Indicative Green Infrastructure Parameter Plan show that areas of open space and landscaping form inherent mitigatory and enhancement components of the proposals that will prevent future sprawl. The long-term use and protection of that land will be addressed through the planning permission/planning obligations and will secure its openness and permanence.

6.103. The Applicant/Appellant does not agree with the findings in the appeal decision which suggest that the M25 because of its age does not represent the edge of London. In any event this is a different application with different affects which need to be considered on their merits.

6.104. In summary it is accepted that there would be some harm to this purpose of the GB but the harm is limited and tempered by the containment of the site and the layout of the scheme which includes extensive areas of landscaping that can be secured through the s.106 and conditions.

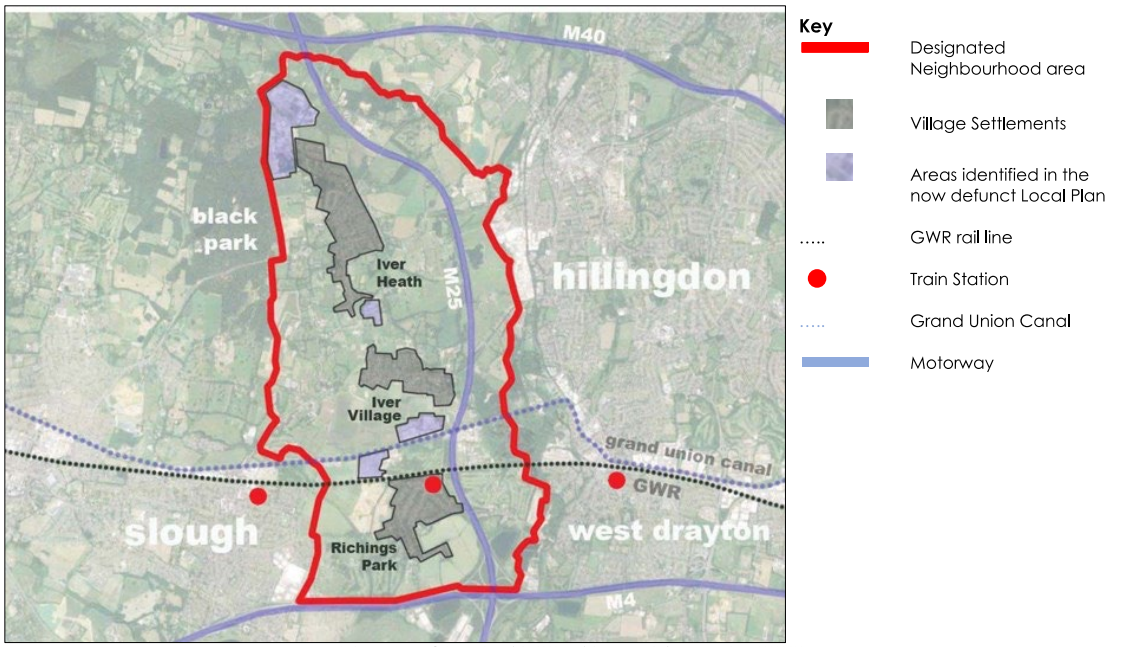
b) **to prevent neighbouring towns merging into one another;**

6.105. The appeal proposals would not cause neighbouring towns to merge or coalesce. There would still be substantial spatial and visual separation between the edge of the development and the nearest towns.

6.106. The 2016 GB Assessment does not identify "towns" as such but it does identify the large built up areas on Map 4.4. The nearest built-up area to the site would be Slough. If this application was granted then there would still be a 3.5km separation between it and the closest part of Slough. There would be no actual or perceived merging with Slough.

6.107. It is noted that the LPA's GB assessment tests whether there would be the merging of or significant erosion of gap between neighbouring settlements, including ribbon development along transport corridors that link settlements. The NPPF requires consideration of towns. It does not refer to "settlements" or "villages".

6.108. It would seem from p.8 of the previous Officer Report that the LPA's primary concern related to the settlements of Iver and Iver Heath. These are not towns. They are referred to in the NP as village settlements as can be seen from the key to the plan below.





*Plan B: The Ivers spatial analysis*

6.109. This approach of distinguishing between towns and villages is the same as that of Inspector Philpott in the recent appeal at High View, Chalfont St Giles, which cross refers to the same GB assessment. At paragraph 52 the Inspector states:-

> **"52 The CS and NP describe Chalfont St Giles as a village. In addition, a Green Belt assessment from March 2016 identifies Chalfont St Peter and Gerrards Cross as a large built-up area, but not Chalfont St Giles. In this context, Chalfont St Giles is not a large built-up area or a town for the purpose of assessing harm to the Green Belt purposes at paragraph 138(a) and (b) of the Framework."** (our emphasis)

6.110. Even if the LPA disagrees with this approach (and that of Inspector Philpott), and Iver Heath and Iver Village are treated as towns for the purposes of the NPPF, then there would still be no actual or perceived merging of settlements. Similar to the points identified earlier in the context of checking unrestricted sprawl, the following would ensure that the settlements do not merge with the London built up area:-

a. Separation distance. At its closest point Iver Heath is circa 1.35km distant from the western edge of London. Even with the proposed development in place there would be a separation of circa 1.25km

b. There would still be the physical and visual severance effect of the M25 in between.

c. The existing and proposed green infrastructure would provide visual and physical separation.

d. The full extent of GB sub areas 86a and 86b would remain unaffected and would continue to prevent the merging of these settlements with west London

6.111. Put another way, if the application proposals were granted and built out, we do not believe that a person standing in Iver Village or Iver Heath (or travelling in and around the villages) would perceive the proposed development as now forming part of the village, or that the village had now become part of west London.

6.112. The Inspector and SoS accepted these arguments previously and confirmed that in the strict sense of this purpose the proposal would not in itself lead to the merging of neighbouring towns.

6.113. However, the SoS went on to agree with the reporting Inspector that it would not assist that purpose as it would contribute to the diminution of the gap between these London and Slough. With respect the same could be said about any new built development on the edge of a town as it will inevitably bring it closer to some other town somewhere else. The more important issue is the extent of visual and physical separation that would remain. In this case there would be clear separation between the edge of London and Slough and no material harm to this purpose of GB.

6.114. Overall, it is considered that there would be no merging or coalescence of towns (or any other categories of settlement). There would therefore be no harm to this purpose of the GB.

c) **to assist in safeguarding the countryside from encroachment;**

6.115. Purpose (c) requires an assessment of openness and the extent to which the Green Belt can be characterised as "countryside."

6.116. The 2016 GB assessment considers this purpose having regard to the amount of development and the character of the land. The LPA scores sub area 83 as 4/5. According to the assessment criterion [see p.62] this means the land:-

> **"Contains less than 10% built form and/or possesses a strong unspoilt rural character."**

6.117. The sub area specific assessment records that:-

> **"Overall, less than 10% of the parcel is covered by built form and the vast majority retains a very open character.**
>
> **The countryside has suffered some encroachment along the B470, with residential ribbon development concentrated along the north side of the road, but this has very limited impact on the overall openness of the parcel. The north of the parcel predominantly consists of expansive paddocks and rough pasture land, with arable fields, parkland and lakes to the south, interspersed with occasional agricultural buildings and other low density structures.**

**The M25 is an urbanising influence to the west, but does not detract significantly from the largely rural feel and, aside from occasional encroachment, the parcel maintains a <u>strong unspoilt rural character</u>."** (our emphasis)

6.118. The Applicant accepts the point that there is currently less than 10% built form within both the site and the wider sub area 83.

6.119. MHP deal with character in more detail, but from a GB perspective the Applicant cannot agree that the area has a "strong unspoilt rural character" for reasons that include:-

a. This is urban fringe. It is not rural countryside.

b. Its character is clearly influenced by its close relationship with the established industrial area to the east (and the built-up area of London beyond) which forms a hard urban edge with little transition.

c. It does not have an agricultural use and it does not form part of the wider agricultural landscape.

d. There is no mention that this is a former minerals extraction site that has in the past been cleared, subjected to extraction and later landfilled. It is now a largely man made land form. It is not a natural, unspoilt rural landscape.

e. One of the busiest motorways in the country lies just beyond the western boundary and this severs the site from the rural countryside.

f. The Chiltern & South Bucks Stage 2 Green Belt Assessment which considered the Strategic Role of the GB says that the southern part of Strategic Zone A (which includes the site) plays a "minimal role in protecting the countryside from encroachment." [p.15].

6.120. From a baseline perspective it is simply not credible to suggest that this is an area with a strong, unspoilt rural character.

6.121. The proposed development would result in some encroachment in spatial terms but still, only a small part of the site would be occupied by buildings. The proportion would be lower again when averaged across sub area 83.

6.122. With regards to character, the proposals represent an opportunity to enhance its character and give the sense of bringing "countryside" closer to the urban population. There would be improved landscaping and enhanced biodiversity.

6.123. Overall, it is accepted that there would be some physical encroachment but given the urban fringe character of this part of the GB but the Applicant does not consider that the revised

proposals which cause any significant harm to the purpose of safeguarding the countryside from encroachment.

6.124. It would result in only limited harm to this purpose.

**d) to preserve the setting and special character of historic towns;**

6.125. The site does not contribute to the setting and special character of historic towns and the proposals would not therefore offend this purpose of the GB. There is no heritage objection to the proposals. It is not necessary to address this matter further. The SoS agreed [SoS 19].

**e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.**

6.126. The appeal proposals do not undermine urban regeneration.

6.127. The previous Officer Report [p.8] takes a very generalised approach to this purpose of the GB. It simply assumes that restricting development in the GB will automatically bring about urban regeneration without any regard to the capacity of urban areas to accommodate that new development. It states that:-

> **"By developing a greenfield site, the development would also not assist in urban regeneration. To encourage the recycling of derelict and urban land, development should take place in these locations rather than undeveloped, greenfield sites. The proposal would therefore conflict with four of the purposes of including land within the Green Belt."**

6.128. The Officer Report neglects to mention that the 2016 GB assessment deliberately excluded this purpose from the assessment entirely. It states at paragraphs 4.4.29 to 4.4.31 that:-

> **"4.4.29 Purpose 5 focuses on assisting urban regeneration through the recycling of derelict and other urban land. As outlined in Section 2, the advice note issued by PAS suggests that the amount of land within urban areas that could be developed will already have been factored in before identifying Green Belt land. Therefore, assessment of Green Belt against this purpose will not enable a distinction between General Areas as all Green Belt achieves the purpose to the same extent.**
>
> **4.4.30 Furthermore, during engagement with the Steering Group, we discussed whether any planned urban regeneration schemes were being inhibited by Green Belt designations, but no areas were identified by the Steering Group or stakeholders.**
>
> **4.4.31 As a result, Purpose 5 was excluded from the assessment."** (our emphasis)

6.129. The Chiltern & South Bucks Stage 2 Green Belt Assessment similarly points to a lack of capacity:-

> **"Within Chiltern and South Bucks Districts, the 2017 SHLAA shows some limited opportunities for development within the non-Green Belt**

**settlements within Strategic Zone A, including Richings Park, Iver and Iver Heath."**

6.130. Time has moved on, but there is no evidence to suggest that the appeal proposal would inhibit the recycling of derelict and other urban land. We would draw attention to the following:-

a. The Applicant has undertaken an Alternative Sites Assessment and this did not identify any suitable alternative sites in the urban area that would fulfil this purpose.

b. The fact that the recently abandoned Joint Local Plan was proposing significant GB releases is an indicator that there is insufficient urban land to meet identified needs.

c. The LPA is also unable to demonstrate a five year housing and this is a further indicator of there being a lack of sites (regardless of whether they are within the urban area or not).

6.131. We do not therefore consider that the appeal proposals would harm Purpose (e) in relation to assisting urban regeneration. The SoS agreed [SoS 19].

## Other effects on the GB

6.132. It would be wrong to believe that all of the impacts of the revised application proposals on the GB will be adverse. There would also be a number of positive benefits for the GB that need to be factored in. These are addressed later when dealing with VSC.

## Summary

6.133. To summarise on the harms to the GB:-

1. The site is located entirely within the Metropolitan Green Belt. The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.

2. The revised application proposal represents "inappropriate development" in the GB. It is, therefore by definition, harmful to the Green Belt and should not be approved except in very special circumstances (VSC).

3. Local Plan Policies GB1 and GB4 are out of date and inconsistent with the NPPF and should be afforded no material weight in the determination of this appeal. National policy does not preclude inappropriate development in the GB and nor does it preclude new employment development in the GB.

4. It is accepted that the proposals would result in harm to the openness of the GB in spatial terms. The impact on openness in visual terms would however be limited.

5. There would also be some limited harm to the purpose of checking the unrestricted sprawl of large built-up areas but the harm would be tempered by the containment of

the site and the layout of the scheme which includes extensive areas of landscaping that can be secured through the s.106 and conditions.

6. There would be some limited harm in terms of physical encroachment but given the urban fringe character of this part of the GB we do not consider that the proposals would cause any significant harm to safeguarding the countryside from encroachment.

7. The would be no harm to purposes (b) preventing towns merging (d) preserving the setting and special character of historic towns, or (e) assisting in urban regeneration.

8. Notwithstanding the identified harm, not all of the impacts of the application proposal on the GB will be adverse. There would also be a number of positive benefits for the GB that need to be factored in including enhancements to the landscape and biodiversity of the area as encouraged by NPPF §150.

9. It is recognised and accepted that substantial weight should be given to any harm to the Green Belt. VSC will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

## Issue 3 – Other Harms to be considered as part of the VSC test

6.134. At the previous inquiry there was agreement on a wide range of other planning considerations. The areas that remain in dispute regarding "other harms" are relatively narrow.

6.135. The SoS did not support the LPA's concerns regarding biodiversity or conflict with the Neighbourhood Plan and so, aside from GB, the only other issue that remains in dispute is the impact on the character and appearance of the area. This is addressed in the LVIA produced by MHP. The conclusions of which can be summarised as follows:-

a. The now proposed reduction from three buildings to two and the reduction in proposed building heights of the two retained structures have been identified to make a significant difference in the visual prominence of the new development proposals. When compared with the original scheme the scheme is now almost fully screened from adjoining roads, bridges, footpaths and other public accessible locations.

b. Overall, the development proposals result in landscape enhancement and limited adverse visual effects to visual amenity. Adverse effects fall below the threshold of unacceptable harm. As such the development in landscape and visual terms results in acceptable landscape and visual effects which are in keeping with the requirements set out in national and local landscape policy.

c. The landscape strategy seeks to retain this undeveloped character through screening of new built form. The screening by landscaping is not isolated and

incongruous but undertaken as part of an enhancement of structures within an existing landscape.

d. The site and contextual landscape do not form part of a nationally designated landscape which implies greater value when evaluating landscape and visual effects.

e. The site and contextual landscape falls within the Colne Valley Regional Park, established to enable restoration of a landscape damaged from mineral extraction and urban edge decay.

f. The character of the site and its immediate contextual landscape are informed by the former land use of mineral extraction and subsequent landfill which although restored, does not reflect the characteristics found locally within areas which have remained undisturbed.

g. The character of the local landscape is informed by this mix of disturbed and undisturbed landscape, heavily dissected by transport corridors, power lines and watercourses. Settlement including linear settlement along traditional transport routes is also a feature which in places such as Iver Lane form a gateway to the wider urban area east of the River Colne.

h. The landscape and visual assessment has taken inherent and proposed mitigation measures into account and informed the evolution of the design strategy. Inherent mitigation such as the siting of proposed new built form, retention of existing trees and the naturally contained nature of the site through the characteristics of the local landscape have been assessed to achieve partial mitigation at initial operational phase of the development. The planting of extensive new green infrastructure has been evaluated to achieve further reduction of both landscape and visual effects resulting from the development proposal.

i. Overall, the significance of effect on landscape character is assessed to be minor beneficial. This beneficial effect confirms that the development will result in an enhancement of the landscape quality and condition with no overall detrimental effect on landscape character.

j. Overall, the significance of effect on visual amenity is assessed to be minor adverse. This harm falls below the threshold of significant or unacceptable harm in the context of the nature and value of local views.

k. In the context of landscape planning policy, the development proposals retain local distinctiveness and conserve and enhance landscape character so are compliant with the overall intentions set out by landscape policy. The improvements to

existing green infrastructure and site habitats, and long-term landscape management for conservation are in keeping with the objectives set out by the Colne Valley Regional Park.

## Other Matters

6.136. Third parties previously raised concerns in relation to air quality, flood risk and contamination. The LPA did not raise any such objections. Technical notes were provided to the previous inquiry on such matters. The SoS found no reasons to object on these grounds.

## Summary

6.137. To summarise on the "other harms" that need to weighed in the planning balance:-

1. There is much that is common ground. Aside from GB, the areas that remain in dispute regarding "other harms" are relatively narrow. They relate principally to the impact on the character and appearance of the area.

2. The now proposed reduction from three buildings to two and the reduction in proposed building heights of the two retained structures have been identified to make a significant difference in the visual prominence of the new development proposals.

3. When compared with the original scheme the scheme is now almost fully screened from adjoining roads, bridges, footpaths and other public accessible locations.

4. The significance of effect on landscape character is assessed to be minor beneficial. This beneficial effect confirms that the development will result in an enhancement of the landscape quality and condition with no overall detrimental effect on landscape character.

5. The significance of effect on visual amenity is assessed to be minor adverse. This harm falls below the threshold of significant or unacceptable harm in the context of the nature and value of local views.

6. There is therefore no "other harm" to be weighed against the proposals in the planning balance.

# Issue 4 - Whether there are any other considerations which weigh in favour of the proposal and whether those other considerations clearly outweigh any harm the proposal might cause so as to generate very special circumstances.

6.138. Having considered all of the evidence it is considered that the (reduced) potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, would be clearly outweighed by other considerations, as per NPPF paragraph 153.

6.139. It is considered that there are "Very Special Circumstances" (VSC) that justify this proposed development within the Green Belt. We will now address what other considerations contribute to the VSC case. The final balance is undertaken in Section 7.

6.140. It is well established in case law that what constitutes VSC does not need to be rare or uncommon. It can also be a combination of factors and it is a matter of planning judgement. In *R (Basildon District Council) v First Secretary of State and Temple [2004] EWHC (Admin) 2759* at para 17, Sullivan J (as he was then) held that:

> **"... in planning, as in ordinary life, a number of ordinary factors may when combined together result in something very special. Whether any particular combination amounts to very special circumstances for the purposes of PPG2 will be a matter for the planning judgment of the decision-taker."** (our emphasis)

6.141. This was supported in the judgement of Lord Justice Wilson in *Wychavon District Council v Secretary of State for Communities & Local Government & Ors [2008] EWCA Civ 692* where it was held that:-

> **"21 I say at once that in my view the judge was wrong, with respect, to treat the words "very special" in the paragraph 3.2 of the guidance as simply the converse of "commonplace". Rarity may of course contribute to the "special" quality of a particular factor, but it is not essential, as a matter of ordinary language or policy. The word "special" in the guidance connotes not a quantitative test, but a qualitative judgment as to the weight to be given to the particular factor for planning purposes."** (our emphasis)

6.142. That said, this is a case that does give rise to a number of considerations that are unique to data centres and unlikely to be replicated with other forms of development. In summary, the other considerations in this case that should lead to a finding of VSC include:-

a. The need for the development including national considerations and the contribution that the application scheme will make to meeting that need

b. The locational requirements of this data centre and the lack of alternatives

c. Economic impact/support for local businesses

d. Temporary employment during the construction phase.

e. Direct and indirect employment generation

f. Social benefits

g. Addressing climate change

h. Landscape and biodiversity enhancements

i. Building beautiful

j. The absence of a plan-led solution

k. Education and employment fund

l. Heat capture for a district heating system

m. Remediation of the site

n. Deliverability

o. Consequences of not providing capacity to meet need

## VSC (a) - The need for the development including national considerations and the scheme's contribution to meeting that need

6.143. Simply put, the need for new data centres is overwhelming and it continues to grow exponentially. The SoS accepted the need for the development at paragraph 21 of his decision letter:-

> **"21.For the reasons at IR252-IR259 the Secretary of State agrees that there is a significant and substantial demand for new data centres in the Slough Availability Zone (SAZ), that the provision of data centres would make a significant contribution to the UK economy, and that the appeal proposal would make a significant contribution to this need (IR259). He agrees that significant weight should be given to the need for additional data centre capacity within the UK and the SAZ (IR254)."**

6.144. The clear and demonstrable need for the application scheme weighs heavily in favour of the grant of planning permission.

**The Letter from the Department for International Trade (DIT)**

6.145. The letter from the DIT is important because it is evidence from Central Government itself about the need for such development, its importance to economic strategies, and future prosperity. Understandably the letter avoids discussion about individual cases, but it adds to and reinforces the evidence about the need for data centre development and its implications for the local and national economy.

6.146. Some of the key points include:-

a. How foreign direct investment (FDI) is part of the Government's wider drive to secure long-term sustainable economic growth, innovation, and prosperity for the UK.

b. Reference to the Prime Minister's (PM) five pledges to build a better future for the UK, help grow the economy, create better-paid jobs and opportunity right across the country and how, central to this is the PM's ambition in consolidating

our leading role in the world as a science and technology superpower and which helps everyone in the UK.

c. How Data Centres are at the heart of the UK's digital infrastructure and represent the focal point where HMG's Industrial Strategy and the Digital Strategy meet.

d. The UK is a globally important data centre market (holding 6% of the world market share), home to the largest data centre market in Europe (holding around 25%+ of market share) and the world's second-largest commercial cluster (we would highlight that the site is within that cluster).

e. The economic benefits in terms of GVA and job creation (including multiplier effects).

f. Data centres are referred to as a critically important part of that digital infrastructure.

g. Recognition that the volume of data generated increases exponentially year on year. New technologies, increasingly utilised across sectors, are driving this increase, and in turn, demand for greater data centre capacity including sectors important to Buckinghamshire

h. The UK is one of the most attractive locations in the world for data centre operators. Within the UK, the Thames Valley is central to the UK's data centre landscape.

i. There is strong growth in the demand for data centre capacity to support the UK economy itself. As a direct result of this identified need, there is a sustained demand for sites across a corridor that includes Berkshire, Buckinghamshire, Hertfordshire, and west London.

6.147. It is a clear message of support from Government for this type of development and more specifically, support for continued investment in the Thames Valley area, building on an existing cluster.

**The evidence on need from the Applicant**

6.148. JLL have extensive experience in dealing with data centres and they have produced a technical note which is include as an Appendix to this Planning Statement [Appendix 2]. It is the same evidence that was presented as part of the previous appeal.

6.149. The key strands include:-

a. Demand for hyperscale data centres is driven by the need for greater data storage and computing power. **Every 1.2 years the amount of digital data being stored globally doubles**.

b. This rate of growth is expected to increase due to the rise of cloud computing, artificial intelligence, machine learning, the 'internet of things', and 5G and 6G.

c. When used in cloud computing data can only be processed and stored in locations with resilient clusters of networked data centres (availability zones) which can quickly and cost effectively transmit data between each other, before sending the information out to the users.

d. Hyperscale data centres are also required due to obsolescence of existing facilities. North West London includes a number of smaller (non hyperscale) data centres which are at risk of becoming obsolete because they cannot accommodate the growth in data, lack economies of scale and will not be compliant with new environmental standards and regulations.

e. There is a need in the period up to 2027, to deliver an increase in data centre capacity of around 1,460MW to 2,000MW (a mid range or average of **1,730 MW**) in the Slough Availability Zone.

f. The wider London need is greater again at between 2,250MW to 3,100MW over this same period (a mid range or average of **2,665 MW**).It is therefore evident that there is a need for more data centres (and that is now agreed).

g. The scale of that need is overwhelming and meeting that need for critical infrastructure is a matter of national importance.

**APPENDIX 2 – JLL TECHNICAL NOTE ON NEED FOR DATA CENTRES**

6.150. The scale of need was not disputed at the previous inquiry and the scheme would make an important and very significant contribution to meeting this critical, urgent and overwhelming need.

6.151. Bearing in mind the scale of need (including the 1,730MW requirement referred to above) the question of alternative sites does not arise in any real sense (although it is addressed below). The real challenge will be finding enough sites.

## VSC (b) – The Locational Requirements of this Data Centre and the Lack of Alternatives

**Introduction**

6.152. There is no evidence to suggest that there is scope to meet the identified need for the data centres without developing in the GB. Indeed, the evidence would suggest that precisely the opposite is the case.

6.153. It is important to stress that when considering the scope to provide for development beyond the GB, the scale of development to be tested is not just that of the appeal proposal (ie. circa 90MW of IT Load). Even if the LPA was to identify a suitable alternative site(s) for the same capacity as the application scheme, there would remain a substantial level of residual need.

**Locational requirements**

6.154. Hyperscale data centres have specific locational requirements. They include:-

a. Low risk locations. Being on fault lines, on flood plains, below sea level, or in the path of air traffic creates unacceptable risk for the facility,

b. A reliable source of high-level power supply (typically at 132KV),

c. High quality fibre connectivity,

d. Being within close proximity to other data centres which form an "availability zone" to ensure near 100% uptime, and

e. A site that is physically large and flat enough to accommodate the proposed development.

6.155. The application site is in a low risk location and so it meets the first criterion.

6.156. With regards to power, we are advised that the majority of the grid transports power at 400KV or 275 KV and that a supply output of 132KV is only available from a limited number of Grid Supply Point substations and this therefore limits options for sites. The closer a site is to a sub-station, the greater the security of supply, the lower the environmental impact and the lower the number of agreements required with third part landowners for cable easements. The application site is located adjacent to Iver sub-station which meets technical requirements. Supply is also available for the full energy needs of the entire development.

6.157. In London, there are 3no. established Availability Zone locations for cloud storage. These are at Slough, Hayes and London Docklands. The application site is located in an area that is overlapped by both the Slough and Hayes Availability Zones.

6.158. In terms of scale and topography, the site meets these requirements.

**The Relevance of Availability Zones**

6.159. Given the importance of a location within an Availability Zone it is appropriate that we provide some further explanation as to their significance.

What are availability zones?

6.160. When we think of how the Cloud or the Internet functions, it is made up of a cluster of data centres across multiple locations designed to provide areas of "coverage". The areas in which the data resides are called Availability Zones.

Uptime and resilience

6.161. Data Centres exist within Availability Zones to ensure near 100% uptime. An Availability Zone protects applications and data from data centre failures. Data centres are connected by a high-performance network with a round-trip latency of less than 2ms. This helps data stay synchronized and accessible even when things go wrong.

6.162. Data security and data dependence have driven the need for Data Centres to guarantee near 100% availability access to our data (bank records, connectivity, communications, shopping, travel, gaming, trading, etc.). Whilst 95% availability sounds like a high number, it is extremely poor for a data centre. 95% availability equates to up to 18 days of downtime annually.

6.163. Today users are demanding sub one minute per year (between 3 and 31 seconds). That is about 99.999999% availability.

6.164. Data Centres are equipped with independent power, cooling, and networking infrastructure. Availability Zones ensure that if one Data Centre is affected, services, capacity, and high availability are still supported by other data centres in the zone.

Data transfer

6.165. The data transfer rate between sites is a key consideration.

6.166. Although data travels at the speed of light, the internet does not operate at the speed of light. Therefore, there are limitations to the maximum distance between the different sites (physical / Fibre & Optical distance). This creates limits to the geographical extent of Availability Zones.

Availability Zones in London

6.167. In London, there are three established Availability Zone locations. These are at Slough, Hayes and London Docklands. The Hayes and Slough Availability Zones have the greatest number of data centres in the UK and it is here that there is a very significant need to address the continuing demand for increased storage and processing capacity.

The Slough Availability Zone

6.168. A fundamental factor is the existing critical mass of data centres. The top two primary Data Centre clusters are in Slough and Hayes being within 20km of Iver. This is the historic location of choice for data centre investment and location. It remains the location of choice for data centre investment and location.

6.169. The site meets the market's requirements in terms of location for new data centre provision in the UK.

6.170. The evidence provided by JLL shows that there is a need in the Slough Availability Zone for an estimated **12 to 15 additional Hyperscale facilities**[3] by 2027 to deliver the forecasted demand of c.**1,730 MW**[4]. This can only be met within the existing Availability Zone.

6.171. A new data centre in London Docklands, outside this Availability Zone may well meet a wider London need but it would not respond to the need in the Slough Availability Zone. This is an issue that the Inspector and SoS failed to understand when the previous appeal was dismissed and it is one of the reasons why that decision has been challenged in the courts.

6.172. The letter from the Department of International Trade stresses the importance of the Thames Valley area in respect of the provision of data centres. It is synonymous with the Availability Zones that are referred to above (Slough and Hayes) and this is the "world's second largest commercial cluster" referred to in the DIT letter. The DIT describes the Thames Valley as being:-

> **"….. central to the UK's data centre landscape, supported by a 21st century digital infrastructure necessary to support data centres, complete supply chains and a renewed focus (by the industry) on delivering green-tech solutions and sustainable energy sources (for neighbouring developments, including housing)."** (our emphasis)

6.173. The Government recognises the need to consolidate the UK's position in science and technology and to build on its locational advantages. The market also wants to locate here. If the planning system cannot respond to both need and market demands, the market will not choose to develop within sub optimal locations in the UK. The UK will simply fall behind for the various reasons as Nicol Economics explain.

**Alternative Sites Generally**

6.174. National policy does not require an assessment of alternative sites to demonstrate that the proposed development could not be located outside the GB.

6.175. However, the absence or the lack of alternatives sites can contribute to the case for VSC as explained later.

6.176. The Judgement of the Court of Appeal in the case of *Secretary of State for Communities and Local Government and Knight Developments Ltd v Wealden District Council* [2017] *EWCA Civ 39* is helpful in explaining how alternative sites are to be considered. It confirms that if alternative sites do not address the identified need then they do not represent an alternative. Lord Justice Lindblom made the following observations about how the Inspector had (correctly) approached the issue:-

[3] Each with an IT Load capacity of 115 to 145MW
[4] Mid point of the range of circa 1,500MW and 2,000MW

> **"65…… He was not satisfied that such other sites as were available for housing development in the district would be sufficient to meet the need, or that the shortfall would be made up by development elsewhere. This was a matter of planning judgment for him. He also found that those <u>other sites would "collectively still fall short of the full [objectively assessed need]", so they "[did] not amount to an alternative". This too was a matter of planning judgment</u>."** (our emphasis)

6.177. He went on to state that:-

> **"68 I do not think the policy in paragraph 116 of the NPPF obliged the inspector to deal in his decision letter with every potential site for housing in the district, one by one…… The decisive consideration was, clearly, the remaining need for market and affordable housing both in Crowborough and in the district as a whole."** (our emphasis)

**<u>The Applicant's Alternative Sites Assessment</u>**

6.178. Previously the Applicant conducted an Alternative Sites Assessment that formed part of the original planning application. The following points are important:-

a. The scope of the ASA was discussed with the LPA prior to the submission of the application.

b. The list of suggested sites was shared with the LPA. The LPA in liaison with Councillor Matthews identified other sites that ought to be included. Those additional sites were included.

c. The geographical scope and the principle of basing it on Availability Zones was highlighted and accepted by the LPA.

d. The LPA did not dispute the methodology or findings of the ASA during the application or ask for it to be amended or updated.

e. To date, neither the LPA nor any other party has provided any evidence to <u>positively</u> demonstrate that there <u>is</u> an alternative that meets the need. The LPA has however provided a list of sites that they suggest should be reviewed/reassessed and we deal with them later in this statement.

**<u>The updated ASA presented to the public inquiry</u>**

6.179. An updated ASA was prepared as part of the evidence to the inquiry in order to pick up on other sites that had been identified by the LPA

6.180. The overall conclusions were as follows:-

a. Only two of the assessed sites would seem to have potential for a Hyperscale Data Centre:-

   - Thorney Business Park [Site 1]

- Dromenagh Farm [Site 12]

b. Both are subject to live applications, but at the time of it being prepared the LPA had yet to indicate whether it will support either of those applications.

c. Even if both were to be approved then they would only have an estimated combined capacity of **190MW**.

d. That represents about **11%** of the identified need in the Slough Availability Zone of **1,730MW** up to 2027, leaving **a residual need of circa 1,540MW to be found**. That would require more than 17no. sites with the capacity of the application site to be brought forward for development (if each were 90MW).

**e. Given that no individual site or combination of sites can meet or exceed the identified need, then they do not represent an alternative for the purposes of the current appeal.**

f. At the previous appeal the LPA eventually conceded that there were no alternative sites.

**The Updated ASA for this revised application**

6.181. The Applicant has prepared a further update to the Alternative Sites Assessment to support this application. Whilst there are some updates on sites with potential applications expected and a refusal on one of the LPA's allocated sites, the overall conclusions remain as before.

6.182. The position regarding the need for development and the absence of an alternative remains as it did at the time of the previous inquiry.

**The Great Boughton Appeal Decision**

6.183. The Great Boughton appeal decision is an example of a GB case where the lack of alternatives figured heavily in the decision. It was afforded substantial positive weight. We recognise that the appeal related to a development for a care home, but the principles are relevant.

6.184. At paragraph 42 Inspector Lee observes that the Appellant has indicated there is a lack of alternative non-Green Belt sites that could accommodate the development and that there were no similar facilities in the pipeline that would help meet the need. The Inspector went on to comment at paragraph 43 that:-

> **"43 ….. Although there are some weaknesses in the appellant's assessment, I have seen nothing to convince me that there is a surfeit of suitable or available sites within defined settlements to address the demand identified….."**

6.185. At paragraph 49 not only did the Inspector attach significant weight to the contribution that the scheme would make to meeting needs etc. but he then gave substantial weight to the evidence on alternative sites. He stated that:-

> **"49 I have attached significant weight to the contribution the development would make to meeting the needs for specialist housing in the area for older people and the associated social and economic benefits it would bring. I have also given substantial weight to the evidence relating to alternative available sites and the likelihood of the needs identified being met in the short to medium term by development within defined settlements….."**

6.186. The same approach should apply to the current application scheme. The lack of, or absence of an alternative should also weigh heavily in favour of the scheme and contribute towards VSC.

6.187. The approach of the SoS when dealing with alternatives at the previous appeal will be a matter to be considered as part of the pending legal challenge.

## VSC (c) - Economic Impact/support for local businesses

6.188. The need for the development and the opportunities for the economy are closely entwined. Nicol Economics provide detailed evidence that addresses the matter of the economic benefits that would be generated by the proposed development.

6.189. Nicol Economics explains that the Government recognises the vital and growing role of digital and data in the UK economy. It has identified the need for a secure and reliable digital infrastructure to ensure the smooth functioning and to maximise the growth prospects of the economy. Data centres are a critical part of that digital infrastructure as explained in the letter from the DIT.

6.190. The UK and London relies on data intensive economic sectors as increasingly key drivers for the economy and as a source of net exports to the rest of the world and of inward investment.

6.191. The evidence shows that there is very strong growth in the need for data centres globally, in Europe and in the UK. This is driven by powerful technological and societal trends as the economy becomes increasingly reliant on the creation and use of data. Nicol Economics explains that London is the key centre at present for the location of data centres in the UK and, indeed, Europe. There is strong growth in demand for extra data centre capacity in the London areas especially for hyperscale data centres. Again, this is supported by the letter from the DIT.

6.192. The proposed development would support and strengthen the existing cluster and digital eco-system related to data centres and associated digital technologies that has developed in and around London - an area in which the UK is now one of the global leaders. It would therefore support directly key sectors which are targets for export growth and inward investment activity in line with NPPF paragraph 83.

6.193. Nicol Economics explain that the growth in capacity in the UK is responding to demand and needs from the UK economy. It is explained that the proposed 90 MW of installed IT capacity

of the revised Application Scheme is very substantial and so will make a very significant contribution to meeting the growing need for data centres of the right type in the right location.

6.194. Nicol Economics explain that the proposed development would represent a "very substantial capital investment." This being at a time when the country needs to find sources of new economic growth to aid recovery. The scheme would have a construction cost alone that would be around **£760 million** . Nicol Economics explain that this figure is not the total value of the investment as it excludes the very substantial cost of the computing, networking and communications equipment likely to bring the total cost to well over **£1 billion**.

6.195. The proposal represents a scale of investment that is of national importance. It is notable that when this appeal was recovered by the SoS, the letter from PINs identified that one of the reasons for this was that it involved:-

> **"….. proposals for development of major importance having more than local significance."** (our emphasis)

6.196. The letter from the DIT also recognised local demand noting the reliance of sectors strongly represented or developing in Buckinghamshire, including advanced engineering & manufacturing, the creative industries (e.g., content and the high-end TV and film production), health and life sciences and space/space-related technology) and across the wider technology sector – artificial intelligence, cloud-computing, data analytics and smart cities.

6.197. The NPPF at paragraph 85 specifies that "significant weight" should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

6.198. Following the last recession, the Government placed a major emphasis on planning to 'kick start' the economy. There has been a clear push on planning for growth through national policy initiatives including the NPPF which was intended to stimulate growth in the economy. More recently we have been faced with the severe economic impact of the Covid 19 pandemic and now the cost of living crisis which is being fuelled by spiralling inflation.

6.199. Whilst the recent Link Park appeal involved a much smaller scale of data centre, the Inspector recognised the direct and indirect economic benefits of the scheme. At paragraph 61 and 65 Inspector Clarke stated that:-

> **"61 In consequence, the proposed development would respond to this need which would assist in the generation of economic benefits through the supporting of business activities. This is particularly apparent due to the nature of the appeal site's location and its accessibility to infrastructure.**
>
> **……**
>
> **65 ….. the construction process and operation of the development would also support of [sic] other businesses elsewhere. These, in**

> **combination, would generate notable economic benefits, even allowing for the loss of the existing business facilities. In result, I give the economic benefits arising from the proposed developments a significant amount of weight."**

6.200. Similar considerations will apply to the current application scheme, obviously factored up to reflect the differences in scale.

6.201. Nicol Economics emphasises that data centre capacity is part of the critical digital or data infrastructure that currently underpins the UK economy and how its importance to the UK economy increases year on year. He refers to the various government strategies and policy documents which make this point abundantly clear. The DIT letter also refers back to some of the same documents. These are statements of Government policy and should be afforded weight in deciding planning applications, as per NPPF paragraph 6.

6.202. The DIT letter highlights how the Prime Minster is looking to consolidate our leading role in the world as a science and technology superpower. The proposals aim investment at the largest data centre market in Europe and in the world's second largest cluster in Europe. The DIT backs up the Applicant's evidence that the UK is one of the most attractive locations in the world for data centre operators and that within the UK, the Thames Valley is central to the UK's data centre landscape, supported by a 21st century digital infrastructure necessary to support data centres.

6.203. It is therefore the right development in the right place and at the right time insofar as economic considerations are concerned. This weighs heavily in the planning balance.

## VSC (d) – Temporary employment during the construction phase.

6.204. The construction industry is an important sector in the UK economy. The Secretary of State in his foreword to the White Paper, Planning for the Future, emphasises the importance of the construction sector. He states that:-

> **"Millions of jobs depend on the construction sector and <u>in every economic recovery, it has played a crucial role</u>"** (our emphasis)

6.205. Nicol Economics presents evidence to show that the appeal proposals would support:-

a. Around 4,200 person years of direct employment associated with the construction (both on and off-site), and

b. A total of 6,900 person years of employment across the UK economy taking into account supply chain and multiplier effects.

## VSC (e) - Direct and indirect employment generation

6.206. The fully completed development would support a substantial number of well paid jobs in Buckinghamshire that would also be accessible to residents of West London.

6.207. Data centres are highly automated forms of economic activity but still do require significant numbers of on-site staff to ensure they can remain operational. The number of staff and types of jobs will depend ultimately on the precise form of the data centre and who operates it.

6.208. A mid-range and cautious estimate is that the completed development would support:-

e. 230 FTE jobs,

f. A wage bill of up to £13 million, and

g. Annual direct GVA of some £121 million.

h. Taking into account wider economic effects, the data centre would support in the order of £270m to £350m in GVA and 500 to 1,100 FTE jobs across the London and South East economies.

6.209. Nicol Economics explain that the average wage levels (ranging from £50,000 to £60,000 per FTE job) are significantly above average wage levels of the Buckinghamshire economy. In 2022 for full-time workers working in Buckinghamshire these were £36,000 (median).

6.210. The economic benefits will be spread and will benefit other areas outside the LPA area.

## VSC (f) - Social benefits

6.211. In addition to the economic benefits, data centres also provide vitally important social benefits that underpin modern day living in the UK. The use of data and connected devices is so embedded into our day to day lives that it is easy to overlook the social benefits. Sectors and activities that are reliant on the use of data include inter alia:-

a. Government and other administration

b. Education and home learning

c. Healthcare, vaccines and medicine

d. Home banking and finance

e. National defence

f. Customs and border control

g. The internet

h. Home computers and tablets

i. Home shopping

j. TV and music streaming

k. Online gaming

l. Social media

m. Mobile phones, messaging and group chats

n. Overcoming isolation in rural areas

o. Overcoming isolation for the elderly and vulnerable people

6.212. The proposals would therefore reinforce the critical infrastructure upon which modern day society increasingly depends.

6.213. The Inspector commented that maintenance of digital infrastructure is not unique to the appeal proposal and he gave this limited weight. Not being unique does not mean that it is not an important benefit. It is critical infrastructure of national importance. Without it societal structures are at risk. When properly understood, this is cannot be a benefit of only limited weight.

## VSC (g) – Addressing Climate Change

6.214. Climate change is a key issue for the achievement of sustainable development. It is an issue that underpins much of what we do in the planning system, whether that is reducing the need to travel, minimising use of resources or reducing carbon emissions.

6.215. The environmental objective identified in the NPPF at paragraph 8 states:-

> **"An environmental objective –to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, <u>using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy</u>."** (our emphasis)

6.216. The appeal proposals can make significant contributions towards addressing climate change both directly and indirectly.

6.217. Again the Applicant considers that the SoS has simply not understood the climate change implications of this development.

**<u>Energy usage</u>**

6.218. Data centres require large amounts of electricity to operate the servers and processors and to keep the machines cool.

6.219. It has been estimated that data storage and transmission in and from data centres use 1% of global electricity. However, it is important to note that this share has hardly changed since 2010, even though the number of internet users has doubled, and global internet traffic has increased 15-fold.

6.220. As explained in the JLL Technical Note at Appendix 2, this has been achieved due to innovation in 3no. key areas:-

a. The operation and construction of new data centres

b. The transfer of private data to cloud platforms

c. The design of IT equipment

**Improvements across the industry**

6.221. A key objective of the industry is to reduce energy consumption, increase efficiencies and reduce carbon emissions.

6.222. Hyperscale data centres which allow migration to the cloud are the most efficient and sustainable way to meet data demand and will allow for transition away from existing less efficient sites. They would deliver carbon reductions.

6.223. Market research company IDC forecast that the continued adoption of cloud computing globally could prevent more than 1 billion metric tons of CO2 emissions from 2021 through to 2024.

6.224. Traditionally, on-premises data centres have an extremely low utilization rate, using on average as little as 15% of their capacity. Large scale modern data centres operate with very high utilization rates, with much more sophisticated cooling equipment and they are highly energy efficient.

6.225. To illustrate how savings can be made we would refer to a study relating to Amazon Web Services that identified that:-

a. Cloud servers are responsible for the largest energy reduction, more than 67% due to them being more energy efficient and highly utilised.

b. The Data Centre facilities then account for another 13% reduction by using power and cooling systems that are more efficient bringing energy savings closer to 80%.

c. When Data Centres source 100% renewable power then it could further reduce the carbon footprint of workloads that have moved to the cloud by up to 16%.

d. Overall, therefore, a switch from data being stored on-site at individual premises to the cloud, using hyperscale data centres could reduce the workload carbon footprint by as much as **96%**.

6.226. This helps to explain how energy usage has remained stable despite the boom in data usage and the importance of new, highly efficient data centres. Legacy data centres will fall behind

and become obsolete. Hyperscale data centres will replace them with additional capacity and additional efficiency.

**Power usage effectiveness (PUE)**

6.227. Power usage effectiveness (PUE) is a metric that is used to determine the energy efficiency of a data centre. PUE is determined by simply dividing the total amount of power entering a data centre by the power used to run the IT equipment within it.

6.228. PUE is expressed as a ratio, with overall efficiency improving as the quotient decreases toward 1.0.

6.229. Data centre operators and trade associations are committed to the European Green Deal, achieving ambitious greenhouse gas reductions (using technology and digitalisation to achieve the goal of making Europe climate neutral by 2050). The proposed hyperscale data centre in Iver will be governed by the pact.

**The direct benefits from the application scheme itself**

6.230. The proposed data centre will be state of the art, highly efficient and net zero carbon. It will achieve a PUE of 1.4.

6.231. The development will satisfy the Council target for greater than 10% of energy to be sourced from decentralised and renewable or low carbon sources. Data centre electricity demand will be served by 75% renewable energy by December 31, 2025 and 100% by December 31, 2030.

6.232. The Application Scheme has been designed to be BREEAM 'Excellent' standard which exceeds planning policy guidance. The energy strategy would include photovoltaic cells at roof level, use of waste heat and the use of air source heat pumps which is sufficient to ensure that the contribution of renewables can exceed 100% of the regulated demand associated with the administrative function of the buildings.

**The secondary benefits of data centres**

6.233. In addition to the direct benefits to climate change achieved with more efficient data centres there are the secondary benefits that can be unlocked as a result of them being operational.

6.234. The Covid 19 pandemic radically altered the way in which people could work remotely. Employers are now more open to home working meaning that people do not need to commute to work as often. The advancement of "Zoom" and "Teams" video conferencing has also significantly reduced the need for face to face meetings lowering reliance on the car and air travel and in turn carbon footprint. These alternative ways of working are highly reliant on the use of data.

6.235. Climate change is clearly an issue of great importance and the contribution that the appeal proposals can make ought to weigh heavily in favour of the application scheme.

## VSC (h) - Landscape and Biodiversity Enhancements

6.236. We have identified harm to the GB caused by the application proposals, but it is important to recognise and acknowledge that the proposals would also deliver benefits and enhancements for the GB.

6.237. Those benefits align with the Government's long standing objectives for the use of land within the GB. NPPF paragraph 150 refers to the types of opportunities that LPAs should be looking to seize upon. It states that:-

> **"150. Once Green Belts have been defined, local planning authorities should plan positively to enhance their beneficial use, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land."**

6.238. The proposals would be consistent with national policy in this regard because:-

a. Whilst the application site has been the subject of restoration works it still represents **damaged** land.

b. There would also be meaningful enhancements to the **landscape** and **visual amenity** through new planting and long term management as described in the LVIA.

c. There would be meaningful **net gains for biodiversity** of at least 10%.

6.239. These environmental benefits would only be achieved if this application is granted planning permission.

## VSC (i) - Building Beautiful

6.240. The NPPF at paragraph 131 talks about the creation of high quality, beautiful and sustainable buildings and places, and how this is fundamental to what the planning and development process should achieve. It says that good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Proposed changes to the NPPF also look to take this further.

6.241. Whilst the application is submitted in outline the Applicant has sought to demonstrate that there is the opportunity to show that large storage buildings do not have to appear industrial or utilitarian in appearance.

6.242. In this case there is an appropriate design response which has started with a landscape led approach to the site. This has informed the illustrative layout, elevational treatment and the innovative use of green walls that can help assimilate this site into its urban fringe location.

6.243. The guiding principles for the design and layout of the development can be secured at the outline stage through conditions.

6.244. The need case for the Applicant makes it clear that more of this type of building will be required, and in similar locations. LPA's will need to find design solutions and we consider that the right balance has been struck here.

6.245. The NPPF at paragraph 135 states development that is not well designed should be refused. That is not the case here. We would also draw attention to the final parts of that paragraph that state inter alia that:-

> **"139.....Conversely, significant weight should be given to:**
>
> **a) development which reflects local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes; and/or**
>
> **b) outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings.** (our emphasis)

6.246. The recent upsurge in the need for large scale logistics hubs has resulted in a number of sites being developed with large but well-designed buildings in edge of settlement locations.

6.247. The application proposals have gone much further, both with regards to the appearance of the buildings themselves and the careful thought that has been given to the space around them and the sensitive landscape master planning of the site.

## VSC (j) - The absence of a plan-led solution

6.248. Notwithstanding our plan led system, there is no plan led solution that addresses the growing need for Data Centres in this area. The age of the Development Plan means that it does not address this important development need. There is also no imminent solution in the form of an emerging plan which will provide any plan-led solution in the foreseeable future. The interim Local Development Scheme update on the LPA website suggests that the Buckinghamshire Local Plan will be adopted by 2027 which is still 3 years away at best.

6.249. It is the role of the Development Plan to provide a clear strategy to bring sufficient land forward to address objectively assessed needs over the plan period, in line with the presumption in favour of sustainable development. The Development Plan does not provide any site allocations that are required to meet the need. It is also indicative of the situation that the recently abandoned Joint Plan was unable to meet needs (in general) without going into the Green Belt.

6.250. The plan led system comes with the responsibility to ensure that plans are kept up to date and to provide for the development that is needed. This LPA has done neither. Waiting for a review of the plan is not a rational option. Operation of the development management

system is required to ensure that much needed development is delivered now and not delayed.

## VSC (k) - Education and Employment Fund

6.251. The Applicant has committed to provide a fund towards education and employment initiatives. This fund will be secured through a planning obligation. This would involve long term funding that would be directed to:-

a. Safeguarding apprenticeships,

b. Training programmes, and

c. Community engagement

6.252. These initiatives aim to upskill the local population to be able to take up the newly created jobs. This would support and reinforce the growing high-tech cluster in the area.

## VSC (l) - Heat capture for a district heating system

6.253. The operation of a data centre generates large amounts of heat from the servers. Normally this is regarded as a waste product and it is released into the atmosphere.

6.254. The proposals could be designed in a way to capture and harness the heated air so that it could be used as part of a district heating network. This would be an additional but separate benefit for climate change and would assist in reducing carbon emissions in other ways. It is estimated that a district heating scheme could provide heating and hot water generation requirements for thousands of homes.

6.255. At the present time there are no plans for a district heating system to be implemented in the area but the opportunity would be there for future developments to tap into as and when it is needed. This can be secured through a planning obligation.

## VSC (m) – Remediation of the Site

6.256. There are known contamination issues that present a potential risk to human health in relation to organic contamination, water quality and hazardous ground gases.

6.257. The delivery of the data centre project presents the opportunity for modern mitigation techniques in order to achieve betterment across the site.

6.258. Delta Simons have been advising on such matters and given the manner in which the Woodlands Park landfill currently operates, the proposals are considered to provide an opportunity for overall environmental betterment in terms of:

a. Reduced infiltration rates (and consequentially lower leachate generation rates) following construction of buildings, hardstanding and sealed drainage systems, reducing ongoing risks to groundwater and/or the River Colne;

b. A more effective, and appropriately verified, cover layer system to that that exists currently, to address potential risks from asbestos fibres present in the restoration soils; and

c. Management of landfill gas, the principal constituents of which are known climate change gases, should this be considered warranted based upon future gas monitoring and risk assessment.

## VSC (n) Deliverability

6.259. The evidence of Mr Redstone to the previous inquiry provided further evidence on the deliverability of the appeal proposals and relevant market considerations. The key points are as follows:-

a. IPI was established in 2016 to seek to address the global needs of large, high-quality hyperscale and enterprise data centre end users.

b. IPI deal with site selection and acquisition, so they can provide development land for STACK Infrastructure ('STACK') to deliver inventory to the leading Cloud Service Providers ('CSPs').

c. IPI have been actively searching for additional, suitable land plots in the West London corridor within certain distances from Slough and Hayes in particular.

d. In his professional opinion, Mr Redstone says no site other within the Slough and Hayes availability zones meets his search criteria.

e. IPI has agreed in principle to acquire the site upon the grant of consent and would immediately commence the process of discharging the reserved matters that would enable them to commence construction.

f. A consented scheme, would provide potential occupiers with a very significant opportunity to deploy at scale in a core location. In his view, the Application Scheme would make an important contribution to meeting the current and growing critical need for additional data centre capacity.

## VSC (o) - Consequences of not providing capacity to meet need

6.260. The consequences of not providing data centre capacity to meet identified needs are an important material consideration in the determination of this application. It is a consideration that the SoS did not take into account when the previous appeal was determined.

6.261. In the current case:-

a. The opportunity to capture over £1bn of inward investment would be lost at a time when the economy is on a downward trend and when the Government is seeking to encourage foreign investment.

b. Similarly, employment opportunities would be lost at a time when unemployment is predicted to rise.

c. The UK currently has the largest data centre market in Europe but rival FLAP-D countries will be constantly looking to redirect that investment to themselves which would harm the UK's position in global and European markets.

d. The failure to provide additional capacity will restrict the growth of our increasingly data driven economy.

e. The quality of service will reduce and this will discourage other data reliant companies from investing in the UK.

f. Other key sectors of the economy are critical for future growth including but by no means limited to financial services. The ability of these sectors and businesses to operate competitively and to grow will be impacted by any deficiency in data storage capacity (such as higher latency, increased costs etc).

g. Environmental gains for climate change would not be captured including the loss of an opportunity to transition from less efficient legacy data centres.

h. Other environmental gains in terms of landscape enhancement and biodiversity enhancement on damaged land would not be achieved in an area which is identified as an opportunity area for such enhancements.

i. Societal benefits would not be maximised.

j. Given the extent of the need and the exacting locational requirements, if the Government is to realise its ambitions of being a global science and technology superpower then other land will need to be released from the GB for this type of development.

## Summary

6.262. Bringing all of the strands of the VSC case together:-

1. We consider that the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, would be clearly outweighed by other considerations, as per NPPF paragraph 153.

2. It is well established in case law that the definition of VSC does not mean that they need to be rare or uncommon. A number of ordinary factors may when combined together result in something very special. That said, in this case some of the considerations are far from the ordinary.

3. The other considerations that contribute to the VSC case are set out below. It is not possible to provide a concise summary of each of these but we highlight some of the headline points:-

    a. The need for the development including national considerations

    b. The need for new data centres is overwhelming and it continues to grow exponentially. Every 1.2yrs the amount of digital data stored globally doubles.

    c. The need is national in character but also has a local dimension.

    d. The LPA accepts that the proposal would meet some of the need.

    e. The Link Park appeal decision and letter from the DIT reaffirm the need for data centre developments and the latter is a further expression of Government support.

    f. The Slough Availability Zone alone will require **c.12 to 15** additional Hyperscale facilities by 2027 to deliver the forecasted demand of circa **1,730 MW**. London requires c. **2,665 MW**.

4. The locational requirements of data centres and the lack of alternatives

    a. There is no evidence to suggest that there is scope to meet the identified need for the data centres without developing in the GB.

    b. If alternative sites do not sum to the need for development then they do not represent an alternative.

    c. The Link Park appeal was not dismissed on the grounds that alternative sites could meet the need.

    d. Hyperscale data centres have specific locational requirements including size, power, proximity to other data centres avoiding environmental risk. This site meets those requirements.

    e. The Government recognises the importance of the Thames Valley as being central to the UK's data centre landscape.

    f. The Applicant has undertaken an Alternative Sites Assessment and subsequent Addendums which demonstrates that other sites do not represent an alternative.

5. Economic impact/support for local businesses

    a. The construction cost alone represents an investment of between £510 million to £870 million, increasing to £1bn including computing, networking and communications kit as well as external works and infrastructure.

    b. Nicol Economics identify the wider economic benefits and the background economic context of the UK which requires investment and economic growth.

6. Temporary employment during the construction phase.

a. Major development that will support the construction industry

7. Direct and indirect employment generation

    a. Circa 230 FTE well paid jobs,

    b. Annual direct GVA of some £121 million.

    c. A multiplier effect supporting in the order of £270 to £350m in GVA and 500 to 1,100 FTE jobs across the London and South East economies

8. Social benefits

    a. Underpinning the many structures that society now relies upon including government, education, healthcare, communications and entertainment.

9. Addressing climate change

    a. Significant reductions in energy usage and carbon reductions compared to other increasingly outdated formats.

    b. Transition to renewable energy

    c. The role of data centres in reducing the need to travel through remote working and video conferencing for example.

10. Landscape and biodiversity enhancements

11. Building beautiful

12. The absence of a plan-led solution

13. Education and employment fund

14. Heat capture for a district heating system

15. Remediation of the site

16. Deliverability

    a. IPI Have agreed in principle to acquire the site and STACK will build it out if planning permission is granted.

    b. No site other within the Slough and Hayes Availability Zones meets all their search criteria.

17. Consequences of not providing capacity to meet need

    a. The loss of real and very substantial social, economic and environmental benefits. That loss will be damaging.

    b. Economic growth and revenue will be restricted

c. Investment could be lost giving a competitive advantage to other FLAP-D countries and weakening the global position of the UK.

d. The quality of service will be reduced which will be a detractor for other investors in the UK.

# 7. THE OVERALL PLANNING BALANCE

7.1. The planning balance is ultimately a matter of judgement for the decision maker. The LPA will obviously need to reach its own conclusions, but in this section we will explain how we consider the decision maker should approach the determination of this application.

7.2. We will identify the wide range of benefits and other considerations that weigh in favour of the application scheme and will attribute weight to each of them. The same will be done for any potential adverse effects. This allows for a balanced assessment of the proposals in accordance with the NPPF and the Development Plan and it enables the decision maker to assess whether they constitute sustainable development.

## The Decision Making Framework

We accept that the appeal proposals do not accord with policies in the Development Plan when read as a whole. However, it is considered that the Development Plan is out of date and inconsistent with the NPPF. Importantly it fails to provide for the VSC test for inappropriate development in the GB [NPPF paragraphs 152-153].

7.3. Had the Development Plan included such a policy provision then we would be saying that the appeal proposals would be consistent with the Development Plan read as a whole, because we say that there are VSC to justify this particular development in the GB.

7.4. The VSC test requires all relevant planning considerations to be weighed in the balance. It takes into account harm to the Green Belt as well as "any other harm" and weighs these against the combination of benefits of the scheme. Harm must be clearly outweighed by other considerations [NPPF paragraph 153].

7.5. The NPPF states that substantial weight must be afforded to any harm to the GB. It is silent on the weight that must be afforded to the "other harms." That will be a matter of judgement for the decision maker, based on the facts of the case.

7.6. The outcome of the VSC test is determinative of whether this application should be granted or not.

7.7. We accept that there is a statutory presumption in favour of the Development Plan. However, if VSC can be demonstrated (in accordance with up to date national policy) then this would be a very important material consideration that would justify granting planning permission for a development that did not accord with the Development Plan (that makes no allowance for the demonstration of VSC).

## Other considerations weighing in favour of the proposals

7.8. In this case, we consider that the application proposals if granted, would secure important benefits that would respond to all three of the Government's overarching objectives for sustainable development (social, economic and environmental).

7.9. We have already outlined the main benefits and other considerations that weigh in favour of the proposal in Section 6 of this Planning Statement when identifying the factors that contribute towards VSC. It is unnecessary to rehearse these again in full, but we will identify some of the headline points that affect the weight that we apply to each of them.[5]

**The need for the development including national considerations and the contribution that the application scheme will make to meeting that need – VSC (a)**

7.10. The evidence shows that there is a local and national need for data centre development. It is critical infrastructure and the need is overwhelming in scale. The fact that 90% of all data globally has been produced in the last 2 years and that the total amount of data created, captured, and stored by industry doubles every 1.2 years puts this into some perspective.

7.11. The application scheme would make a very significant contribution to meeting needs at the right time and in the right location. We would afford this very substantial weight.

**The Locational Requirements of this Data Centre and Lack of Alternatives – VSC (b)**

7.12. We have identified the specific locational requirements of the proposed development and how it responds to the particular needs of the Slough Availability Zone.

7.13. The availability or otherwise of sites outside the AZ which are not capable of meeting the need in this AZ are irrelevant.

7.14. There is no evidence that the identified need can be met or exceeded on an alternative site(s) when the approach to alternatives is properly understood and applied. We would afford substantial weight to the absence of alternatives to meet the need.

**Economic Impact/support for local businesses - VSC (c)**

7.15. Direct inward investment of up to £1bn is of itself an extremely important consideration. The evidence of Nicol Economics and the other supporting evidence including the letter from the DIT further emphasise the importance of that investment and the implications for the wider economy that is data dependent.

[5] For the avoidance of doubt, the weightings that we will apply are as follows:- Very Limited, Limited, Moderate, Significant, Substantial and Very Substantial

7.16. The economic benefits are both local and national in character and align with the Government's aims to generate growth and prosperity for all. These economic benefits should be afforded very substantial weight.

**Temporary employment during the construction phase - VSC (d)**

7.17. The construction industry is an important sector in the UK economy. Nicol Economics present evidence to show that the application proposals would generate significant amounts of employment (direct and indirect) during the construction phase.

7.18. We recognise that construction jobs are only temporary, but the industry relies upon a constant stream of sites and this will be a major construction project. We would afford this moderate weight.

**Direct and indirect employment generation VSC (e)**

7.19. The proposals would generate in the region of 230 FTE permanent jobs. They would be high skilled jobs with above average wage levels for the Buckinghamshire economy.

7.20. The economic benefits will also be spread and will benefit other areas outside of Buckinghamshire as accepted by the LPA. We would afford significant weight to the new employment opportunities.

**Social benefits VSC (f)**

7.21. The proposals reinforce the critical infrastructure upon which modern day society increasingly depends.

7.22. It is difficult to quantify the extent of the benefit because it is so entwined into our day to day lives. However, its importance to government, administration, healthcare, education as well as communications and entertainment means that this warrants significant weight.

**Addressing Climate Change - VSC (g)**

7.23. Climate change is a key issue for the achievement of sustainable development and new data centres have an important direct and indirect role to play. We would afford this significant weight.

7.24. The proposed data centre will be highly efficient with a PUE of 1.4. Technological advances and the move towards hyperscale data centres has helped ensure that whilst data infrastructure has increased 15 fold, energy use has remained relatively flat.

7.25. The operation of data centres also means that people can make more sustainable choices about where they work and communicate which can reduce the need to travel. This also has an indirect effect on climate change.

**Landscape and Biodiversity Enhancements – VSC (h)**

7.26. The Green Belt is not just about protection, it is also about enhancement. The appeal proposals would deliver significant environmental enhancements including at least 10% BNG.

7.27. These are important benefits in the context of NPPF paragraph 150 which seeks to secure these types of enhancement in the GB. Taken together they should be afforded significant weight.

**Building Beautiful VSC (i)**

7.28. Whilst this is an outline application (and that tempers the weight we can afford to this) the LPA can require the high quality and innovative design approach detailed in the original application to be carried through into the final scheme. The application proposals represent an opportunity to show what can be done even with large utilitarian buildings to advance the high quality design agenda. We would afford this limited/moderate weight,

**The absence of a plan-led solution – VSC (j)**

7.29. The planning operates in a plan led system yet there is no plan led solution that is available that can address the growing need for Data Centres in this area. The plan is out of date and there is also no imminent solution in the form of an emerging plan which will provide any plan-led solution in the foreseeable future. This consideration should be given significant weight.

**Education and Employment Fund – VSC (k)**

7.30. The site is located in an important cluster of high tech companies and the Government is keen to build on its success. It is necessary therefore to upskill local people so they can take up the employment opportunities that the proposal presents. We would afford this limited/moderate weight

**Heat capture for a district heating system – VSC (l)**

7.31. LPA's should be looking to capture and harness energy from what is a waste product of other industrial processes. Heat capture from a data centre is no different.

7.32. We are mindful that there are no plans in place to create a district heating system and so this tempers the weight that we can afford to it. However, the opportunity will exist for future developers to tap into this in the future. We would afford this limited weight.

**Remediation of existing contamination – VSC (m)**

7.33. The proposed remediation strategy will better address the contamination issues on the site and will reduce risk into the future. We would afford this limited/moderate weight.

**Deliverability – VSC (n)**

7.34. IPI have agreed in principle to acquire the site and STACK will build it out if planning permission is granted.

7.35. The previous evidence of Mr Redstone says that no site within the Slough and Hayes availability zones meets his search criteria. We would afford this significant weight

**Consequences of not providing capacity to addressing the need– VSC (o)**

7.36. We appreciate that many of the consequences of not addressing the need mean that the benefits will not be realised and so we need to avoid these from being double counted.

7.37. However not providing for the need does not just return us to the present day baseline without the benefits. In some respects the failure to realise the application proposals will generate harm such as:-

a. A reduction in the service level offered to UK businesses especially in data hungry sectors, as result of capacity not growing in line with need

b. The UK becoming less attractive to foreign investment

c. Undermining the current lead London has established as the tech centre for Europe.

d. Restricting growth of our increasingly data driven economy and reducing the ability to compete.

7.38. It is therefore a consideration that can and should be afforded significant weight.

7.39. Overall, it can be seen that there are multiple benefits and other considerations which individually and collectively weigh very substantially in favour of the grant of planning permission.

## The adverse effects to be weighed in the balance

**Conflict with the Development Plan**

7.40. we accept that there would be an unavoidable conflict with the Development Plan (policies GB1 and GB4). That is because the Development Plan does not include provision for the demonstration of VSC that is set out in national policy. It is also because out of date Development Plan policies do not provide the necessary framework or flexibility to provide for the scale and type of development that is now needed.

7.41. We consider that the proposals would have been in accordance with the Development Plan had it included a VSC test in accordance with national policy.

7.42. We consider that no material weight can be afforded to the conflicts with Local Plan Policies GB1 and GB4.

**Harm to the Green Belt**

7.43. We accept that the proposals represent inappropriate development in the Green Belt. Accordingly, there would be definitional harm.

7.44. The proposals would also have a significant impact on openness, and would cause some harm to two of the five purposes of the GB. However, for the reasons set out earlier the harm to those two purposes is tempered by site specific considerations and the form and nature of what is being proposed.

7.45. As required by the NPPF we recognise and accept that substantial weight should be afforded to any harm to the GB.

**Landscape and Visual Harm**

7.46. Overall, the significance of effect on landscape character is assessed to be minor beneficial. This beneficial effect confirms that the development will result in an enhancement of the landscape quality and condition with no overall detrimental effect on landscape character.

7.47. Overall, the significance of effect on visual amenity is assessed to be minor adverse. This harm falls below the threshold of significant or unacceptable harm in the context of the nature and value of local views.

7.48. In the context of landscape planning policy, the development proposals retain local distinctiveness and conserve and enhance landscape character so are compliant with the overall intentions set out by landscape policy. The improvements to existing green infrastructure and site habitats, and long-term landscape management for conservation are in keeping with the objectives set out by the Colne Valley Regional Park.

7.49. MHP accept that there would be some localised visual harm mainly in the form of the harm to openness, but this is already taken into account as part of the harm to the GB. It is not an additional harm and so we don't afford it further adverse weight under this heading to avoid double counting.

## Other considerations

7.50. There are no other grounds to resist development on this site which cannot be avoided, mitigated, or controlled through Reserved Matter applications, planning conditions and/or planning obligations.

## The Overall Planning Balance

7.51. We accept that the appeal proposals do not accord with the Development Plan when read as a whole. However, the most important Green Belt policies are out of date and inconsistent

with national policy. The proposals do however comply with other policies as explained earlier.

7.52. When considering any planning application in the GB, the NPPF at paragraph 153 requires local planning authorities to ensure that substantial weight is given to any harm to the GB. 'Very special circumstances' will not exist unless the potential harm to the GB by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

7.53. In this case there are important other considerations, many of which are specific to this particular development proposal and the site itself. When taken together, we consider that they clearly outweigh the potential harm to the Green Belt by reason of inappropriateness, and any other harm. As such there are very special circumstances which justify the proposed development in this case.

7.54. Following this analysis, our overall conclusion is that the application proposals represent sustainable development and that planning permission should be granted.

## Summary

1. We accept that the proposals do not accord with the Development Plan when read as a whole. However, the policies relating the GB are out of date and inconsistent with the NPPF.

2. Notwithstanding this, it can be demonstrated that there are "Very Special Circumstances" in this case and the potential harm to the Green Belt, and any other harm resulting from the proposal, would be clearly outweighed by other considerations as per NPPF §152 and §153.

3. There are a number of benefits and other considerations that weigh variously in favour of the appeal proposals. They include:-

    a. Need for the development and contribution to meeting that need - Very Substantial

    b. Locational Requirements and the Lack of Alternative Sites - Substantial

    c. Economic Impact/support for local businesses - Very Substantial

    d. Temporary employment during the construction phase. – Moderate

    e. Direct and indirect employment generation - Significant

    f. Social benefits - Significant

    g. Addressing Climate Change - Significant

    h. Landscape and Biodiversity Enhancements - Significant

i. Building Beautiful - Limited/Moderate

j. The absence of a plan-led solution - Significant

k. Education and Employment Fund - Limited/Moderate

l. Heat capture for a district heating system - Limited

m. Remediation of the Site - Limited/Moderate

n. Deliverability - Significant

o. Consequences of not providing capacity to meet need – Significant

4. The potential adverse impacts have been identified and these should also be afforded varying degrees of weight as follows:

    a. Conflict with the Development Plan – No material weight

    b. Harm to the Green Belt - Substantial

5. All other identified impacts can be avoided, mitigated or addressed through RM applications, planning conditions and/or obligations.

6. As such the proposals represent sustainable development and planning permission should be granted.

# 8. SUMMARY & CONCLUSIONS

8.1. This Planning Statement has been prepared on behalf of Greystoke Land (the Applicant). It relates to a Planning Application that has been submitted for the following development at Woodlands Park Landfill Site, Land South of Slough Road, Iver, Buckinghamshire, (the Application Site):-

> **"Outline planning application with all matters reserved except for principal points of access for the redevelopment of the former landfill site to comprise a data centre development (B8 (Data Centre)) of up to 72,000 sqm (GEA) delivered across 2 buildings. The scheme includes site wide landscaping. The data centre buildings include ancillary offices, internal plant and equipment and emergency back-up generators and associated fuel storage. The development will also include cycle and car parking, internal circulation routes, soft and hard landscaping, security perimeter fence, lighting, earthworks, sustainable drainage systems, ancillary infrastructure and a substation."**

8.2. This Planning Statement concentrates on the main planning policy issues which have been broken it down into the following sub issues:-

**Issue 1** **The principle of development**

**Issue 2** **Whether the proposal would harm the openness of the Green Belt, including whether it harms any purpose that the Green Belt is meant to serve**

**Issue 3** **Other harms to be considered as part of the very special circumstances test**

**Issue 4** **Whether there are any other considerations which weigh in favour of the proposal and whether those other considerations clearly outweigh any harm the proposal might cause so as to generate very special circumstances.**

**The Overall Planning Balance**

8.3. Our main findings can be summarised as follows:-

## Issue 1 – The principle of development

1. The LPA did not previously object to the principle of data centre development on the appeal site per se. It is agreed that there is a need for the development and there is no objection about the location of the site in terms of its accessibility or its compatibility with neighbouring land uses.

2. The LPA's objections were essentially about the location of the proposals within the GB. National policy does not preclude development in the GB including inappropriate development (subject to the demonstration of VSC).

3. The appeal proposals would inevitably cause harm to the GB but this inquiry is not just about harm to the GB and any other harms (as important as they are). It is also about meeting the critical, urgent and national need for digital infrastructure where and when it is required.

4. Whilst the previous appeal was dismissed, the decision is the subject of a legal challenge. In any event the latest application is materially different and must be considered on its own merits and having regard to the reduced scale, massing, height and footprint of the revised proposals which seek to respond to previous objections.

5. This is no ordinary development proposal. It would provide for a large hyperscale data centre and would represent an investment of over £1bn. As a matter of necessity it is located in the 2nd largest data centre cluster in the world. Its timely delivery is a matter of national importance to support economic growth and society more generally.

6. The proposals attract significant support at the national level. The NPPF requires the planning system to meet development needs and to align growth and infrastructure. §118 states that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being.

7. NPPF §85 states that significant weight should be placed on the need to support economic growth and productivity. Areas should build on their strengths and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation.

8. The NPPF requires policies to address potential barriers to investment, such as inadequate infrastructure and to enable a rapid response to changes in economic circumstances. Those types of policies are absent from the Development Plan here.

9. NPPF §86 is supportive of this type of proposal. It says decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations in suitably accessible locations.

10. Nicol Economics explain that the Government recognises the importance of the digital economy to UK prosperity and effective functioning of our public services, government and society and this role is becoming ever more important, presenting great opportunities and also challenges.

11. It also recognises the importance of a secure and reliable digital infrastructure to ensure the smooth functioning and to maximise the growth prospects of the economy to the extent that data centres are referred to as a critically important part of that digital infrastructure.

12. The Development Plan is out of date in that it pre-dates the NPPF and it does not respond to up to date development needs including the challenges that we now face with regards digital infrastructure. The abandoned Joint Local Plan is evidence that needs for development could not be met under the old strategy. New allocations were required, including land in the GB. A new Local Plan is years away.

13. There are no policies in the emerging NP that would preclude the appeal proposals as a matter of principle.

## Issue 2 – Whether the proposal would harm the openness of the Green Belt, including whether it harms any purpose that the Green Belt is meant to serve

14. The site is located entirely within the Metropolitan Green Belt. The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.

15. The revised application proposal represents "inappropriate development" in the GB. It is, therefore by definition, harmful to the Green Belt and should not be approved except in very special circumstances (VSC).

16. Local Plan Policies GB1 and GB4 are out of date and inconsistent with the NPPF and should be afforded no material weight in the determination of this appeal. National policy does not preclude inappropriate development in the GB and nor does it preclude new employment development in the GB.

17. It is accepted that the proposals would result in harm to the openness of the GB in spatial terms. The impact on openness in visual terms would however be limited.

18. There would also be some limited harm to the purpose of checking the unrestricted sprawl of large built-up areas but the harm would be tempered by the containment of the site and the layout of the scheme which includes extensive areas of landscaping that can be secured through the s.106 and conditions.

19. There would be some limited harm in terms of physical encroachment but given the urban fringe character of this part of the GB we do not consider that the proposals would cause any significant harm to safeguarding the countryside from encroachment.

20. The would be no harm to purposes (b) preventing towns merging (d) preserving the setting and special character of historic towns, or (e) assisting in urban regeneration.

21. Notwithstanding the identified harm, not all of the impacts of the application proposal on the GB will be adverse. There would also be a number of positive benefits for the GB that need to be factored in including enhancements to the landscape and biodiversity of the area as encouraged by NPPF §150.

22. It is recognised and accepted that substantial weight should be given to any harm to the Green Belt. VSC will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

## Issue 3 - Other Harms to be considered as part of the VSC test

23. There is much that is common ground. Aside from GB, the areas that remain in dispute regarding "other harms" are relatively narrow. They relate principally to the impact on the character and appearance of the area.

24. The now proposed reduction from three buildings to two and the reduction in proposed building heights of the two retained structures have been identified to make a significant difference in the visual prominence of the new development proposals.

25. When compared with the original scheme the scheme is now almost fully screened from adjoining roads, bridges, footpaths and other public accessible locations.

26. The significance of effect on landscape character is assessed to be minor beneficial. This beneficial effect confirms that the development will result in an enhancement of the landscape quality and condition with no overall detrimental effect on landscape character.

27. The significance of effect on visual amenity is assessed to be minor adverse. This harm falls below the threshold of significant or unacceptable harm in the context of the nature and value of local views.

28. There is therefore no "other harm" to be weighed against the proposals in the planning balance.

## Issue 4 - Whether there are any other considerations which weigh in favour of the proposal and whether those other considerations clearly outweigh any harm the proposal might cause so as to generate very special circumstances.

29. We consider that the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, would be clearly outweighed by other considerations, as per NPPF paragraph 153.

30. It is well established in case law that the definition of VSC does not mean that they need to be rare or uncommon. A number of ordinary factors may when combined together result in something very special. That said, in this case some of the considerations are far from the ordinary.

31. The other considerations that contribute to the VSC case are set out below. It is not possible to provide a concise summary of each of these but we highlight some of the headline points:-

    a. The need for the development including national considerations

    b. The need for new data centres is overwhelming and it continues to grow exponentially. Every 1.2yrs the amount of digital data stored globally doubles.

    c. The need is national in character but also has a local dimension.

d. The LPA accepts that the proposal would meet some of the need.

e. The Link Park appeal decision and letter from the DIT reaffirm the need for data centre developments and the latter is a further expression of Government support.

f. The Slough Availability Zone alone will require **c.12 to 15** additional Hyperscale facilities by 2027 to deliver the forecasted demand of circa **1,730 MW**. London requires c. **2,665 MW**.

32. The locational requirements of data centres and the lack of alternatives:-

    a. There is no evidence to suggest that there is scope to meet the identified need for the data centres without developing in the GB.

    b. If alternative sites do not sum to the need for development then they do not represent an alternative.

    c. The Link Park appeal was not dismissed on the grounds that alternative sites could meet the need.

    d. Hyperscale data centres have specific locational requirements including size, power, proximity to other data centres avoiding environmental risk. This site meets those requirements.

    e. The Government recognises the importance of the Thames Valley as being central to the UK's data centre landscape.

    f. The Applicant has undertaken an Alternative Sites Assessment and subsequent Addendums which demonstrates that other sites do not represent an alternative.

33. Economic impact/support for local businesses

    a. The construction cost alone represents an investment of between £510 million to £870 million, increasing to £1bn including computing, networking and communications kit as well as external works and infrastructure.

    b. Nicol Economics identify the wider economic benefits and the background economic context of the UK which requires investment and economic growth.

34. Temporary employment during the construction phase.

    a. Major development that will support the construction industry

35. Direct and indirect employment generation

    a. Circa 230 FTE well paid jobs,

    b. Annual direct GVA of some £121 million.

    c. A multiplier effect supporting in the order of £270 to £350m in GVA and 500 to 1,100 FTE jobs across the London and South East economies

36. Social benefits

    a. Underpinning the many structures that society now relies upon including government, education, healthcare, communications and entertainment.

37. Addressing climate change

    a. Significant reductions in energy usage and carbon reductions compared to other increasingly outdated formats.

    b. Transition to renewable energy

    c. The role of data centres in reducing the need to travel through remote working and video conferencing for example.

38. Landscape and biodiversity enhancements

39. Building beautiful

40. The absence of a plan-led solution

41. Education and employment fund

42. Heat capture for a district heating system

43. Remediation of the site

44. Deliverability

    a. IPI Have agreed in principle to acquire the site and STACK will build it out if planning permission is granted.

    b. No site other within the Slough and Hayes Availability Zones meets all their search criteria.

45. Consequences of not providing capacity to meet need

    a. The loss of real and very substantial social, economic and environmental benefits. That loss will be damaging.

    b. Economic growth and revenue will be restricted

    c. Investment could be lost giving a competitive advantage to other FLAP-D countries and weakening the global position of the UK.

    d. The quality of service will be reduced which will be a detractor for other investors in the UK.

## The Overall Planning Balance

46. We accept that the proposals do not accord with the Development Plan when read as a whole. However, the policies relating the GB are out of date and inconsistent with the NPPF.

47. Notwithstanding this, it can be demonstrated that there are "Very Special Circumstances" in this case and the potential harm to the Green Belt, and any other harm resulting from the proposal, would be clearly outweighed by other considerations as per NPPF §152 and §153.

48. There are a number of benefits and other considerations that weigh variously in favour of the appeal proposals. They include:-

    a. Need for the development and contribution to meeting that need - Very Substantial

    b. Locational Requirements and the Lack of Alternative Sites - Substantial

    c. Economic Impact/support for local businesses - Very Substantial

    d. Temporary employment during the construction phase. – Moderate

    e. Direct and indirect employment generation - Significant

    f. Social benefits - Significant

    g. Addressing Climate Change - Significant

    h. Landscape and Biodiversity Enhancements - Significant

    i. Building Beautiful - Limited/Moderate

    j. The absence of a plan-led solution - Significant

    k. Education and Employment Fund - Limited/Moderate

    l. Heat capture for a district heating system - Limited

    m. Remediation of the Site - Limited/Moderate

    n. Deliverability - Significant

    o. Consequences of not providing capacity to meet need – Significant

49. The potential adverse impacts have been identified and these should also be afforded varying degrees of weight as follows:

    p. Conflict with the Development Plan – No material weight

    q. Harm to the Green Belt - Substantial

50. All other identified impacts can be avoided, mitigated or addressed through RM applications, planning conditions and/or obligations.

51. As such the proposals represent sustainable development and planning permission should be granted.

## Concluding Comments

8.4. Having undertaken a planning balance in the way that has been outlined, it is considered that the proposals represent a suitable and sustainable form of development in this location and that there are compelling reasons that justify the grant of planning permission.

8.5. In view of the foregoing, the LPA is requested to grant outline planning permission, subject to any necessary conditions and planning obligations.

# Appendix 1: Letter from DIT

Department for International Trade

Science & Technology Directorate,
Old Admiralty Building,
Admiralty Place,
London,
SW1A 2BL.

To: Ian Thompson, Corporate Director:
Planning Growth and Sustainability
Buckinghamshire Council

9th January 2023

Dear Ian,

**Data Centres and Buckinghamshire**

As you will know the Department for International Trade (DIT) continues to actively support foreign owned companies (FOCs) with their investment enquiries. Alongside our key partners, such as the Buckinghamshire LEP, DIT's focus on helping to secure high value foreign direct investment (FDI) is part of HMG's wider drive to secure long-term sustainable economic growth, innovation, and prosperity for the UK.

Earlier this month, the Prime Minister (PM) set out his five pledges to build a better future for the UK, help grow the economy, create better-paid jobs and opportunity right across the country. Central to this is the PM's ambition in consolidating our leading role in the world as a science and technology superpower and which helps everyone in the UK.

Our priorities include a commitment to secure investment from those key sectors, like life sciences, financial services, technology, Artificial Intelligence, and data analytics, where we have evidential global strength and where we can harness innovation to drive economic growth to support the creation of local employment opportunities and wider benefits.

Data centres are at the heart of the UK's digital infrastructure and represent the focal point where HMG's Industrial Strategy and the Digital Strategy meet. The UK is a globally important data centre market (holding 6% of the world market share), home to the largest data centre market in Europe (holding around 25%+ of market share) and the world's second-largest commercial cluster. We estimate that each new data centre contributes around £3-400m Gross Value Added (GVA) per year to the UK economy. COVID-19 boosted growth expectations for the sector, and post-pandemic we are seeing a renewed appetite by FOCs to invest in the UK, realising the anticipated increase (of FDI value) from £2.7bn in 2019 to £7.4bn in 2024. Industry estimates indicate that for every 1 job directly created by a datacentre the multiplier is a further 5 jobs in the local economy. The Government's National Data Strategy and National Cyber Strategy recognises the vital and growing role of digital and data in the UK economy and has identified the need for a secure and reliable digital infrastructure to ensure the smooth functioning and to maximise the growth prospects of the economy. Data centres are a critically important part of that digital infrastructure.

Every year, the volume of data generated increases exponentially. New technologies, increasingly utilised across sectors, are driving this increase, and in turn, demand for greater data centre capacity. This demand includes many of the sectors strongly represented or developing in Buckinghamshire, including advanced engineering & manufacturing, the creative industries (e.g., content and the high-end TV and film production), health and life sciences and space/space-related technology) and across the wider technology sector – artificial intelligence, cloud-computing, data analytics and smart cities.

For the reasons we outline in the national data centre proposition, the UK is one of the most attractive locations in the world for data centre operators. Within the UK, the Thames Valley is central to the UK's data centre landscape, supported by a 21st century digital infrastructure necessary to support data centres, complete supply chains and a renewed focus (by the industry) on delivering green-tech solutions and sustainable energy sources (for neighbouring developments, including housing).

There is strong growth in the demand for data centre capacity to support the UK economy itself. As a direct result of this identified need, there is a sustained demand for sites across a corridor that includes Berkshire, Buckinghamshire, Hertfordshire, and west London. As you will be aware this includes recent and live planning applications and/or enquiries from interested parties/operators looking at, most specifically, sites across (specifically southern) Buckinghamshire.

Whilst it is not the place, nor does the DIT does not wish to comment on specific planning applications (or appeals), subject to your interest, we welcome the opportunity of speaking with you, and colleagues within Buckinghamshire Council, to provide some more detail behind the above headlines and wider strategic economic context that may be helpful and support the Council's wider knowledge and understanding of data centres and their continued importance to the HMG strategy for delivering economic growth. We trust this offer is both welcome and helpful. I have invited your area Partnership Manager, Gareth Ralphs (gareth.ralphs@invest-trade.uk ), to follow-up this letter and look to set-up a call, or face to face meeting, in the near future.

Yours sincerely

[redacted]

Chris Moore (Dr)
Technology Specialist
T: 07714 226597; E: chris.moore@trade.gov.uk; L-I: www.linkedin.com/in/chris-moore-b395332

# Appendix 2: Jll Technical Note on Need For Data Centres

January 2023

*Jones Lang LaSalle Incorporated*

# Greystoke Land

# West London Technology Park

**Woodlands Park Landfill Site Land South of Slough Road Iver, Buckinghamshire, UB8 2FX**

**Need, Location, Sustainability Significance**

**Technical Note**

**Jones Lange LaSalle Developments Ltd**

**January 2023**

# Contents

# 1. Scope of Technical Note

## Jones Lang LaSalle

1.1 Jones Lang LaSalle's (JLL) research team delivers intelligence, analysis and insight through market-leading reports and services that illuminate today's commercial real estate dynamics and identify tomorrow's challenges and opportunities. Our more than 400 global research professionals track and analyse economic and property trends and forecast future conditions in over 60 countries, producing unrivalled local and global perspectives. Our research and expertise, fuelled by real-time information and innovative thinking around the world, creates a competitive advantage for our clients and drives successful strategies and optimal real estate decisions.

1.2 The EMEA Data Centre Transactions team is part of JLL's Data Centre Solutions group which covers project management and facilities management. The transaction team provide end to end transactional advice on all stages of the data centre real estate life cycle including acquisition, asset management & consultancy and disposals , working with the wider Data Centre Solutions team and the global JLL network to support our client on every stage of their journey.

1.3 Across the spectrum of data centre users — from cloud providers to colocation operators to large enterprises and institutions — JLL have a steadfast reputation as the most-trusted, reliable and proven partner in the industry. Combining decades of experience and the industry's top market intelligence and data platforms, JLL uncover new build and lease opportunities for cloud providers. We track all available colocation capacity in the marketplace and create best-in-class leasing strategies.

1.4 With extensive knowledge and transactional experience in the data centre sector, JLL are positioned to help clients drive the most value from existing assets and seek the best opportunities in the market. JLL provide clients with a range of services tailored to specific needs and help achieve ambitions at all stages of the business cycle including, site provisioning, scheme disposals, site acquisitions, asset repositioning, strategic consulting, benchmarking, colocation acquisitions, lease consultancy and company mergers and acquisitions.

1.5 JLL (NYSE: JLL) is a leading professional services firm that specialises in real estate and investment management. JLL shapes the future of real estate for a better world by using the most advanced technology to create rewarding opportunities, amazing spaces and sustainable real estate solutions for our clients, our people and our communities. JLL is a Fortune 500 company with annual revenue of $19.4 billion, operations in over 80 countries and a global workforce of more than 102,000 as of June 30, 2022.

## Introduction

1.6 This Technical Note ('Note') addresses the matter of the need for Data Centres at a National level (UK), Region level (London), and in the site proximity (West London Technology park (WLTP), and the specific location. It sets out why a data centre development at this location is appropriate given the very distinct set of operational and business necessities. This Note is intended to build on JLL's previous evidence submitted within the planning application stage (PL/21/4429/OA). It is noted that within the Case Officer's Report it is accepted that "*the Council does recognise that given the growing need to store data there is a need for data*

*centres, and this proposal would assist in addressing some of that need*" however this is now a matter of disagreement within the Statement of Common Ground (SoCG). The Case Officer's Report also recognised that the proposals have specific locational requirements but also concluded that it was not demonstrated why other locations around London have not been investigated. This position is also reflected within the SoCG whereby Buckinghamshire Council have not agreed on the Alternative Site Assessment.

1.7 This Technical Note therefore focusses on the following:

a. The need for digital infrastructure in response to the extraordinarily rapid growth to Global Data Sphere,

b. The locational sensitivity due to specific and exacting operational and business necessities, and

c. The role of sustainable Data Centre solutions to address the global requirement to prioritise energy efficiency and the need to reduce $CO_2$ emissions.

1.8 In seeking to quantify the scale of the need in order to address the growth in the Global Data Sphere, which is measured in Zettabytes, this Technical Note also defines the number of Hyperscale data centres facilities needed to keep pace with identified need, demand and market share and its impact on the UK economy as addressed by Stephen Nicol.

1.9 This Technical Note seeks to provide detailed evidence on the economic and social demand for digital data and digital transformation, and the role of digital infrastructure to operate even the most basic commerce in the 21st Century. The detailed evidence supporting the economic benefits is being provided to the Inquiry by Stephen Nicol an expert on economic development and economic need & benefits.

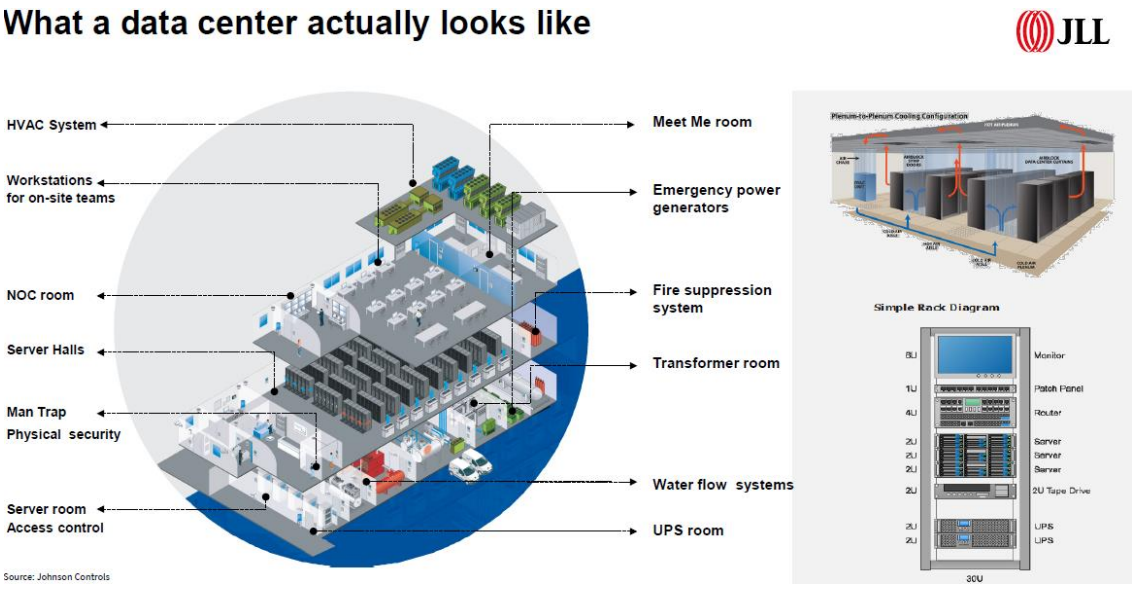
1.10 This Technical Note addresses the physical necessities of a functional data centre in relation to why this specific site is critically appropriate for Data Centre construction. This Technical Note also summarises the role of Slough and Hayes/West Drayton data centre hubs which forms the second largest data centre hub in the world, second only to North Virginia USA.

1.11 Regarding the topic of possible alternative sites that could meet the need for hyperscale datacentres, this is addressed in the Proof of evidence of David Hutchinson of Pegasus Planning. This Technical Note will address the suitability of such sites regarding site evaluation based upon the critical requirements of environmental / man made risk, power, fibre, and proximity within the existing Availability Zone.

# 2. What is a Data Centre?

2.1 A data centre is a highly secure facility that houses IT infrastructure, for example, servers, storage systems, switches and other components that make up a large IT network. It can be thought of as a larger version of the server and infrastructure that might be located in an office. As the name suggests, it is a facility within which digital information resides and is exchanged. Data Centres are the power houses of cloud computing and the 'inter-connectors' of the internet.

2.2 A data centre must always remain operational within strict parameters of continual electrical supply, temperature, and humidity, all without interruption. This means that within a data centre you will also find electrical equipment infrastructure, uninterruptible power sources and ventilation-cooling systems. These are all designed specifically for near 100% availability and functionality of the devices and data housed withing the facility.




## What is a data centre used for?

2.3 The main purpose of a data centre is to store, process/compute and transmit digital data. These facilities provide the essential space, power, cooling, network, and security adhering to the required strict environmental controls necessary for complex digital equipment. They can take various shapes and sizes, for example, you can store subset of company files or provide an entire IT network using a data centre. In particular to the Appeal proposition, hyperscale data centres are the home-place of the 'Cloud' which house the services and core elements that allows cloud internet to exist.

## Do all businesses need a data centre?

2.4 Most businesses (almost all) are transitioning to cloud-based IT solutions. According to a recent Cisco survey of 2,500 IT decision makers, 82% have already deployed a hybrid cloud strategy to their business[1]. Hybrid

[1] Cisco 2022 Global Hybrid Cloud Trends Report

cloud systems can ensure organizations have full control and highest security over their core data. Whilst very few businesses need a dedicated data centre of their own, it is difficult to think of any UK business that can survive without the need for data centre amenities and functionality. Through cloud computing, businesses can take advantage of superior IT infrastructure, enhanced security, and guarantied availability of their business-critical data. In fact, many businesses find it more economically viable to manage their IT infrastructure in this manner.

2.5 Organisations spent $53 billion on cloud infrastructure services globally in the first quarter of 2022, reaching an all-time high and accounting for roughly 24% year-over-year growth compared to 2021. Hyperscalers accounted for 60% of this revenue share during the same period. Globally, annual spending on cloud services reached $178 billion in 2021 compared with $129.5 billion in 2020, and the cloud services sector in 2022 is expected to grow to $200 billion annually by the end of this year[2]. To engage in any form of commerce (trade, production, service, import/export, buy, sell, view, or listen, in any marketplace setting) data centres play a vital role.

2.6 The current state of the cloud market is that the rapid development of the internet has opened new opportunities for the cloud technologies, business decision makers and governments. In a research paper by Oleksii Romanko "*Digital opportunity: how cloud computing changes the shape of the UK economy*" (KCL) states *"The Cybersecurity Ventures forecasts that by 2022 there will be 6 billion Internet users in the world, whereas by now there are around 4.4 billion. According to ONS, in 2018 the UK was ranked third out of all EU countries by the number of internet users, with a rate of 95% (Figure 2)."*

2.7 In the first quarter of 2022, the public cloud ecosystem generated $126 billion in revenue, up 26% year-over-year compared with the same period in 2021. The public cloud markets are expected to grow by 10%–30% every year from 2020 to 2027. This highlights an increasing trend where organisations are evolving toward a cloud-based solution. Additional evidence provided by the Office of National Statistics shows that UK Cloud computing is one of the fastest growing activities that is directly linked to internet penetration[3]. Anticipating the rapid growth, OECD forecasts that global public cloud computing market revenue will reach $331.2 billion in 2022, which is 54.5% higher than the 2019 estimate. It is expected that the cloud market in the UK will be worth around £9 billion by the end of 2023.

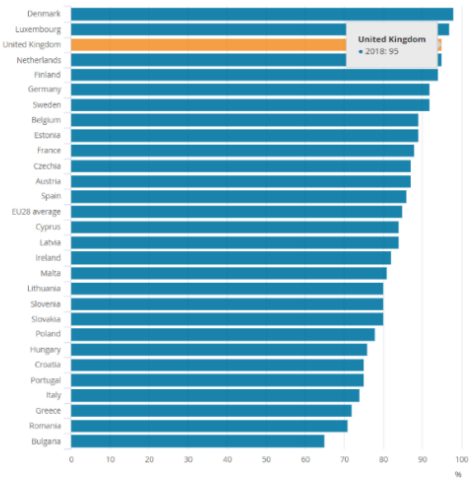



**Figure 2. Recent internet users, adults aged 16 to 74 years, EU, 2018. Source: ONS, Internet users, UK**

[2] JLL 2022 Global Data Centre Outlook
[3] ONS Tech UK "Cloud 2020 and beyond. Unlocking the power of the cloud". July 2019

## How can data centres be used by businesses?

2.8 Data centres can be used by businesses in many ways from hosting their entire IT network to supporting just one specific element of it, such as email or telephones. The capabilities of a data centre are vast in comparison to the technical requirements of many businesses, meaning a data centre can be used for many different things as they are very versatile.

2.9 Each business will have different requirements for the technology and IT within their business, but in most circumstances, a data centre will be able to assist. A data centre makes it easier for businesses to use services, particularly at a lower cost as the data centre is likely to be superior to one which any company can afford individually. This, therefore, makes it an extremely effective way for many businesses, individuals, governments, "user-group" to take advantage of better technology, without an overwhelming cost.

2.10 Depending on the business requirement, the business can acquire some or all elements that the Cloud has to offer. Starting with the basic service, which is storage, network & servers (known as Infrastructure as a Service **IaaS**); through to an operating system, networking or virtual servers and platforms (known as Platform as a Service: **PaaS**); all the way to the complete cloud offering of software applications (known as Software as a Service **SaaS**).

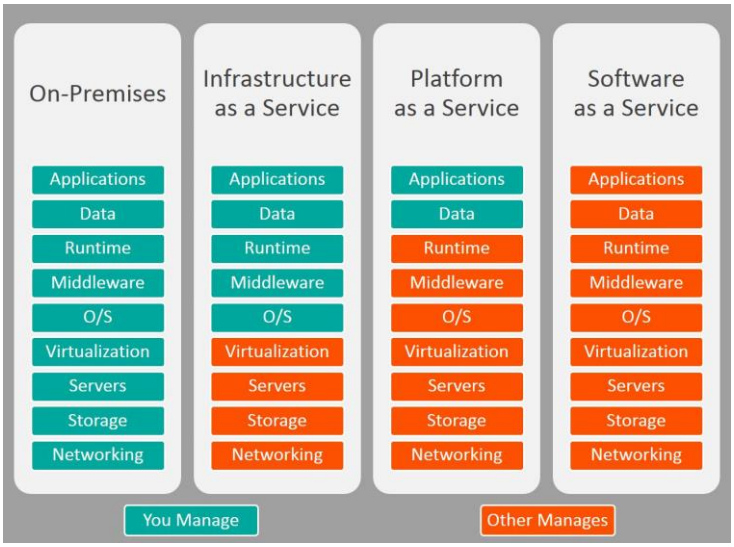



Figure 2: On-premises IT services vs three models of Cloud Service[4]

## Datacentre types

2.11 In assessing the Appeal proposal, it is critical to understand that there are several different types of data centres which are classified into five main groups and there are some similarities and some key differences. The different types of data centres are:

2.12 **Enterprise data centres**: or sometimes referred to as "On Premise" This group represents the traditional data centre, and they are tailored to a standalone 'owner-operated' facilities (operation/ maintenance may be outsourced). Traditionally in the same building or very close to the user group, they often grew organically linked directly to the growth of the company and differ greatly in design. The primary focus is

[4] SaaS vs PaaS vs IaaS: What's the Difference & How to Choose by Stephen Watts and Muhammad Raza

uptime rather than energy efficiency or sustainable in design. Note: Uptime is defined as “Uptime is a computer industry term for the time during which a computer is operational. Downtime is the time when it isn't operational. Uptime is sometimes measured in terms of a percentile. For example, one standard for uptime that is sometimes discussed is a goal called five 9s - that is, a computer that is operational 99.999 percent of the time.

2.13 **Co-location Data Centres**: or sometimes referred as Multi-tenant Data Centre (MTDC). These are operated by a single business or data centre operator who specialises in building and running data centres as their core business. The internal “white space / server space” is shared by several other business units. The space is leased, sold, or dedicated in different portions and for specific periods. Depending on the scale it may be named “retail” colocation. A “wholesale” colocation data centre is where the data centre operator provides the whole data centre to a single third-party business.

2.14 **Edge Data Centres**: Smaller in scale (1MW – 4MW) and located at the edge of connectivity coverage. Typically used where time dependent activities require lower latency. The subject of latency will be addressed later in this report (see Availability Zones), in short latency is the measure of delay between two points along a network as data moves through it. These are often used in conjunction with larger data centres which will manage the heavier workloads and data backups.

2.15 **Portable** – Mobile Data Centre: These are similar to edge in size 1MW – 4MW, however are mobile, and can be lifted and shifted. These units are stand alone with dedicated power supply, connectivity (sometime satellite not fibre) standalone cooling, fire suppression & security. Often containerised.

2.16 **Hyperscale Data Centre**: These data centres are a very specific form of data centre used by the large technology companies. Major cloud and internet service providers (Public Cloud, Private Cloud, & Hybrid Cloud). Hyperscale data centres are typically owned and operated by one company. As the name suggests size or scale is the key differentiator. Typically, the largest form of data centre, may start off relatively small but can scale-up rapidity. The Appeal development is for a Hyperscale data centre.

## What is the Cloud?

2.17 The cloud is a virtual storage space where people can place their digital resources such as software, applications, files, and different forms of data. The cloud is often confused with the internet; however, the cloud is only one part of the internet and is more accurately the computing technology which allows people to use digital resources stored in data centres.

2.18 The cloud exists through highly interconnected data centres (typically Hyperscale) and is the technology that allows people and businesses to share information and applications without being restricted by their physical location. Cloud computing technology allows people to use digital resources stored in the virtual space by way of networks. It allows people and businesses to share information and applications across great distance, at speed with highly secure access to their data and numerous applications.

## The role of Hyperscale

2.19 Hyperscale data centres are often defined by their functionality of interconnectedness, this is necessary to provide high availability and fault tolerant domain, which in turn provides user’s access to their data. Given

the global reach of cloud computing, they require massive storage and computing capacity which is at scale in its design.

2.20 A hyperscale data centre is a facility owned and/or operated by the company it supports. This includes companies such as Microsoft, Amazon Web Services (AWS), Google, IBM, Oracle, Facebook and Apple. They offer far-reaching, scalable digital infrastructure hosting IT applications that can manage and process big data. They can service both individuals and businesses.

2.21 There is no one single definitive definition of what is a hyperscale, but the most common is 'Power Capacity', which is the number of servers and scalability of the building. The following criteria are ways of measuring a hyperscale facility:

1. **Power capacity**: The typical power consumption in a hyperscale data centres has been defined as an average of 20-50 megawatts (MW) and often grow to 100's of MW.

2. **Number of servers**: A typical definition of hyperscale suggest that they would need a minimum of 5,000 server racks, and often house up to 50,000+ server racks.

3. **Size and Scale**: Scale of hyperscale buildings vary, both in terms of configuration and in lifecycle of the actual development. Unlike enterprise data centre ramp up (single build–and go live) Hyperscale data as the name suggest are very much scalable to align with On Demand ramp up. The number of server rack drives the area of "white space" (*which is the space that is specifically allocated for IT equipment and server rooms*). The very minimum size of a hyperscale data centre would start at circa 10,000 sq. ft or 500 servers as a start point, growing to 100,000 sq. ft and housing upwards of 5000 server racks (circa 9,300 sqm of white space).

4. **Energy**: The consumption is also quite significant, and a reflection of the workload. Data Centres use energy to power both the IT hardware (e.g., servers, drives and network devices-in the "white space-IT halls) and the supporting infrastructure (e.g., cooling equipment or grey space outside halls). Given the current focus of climate change access to reliable renewable energy, green energy brings in the critical factor of Sustainable data centres, a complex area in which the Hyperscale is leading the way and represents the most efficient form of data storage (this is discussed further in section 10, 11 and 12 of this report). The data centre industry is taking sustainability very seriously, which is reflected in the 2021 Climate Neutral Data Centre Pact. The first of its kind "self-regulatory" mandate intended to drive to Carbon Net Zero. In setting out the roadmap designed to drive energy efficient of data centres.

5. **Availability Zones**: Availability Zones are often associated with Hyperscale Data Centres. Comprising of a number of isolated data centres located within specific regions which are all equipped with independent and redundant power, cooling and networking infrastructure all housed in separate facilities. These interconnected data centres provide the platform in which public cloud services originate and operate. Availability Zones typically consist of 3 data centres configured within a defined radius; this proximity is necessary in order to provide near 100% uptime availability of digital services. Participating data centres in an Availability Zone connect to each other over a redundant, high-speed, low-latency private network link, and all zones in a region connect through the same sort of network links.

# 3. Digital Data

3.1 Before addressing the need for data centres, this section addresses the concept of 'data' as this is the commodity which is stored within the digital infrastructures housed within the data centre. It is the actual global growth in data driven by society and the economy which is generating the need for data centres.

## What is digital data?

3.2 Although most of the discussion around the data centre is related to the physical building (the centre), the main purpose of these facilities is more related to the data which is stored within the building. The importance activity or content of the data centre, the "data", is often overlooked in the discussion around data centres, the core reason why people and businesses need data centres is because of the data they contain.

3.3 Prior to digital technology, electronic transmission was limited to analog technology, which conveys data as electronic signals of varying frequency or amplitude that are added to carrier waves of a given frequency. Broadcast and phone transmission has conventionally used analog technology.

## Communication with digital technology

3.4 Digital technology is primarily used with new physical communications media, such as, servers, storage devises, processors, switches, routers, satellite and fibre optic transmission. A modem is used to convert the digital data into information format for human readable form.

3.5 The importance of data to society and the economy cannot be overstressed. We are living in the digital era as the digital transformation unfolds and data will help improve the quality of life for people. Data is intrinsic part of all our daily lives, it impacts in countless ways both direct and indirect. This ubiquity is best exemplified in "Internet Infographic" published by AllAccess.com and Lori Lewis.

## Data as a valuable asset

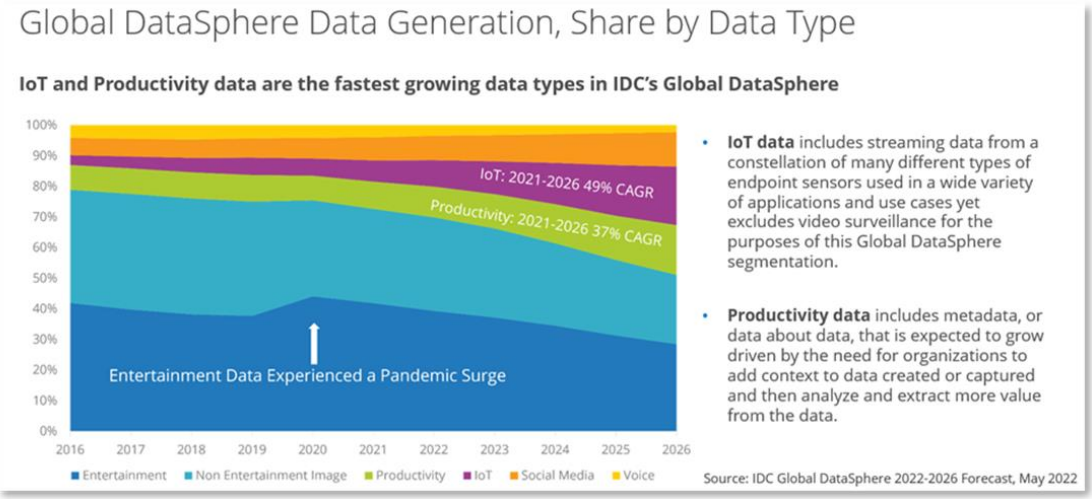
3.6 Treating data as a valuable asset or as an investment helps us put the importance into some tangible perspective. Companies spend significant resources to protect assets and hire the right talent to fully utilise them. As nations, countries, companies, groups, institutions & individuals, we have the opportunity to obtain and gain meaningful insights which help improve our general wellbeing and overall quality of our lives.

"*The world's most valuable resource is no longer oil, but data*" Clive Humby, British mathematician in 2016/2017.

# 4. Data Centres Post Covid

## Digital Transformation at a Global Scale

4.1 The importance of data (thereby data centres) and the cloud are becoming increasingly obvious as we undergo a digital transformation. A key turning point was the Covid Pandemic as society and businesses managed to maintain functionality thanks in part to the advantages of data centre.




## The rise of data centres in a post-Covid world

4.2 Covid-19 has caused a dramatic shift in the way many people work, with many companies forced to shift to working from home, resulting in a huge surge in demand for cloud services. James Witts writing in Clear Engineering Recruitment states that "*A year later, with many businesses planning to continue remote working for the remainder of 2021, or, in some cases, permanently, our reliance on data centres is becoming clear, and subsequent investment in the industry is increasing*" [5].

4.3 Digital infrastructure has never been so important to the world economy as proven during the pandemic. Faithful and Gould's '*Why Data Centres are Crucial Whilst we Face Challenges from COVID-19*' notes that "*Data centres are a fundamental asset at present, supporting technology that is helping governments, corporations and individuals navigate through uncertainty*".

4.4 The pandemic has profoundly changed the way society live and work. Tim Berners-Lee, the creator of the web, notes that Covid-19 has highlighted the fundamental importance of internet connectivity. So, it's perhaps no surprise that data centres have come to be regarded as the fifth utility, as critical as water, electricity, gas, and telecoms. In fact, Data centre staff across the world were categorised as key workers during the Pandemic, critical element to maintaining the basic fabric of society.

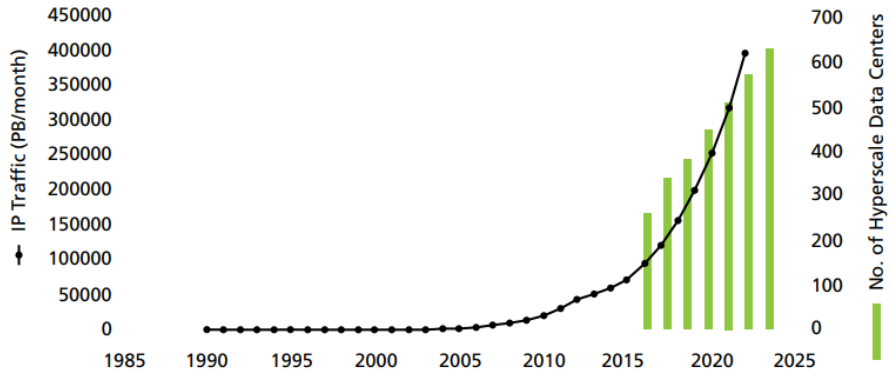
[5] The Rise of Data Centres in a Post-Covid World

# 5. The Need for Hyperscale Data Centres

## Data Centre: Hyperscale and Cloud

5.1 The Data Centre market has moved towards cloud and Hyperscale model, which is driven out of data growth and the need to respond to the underlying demand. There are several drivers which brought about the emergence of Hyperscale, the primary driver is in response to the underlying need which coincides with the time when cloud services became ubiquitous. As data traffic accelerated, the growth in Hyperscale doubled over ten years. There has been a market transition from a traditional enterprise model where businesses and people had a personal computer tower unit under the desk, to off-site server rooms and now to an interconnected web of dedicated interconnected data centres.

**No. of Hyperscale Data Centers Vs. IP Traffic[30]**




[30] Cisco Global Cloud Index: Forecast and Methodology, 2016-2021 White Paper

5.2 Traditional data centres do not have the scale of design point to deal with the need for storage/ compute and demand for near 100% access to the data stored.

5.3 The market dominant hyperscale operators are Microsoft, Amazon Web Services (AWS), IBM, META (Facebook), Google and Oracle. The key characteristics and features of hyperscale cloud data centres are summarised below.

5.4 **The Need for Economies of scale and assessable data** allows for agile flexibility and distributed workload in a robust – high "always available" data access due to the independent power, cooling, and high-speed connectivity. Given the critical demand for "always available" useable data, Hyperscale architecture is designed to meet the demand for massive scale and the desire for always available data.

5.5 **The Need for Sustainable Data Centres.** It is a well-documented fact that Hyperscale data centres use less energy and have a lower **Power Use Effectiveness** rate than traditional data centres. Through innovation and the latest technologies Hyperscalers are **leading the transition to Net Zero**.

5.6 **The Need for Data dependence & security,** almost all business sectors rely on access to data for their businesses to function, for basic internet, email, voice & video calls, intricate computational data processing, storage, and communication. Data privacy, individuals personal, financial, and private needs to secure in country with strict data security regulatory requirement applied.

5.7 **The Need for near 100% availability,** as data has become so critical to our daily lives, society has become very dependent on real time access to data, medical records, bank records, communication, trading, entertainment, traveling, indeed any form of commerce import/export/trade/transaction it's impossible to think of any element which society engage in that does not rely on the digital infrastructure.

5.8 **The Need for Availability Zones (Architecture):** There is a need for 100% availability and dependence on access to our data, but standalone single data centres alone cannot achieve guaranteed near 100% availability that the market demands today. To achieve near 100% availability data centre configuration developed into Availability Zones. These Availability Zones are geographic areas in which typically 3 data centres with independent power, cooling, high speed network is interconnected in such a way that is one of the data centres failed the other two data centres would seamlessly pick up the digital transaction and as such provide near 100% access to digital data. Availability Zones are one of the very special circumstances that the operators must exploit if the country is to generate the required future economic growth.

5.9 **The Need for Availability Zones support businesses by ensuring near 100% access to their data**: In simple terms that the user does not put all its eggs (data) in one basket, and if required, can spread even a single egg (data instance) across multiple (3 or more) baskets. In doing so, can achieve the most sought after near 100% available access to their user data. An ideal situation for mission critical or personal private data.

5.10 **The Need for Proximity:** For near 100% availability to function the physical distance between data centres within an Availability Zone is limited by the speed of light. Distance between data centres is limited to allow data packages to travel at speed between data centres/ servers. The distance between sites drives what is what referred to as "latency" or lag and is measured in milliseconds and depending on the fibre route to achieve single digit millisecond latency operators need to a maximum of 10km – 15km fibre distance. This distance has also led to data centres been "clustered" which is where Hyperscalers deployed capacity in Hayes and Slough in London. This creates a data blast radius between the existing data centre in Slough / West Drayton (world's second largest digital park) and the appropriate location for Hyperscale Data centres to be located. If the data centres are outside this radius, then they will fail and be unable to function as an Availability Zone.

# 6. Demand for Data

6.1 The International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. The Global DataSphere is a service provided by the IDC which quantifies the amount of data created, captured, replicated in any given year. This body of research measures and forecasts the amount of new data created and stored across the globe annually. The research segments data creation across a number of metrics, including the location of data creation, the type of device creating and/or storing data, cloud and non-cloud, data type, data creator and/or custodian, and structured versus unstructured.

6.2 While data is growing in volume, the nature and location of data is also changing. Alongside structured data like relational and transactional data in SQL databases, there has been a meteoric rise in unstructured and semi-structured data, or big data, which has altered the data landscape.

6.3 IDC predicts that 80% of global data will be unstructured by 2025 because the way society use and consume data, and what consumers expect of it has changed. Rather than data being stored in fixed, known locations which can be controlled and managed easily, data is, literally, everywhere.

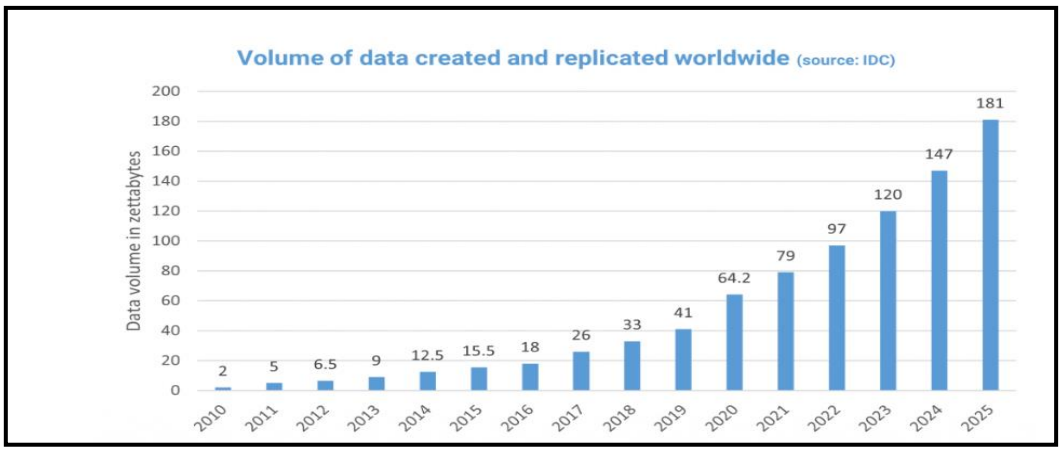
6.4 A lot of the growth of data storage will be in the cloud as both consumers and businesses find greater reasons to store their data in the cloud (internet accessible data centres). IDC stated that in 2019 more data is now stored in the enterprise core (mostly in the cloud) than in all the world's existing endpoints.

6.5 Most people are familiar with the capacity of storage to be defined as megabyte and gigabyte through advertised storage on our phones, music players, laptops and desk top computers. Data growth projections are currently measured in "Zettabytes" which is 1 followed by 21 zeros.

| Abbreviation | Unit | Value | Size (in bytes) |
|---|---|---|---|
| b | bit | 0 or 1 | 1/8 of a byte |
| B | bytes | 8 bits | 1 byte |
| KB | kilobytes | 1,000 bytes | 1,000 bytes |
| MB | megabyte | $1{,}000^2$ bytes | 1,000,000 bytes |
| GB | gigabyte | $1{,}000^3$ bytes | 1,000,000,000 bytes |
| TB | terabyte | $1{,}000^4$ bytes | 1,000,000,000,000 bytes |
| PB | petabyte | $1{,}000^5$ bytes | 1,000,000,000,000,000 bytes |
| EB | exabyte | $1{,}000^6$ bytes | 1,000,000,000,000,000,000 bytes |
| ZB | zettabyte | $1{,}000^7$ bytes | 1,000,000,000,000,000,000,000 bytes |
| YB | yottabyte | $1{,}000^8$ bytes | 1,000,000,000,000,000,000,000,000 bytes |

6.6 It is estimated that in 2022 the Global DataSphere is circa 97ZB zettabytes of data and will grow to 120 zettabytes in 2023.

6.7 Accounting for a variety of sources, growth in global data has constantly been revised upwards across multiyear horizons. According to the IDC, at the beginning of 2022 it was estimated that the Global DataSphere by 2025 would be circa 175 ZB, in December of 2022 the IDC are now projecting that figure to be close to 181 ZB.



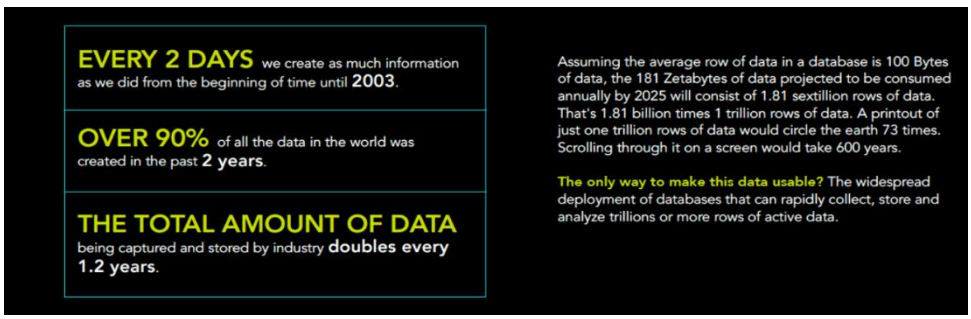
Volume of Data Created and Replicated Worldwide (Source IDC)

6.8 To put into some relevant context to better understand just how large this additional 6.7 ZB of data actually is, a single zettabyte is equivalent to about 250 billion DVDs. Therefore, the increased projection of 6.7 ZB in less than 12 months is about 1.675 trillion new high-definition DVD's.

6.9 There are several technologies which drive the growth in generic data. These are well known as they become part of our everyday lives, as an example:

1. Cloud Computing: Internet – Public, Private, Hybrid Cloud
2. IoT – Internet of things
3. AI: Artificial Intelligence
4. AR: Augmented reality
5. Mobile devices: connected devises (phones, laptops, CPU's, sensors)
6. 4G, 5G, 6G: Advance generation connectivity

6.10 To better understand just how extraordinary the rate at which data is growing, one only needs to look at the increase over the past 2 years. According to recent research "*The Global DataSphere is expected to more than double in size from 2022 to 2026*" John Rydning, research vice president of the IDC Global DataSphere.



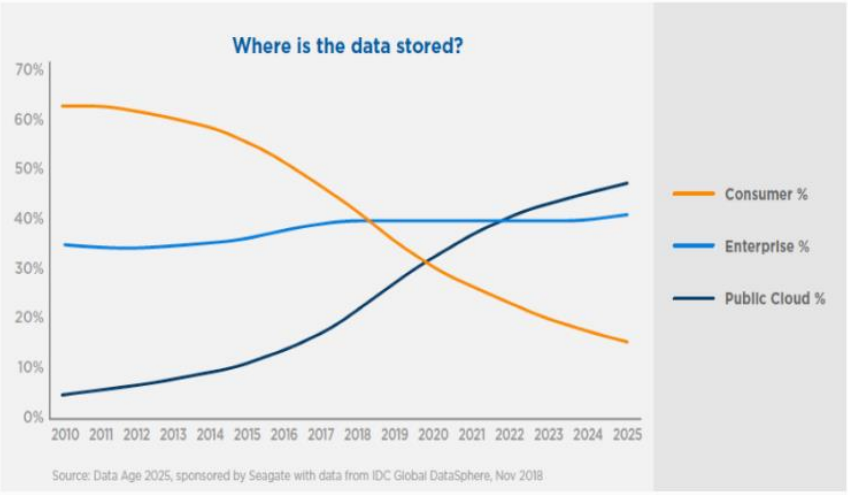
6.11 The emergence of new technologies could affect almost every sector of the economy and enable new business models. In health care, problems like misdiagnosis or mistreatment could be prevented, while the length of drug trials could be shortened (point in case, Covid: New Vaccine). In transportation, self-driving car technology could potentially lead to a reduction in traffic congestion and car accidents, resulting in increased productivity. In financial services, data technologies can be applied to risk management, portfolio management and trade clearing, improving efficiency. The growth of data in an internet / cloud supports new ways of working – new work life integration – a new norm.

6.12 There are multiple infographics available, which show just how digital engagement has changed over the past 5 to 10 years. Social media, online engagements have increased. The massive increase in the use of digital tools for both personal and business needs, has led us to the phrase "Data Never Sleeps". All around the world, data is being created every minute of every day, from clicks, likes, and shares, to rides, transactions, and streaming content.

## Data Storage

6.13 This IDC study presents a forecast for the worldwide IDC "*Global Storage Sphere for 2022–2026*". It measures the size of the installed base of storage capacity, storage utilization (or data stored), and the amount of storage available each year. The IDC predicts a five-year **Compound Annual Growth Rate of 19.2% over the forecast period. Furthermore, the IDC states that over the next five years storage capacity will need to increase by 240%.** To achieve this, additional infrastructure and servers will be required to accommodate the transfer and storage of data.

6.14 A lot of the growth of this storage will be in the cloud as both consumers and businesses find greater reasons to store their data in the cloud (internet accessible data centres). Other projections include that nearly 30% of the Global Datasphere will be real-time by 2025. By 2025 every connected person in the world (about 75% of the total population at that time) will have a digital data engagement over 4,900 times per day, about once every 18 seconds. The IoT devices generating much of this data will generate over 90 ZB of data in 2025. The data will be increasingly stored in the public cloud as shown in the figure below.



# 7. The Need: Megawatt IT Load and Data Centre Requirement

## The Need

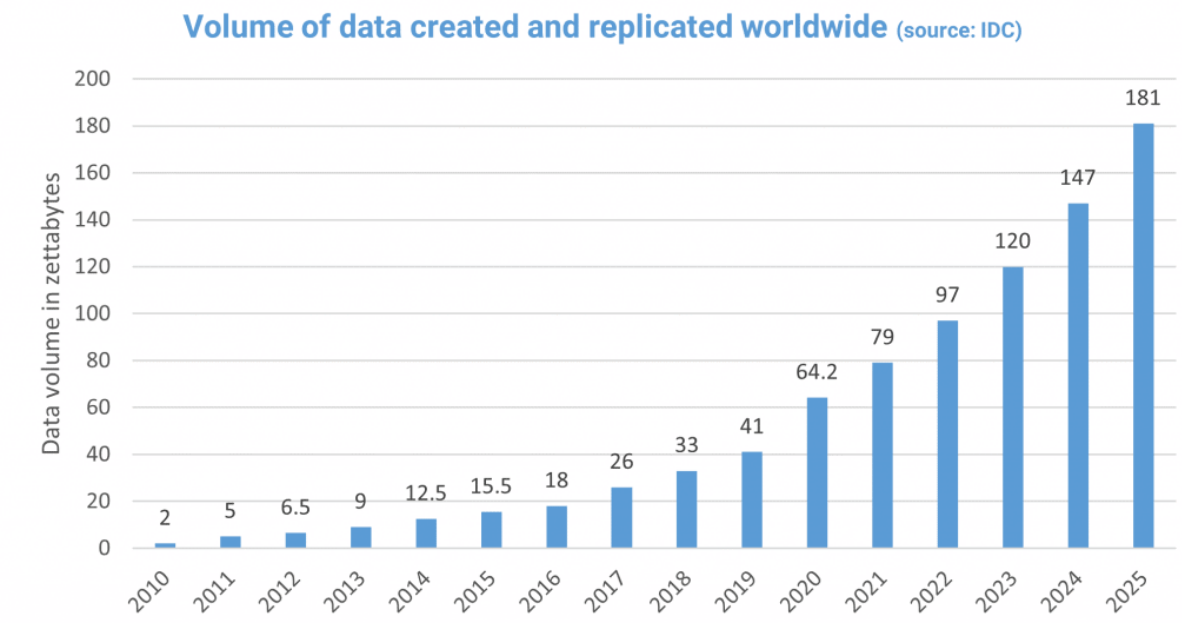
7.1 In 2017, publications such as The Economist used attention grabbing headlines such as "*The world's most valuable resource is no longer oil, but data*" acknowledging the importance of data in everything we do. Data centre "Titans" such as Alphabet (Googles parent company), Amazon, Apple, Meta, and Microsoft and small and medium enterprises (SMEs) have attributed their growth and success to the monetisation of data. This monetisation is enabled via the computing and storage capabilities of data centres. Googles search engine, Amazon Prime with one day (or less) deliveries, Facebook's social media platform, Instagram, WhatsApp, Waze and thousands of other companies are reliant on the global data centre industry to deliver their products to corporations, governments and individuals. Their revenue generating capability is dependent on data centres. Our growing dependence on real time data, for example, the immediate transfer of money from one account to another, NHS patient management systems, algorithmic trading platforms, gaming in virtual worlds, listening to music, or a host of other digital products and services has deemed reliable, resilient 24 hour, 365 days a year infrastructure (data centres) a necessity, to deliver these products without interruption or outage.

7.2 When data centres stop working businesses suffer and such is the importance of data to businesses, any interruption in service can have a negative immediate impact to a business, government or individual.

7.3 As detailed earlier in this report, there is a critical need for 100% accessibility to data so that products and services associated to the data can be provided. This can be as simple as assuring your Word document in Office 365 is available to having certainty that all the exchange live data streams used in an algorithmic real-time trading platform is available. The topology where a single data centre in the past could manage our digital products and services has evolved to where clusters of data centres have emerged including the very large data centre entities we're familiar with today, referred to as Hyperscale data centres. They are arranged in a way to ensure resilience whereby if one of the Availability Zones fails another zone can pick up the workload.

7.4 Amazon, Microsoft, Google and TechTarget have each provided information on how they describe Availability Zones. Each portray similar but not identical descriptions, there are nuanced differences, but the underlying implications are the same. Data centres cluster in specific areas for technical and operational reasons to ensure they mitigate the risk of these compute and storage facilities, these critical infrastructure components (data centres) from failing their customers.

7.5 As discussed in section (2.4 & 6.7) the growth in the Global DataSphere is increasing more rapidly than at any time in history; doubling every 1.2 years. Statista's "IDC's" analysis of new data/information created, captured, copied and consumed worldwide from 2010 to 2020, with forecasts from 2021 to 2025 indicates that between 2010 and 2020 we went from 2 zettabytes of new data being created to 64.2 zettabytes being created in 2020. **IDC's forecast between 2021 to 2025 takes this number to 181 zettabytes** of new data being created in 2025. Given this exponential growth in data creation, hyperscale data centres are needed for housing the storage and compute capabilities required to monetise the data and deliver the services we have come to expect.




7.6 This increased creation of data correlates directly to the increased amount of power used by and number of data centres. More data = more compute and storage = more data centres. The trend is not abating.

7.7 At a European level, Savills (December 2022) reported there is "*an insufficient pipeline of data centre development planned for Europe over the next three years to meet the forecasted increase in demand*." Savills estimate that the number of data centres will need to increase by almost 2.5 times, through the construction of more than **3,000 data centres**, providing almost **20,750MW**, to meet demand in **2025**.

7.8 Gartner analysts state more than 85% of organisations will embrace a cloud-first principle by 2025; as a result, organisations will choose in the first instance to use cloud-based services which are housed in cloud provider's Availability Zones. Further, the report notes that these organisations will not be able to fully execute their digital strategies without the use of cloud-native architectures and technologies. Gartner also report that "*new workloads deployed in a cloud-native environment will be pervasive, not just popular and anything non-cloud will be considered legacy*." Given the advantages inherent within the design principles and technological capabilities which are available in the cloud, it is a valid conclusion. For example, in September 2021 Microsoft pledged to increase its cybersecurity investment to $20 billion over the next five years which will be to the benefit of their customers.

7.9 The case for "Need" is predicated and has been demonstrated on the increased amount of data we, the consumers, are creating. The remainder of this section will focus on the UK and specifically the area in the UK that is home to our country's Availability Zones, which is in and around London, including for example Slough, Hayes and Docklands.

## The Need Evidence

7.10 JLL forecasts the total demand (colocation, carrier neutral data centre and Hyperscale data centres) for data centre capacity within the UK to increase by c. 2,250MW to 3,100MW over the six year period 2022 and 2027, with a central forecast of 2,665MW.

7.11 The forecasts of the total capacity required by 2027 is based on:

- JLL's market intelligence on the levels of demand and future need for several of the key global market players over this period to meet the growth in data centre capacity needed (including demand in 2022 that has not yet been fulfilled)

- Grossing-up to overall market need based on current market shares.

7.12 JLL do not have market information to allow it to forecast reliably beyond 2027 at present. However, for all the reasons set out in this Technical Note, it is inconceivable that there will not be strong demand beyond 2027 as well.

7.13 There is inevitably a degree of uncertainty as to the precise level of future demand and need, hence the range that is quoted. The scale of future overall demand for data centre capacity forecast is broadly consistent with the earlier assessment for the whole of Europe by Savills and indeed arguably more cautious.

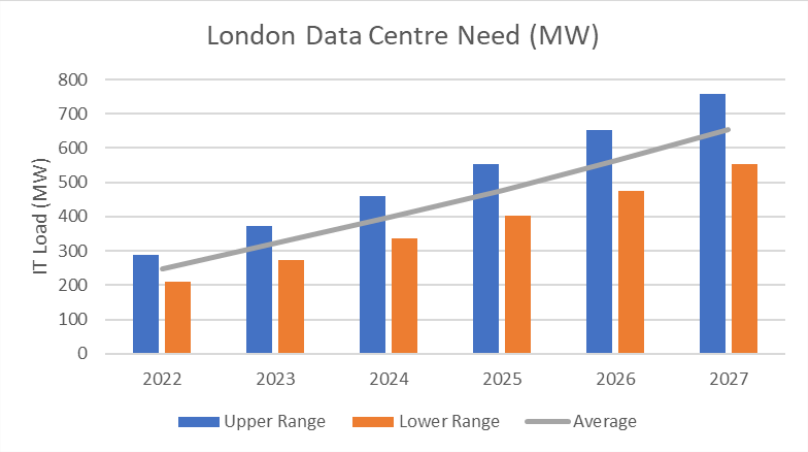
7.14 Savills assesses total need for extra capacity in EMEA as 20,750MW for the three years 2023, 2024 and 2025, or around 6,900MW each year. Over the same three year period JLL's forecast is for between 1,010MW to 1,385MW (a central estimate of 1,200MW) of extra capacity needed in London, or just 5% to 7% of this overall assessed total need across the EMEA area as forecast by Savills. The UK currently has a global market share of between 5% to 7% according to Synergy Research Group of which the Slough and Hayes Availability Zone accounts for 65%.

7.15 It is important to explain why our forecasts are for a strong upward growth in the need for data centre capacity in London (compared to the historic annual growth for co-location data centres alone by other estimates). This reflects:

- All the drivers for growth in overall data generated and stored and shift to cloud computing set out above, which are leading to a very strong upsurge in demand for data centre capacity

- A degree of catch-up in London

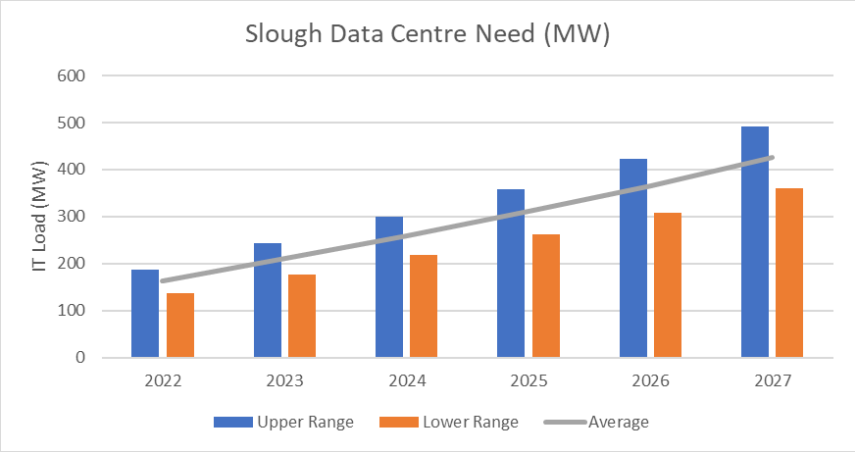
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|
| Upper Range | 288 | 374 | 459 | 552 | 651 | 758 | 3082 |
| Lower Range | 210 | 273 | 335 | 403 | 475 | 553 | 2248 |
| Average | 249 | 323 | 397 | 477 | 563 | 655 | 2665 |



7.16 Based on JLL's information on current capacity, the Slough Availability Zone accounts for 65% of the total capacity across the whole London (albeit some estimations place it at 85%). Given the concentration of existing capacity and quality and quantity of fibre connections there are strong reasons to expect this share of the overall London region to continue into the future. This translates to circa from around 1,460MW to 2,000 (a central estimate of 1,730MW) of additional required capacity in the Slough Availability Zone between 2022 and 2027. Clearly as with the total London forecasts there is a degree of uncertainty in such estimates. However, the work points clearly to a very substantial level of demand for new capacity in the Slough Availability Zone area by 2027.

7.17 JLL's forecast of total data centre capacity needed in Slough Availability Zone 2022 to 2027.

| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|
| Upper Range | 187 | 243 | 299 | 359 | 423 | 493 | 2003 |
| Lower Range | 137 | 177 | 218 | 262 | 309 | 359 | 1461 |
| Average | 162 | 210 | 258 | 310 | 366 | 426 | 1732 |




7.18 Meeting this demand in the Slough Availability Zone is critical if the UK is to maintain its competitive advantage and attraction for inward investment into data centres, and our European #1 position within the digital economy. Given the scale of the growth, Hyperscale data centres are the only solution available to address this need. The alternative would be that growth occurs in Germany, the Netherlands and/or France who are also seeing significant growth and investment in colocation, carrier neutral datacentres and Hyperscale data centres.

7.19 **This represents a need to build multiple new Hyperscale data centres to support the demonstrated demand. Based on the scale of proposed development at the WLTP, the Slough Availability Zone would require an estimated 12 to 15 additional Hyperscale facilities by 2027 to deliver the forecasted demand of 1,730MW.**

7.20 It is understood that the UK National Grid's Iver Electrical Substation (a Grid Supply Point – major distribution point for power in the Slough Availability Zone) has applications for power that combined are estimated to be c. 1,500MW.

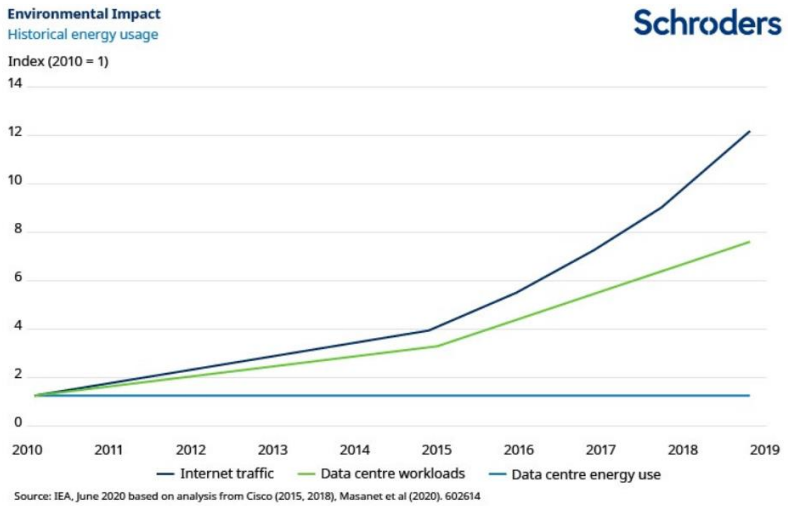
7.21 The West London Technology Park scheme has secured power from the Iver Substation. If planning is approved this will enable the scheme to commence immediately.

7.22 This demand reflects the significant underlying need for digital storage and compute capacity as a direct result of the continuous growth in global digital data.

# 8. Hyperscale: $CO_2$ Emissions and Energy

## Hyperscale: $CO_2$ Emissions

8.1 The previous sections have set out that there is an exponential growth in data and therefore the digital infrastructure through hyperscale data centres need to correspondingly grow. Against this backdrop, it is tempting to assume that the consumption of energy will likewise increase. Although data centre infrastructure has increased significantly since 2010 and accelerated in 2015 due to introduction of Hyperscaler in the market (para 5.1). The figure below shows that the use of energy has remained relatively flat due to the technological advancement:




The main reason why these predictions were so wrong was the innovation that took place in three key areas. Firstly, the operation and construction of data centres; secondly, the transferral of private data to the cloud; and finally, the design of IT equipment. By analysing each of these areas in more detail it is easier to understand why energy consumption by data centres has managed to remain static despite the data boom.

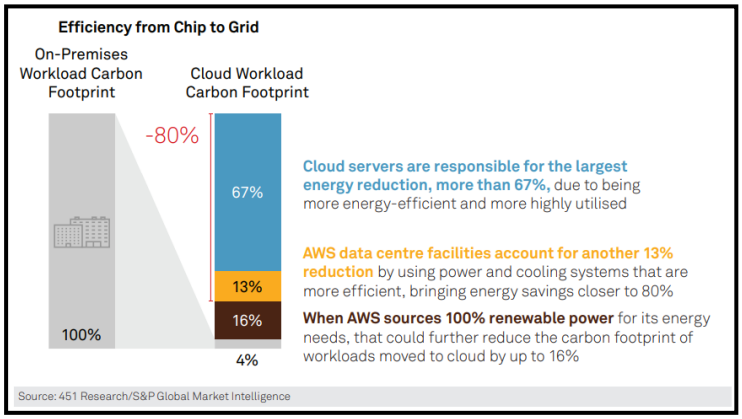
8.2 A key driver of this efficiency is the migration to the cloud. As hyperscale is more sustainable as the cloud has two main benefits regarding sustainability: carbon reductions and energy efficiency.

## Data Centre Efficiency

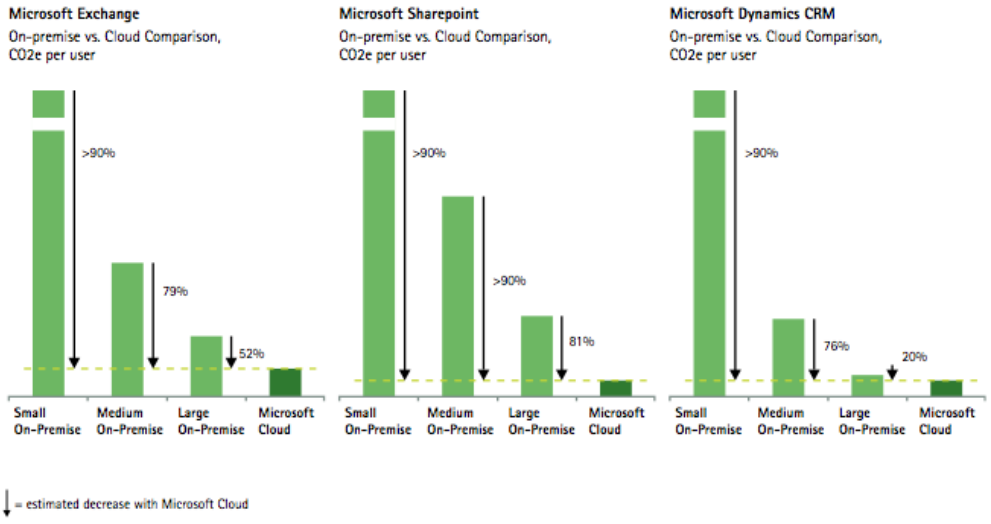
8.3 The results of the analysis shown in the figure below shows a significant decrease in $CO_2$ emissions per user across the board for cloud based versus on-premises. On average typical carbon emission reductions by deployment size are:

1. More than 90 percent reduction in $CO_2$ for small deployments of about 100 users
2. 60 to 90 percent reduction in $CO_2$ for medium-sized deployments of about 1,000 users,

8.4 The cloud advantage is particularly compelling for small deployments, because a dedicated infrastructure for small user counts. However, even large companies serving thousands of users can derive efficiencies from the cloud beyond those typically found in on-premises.



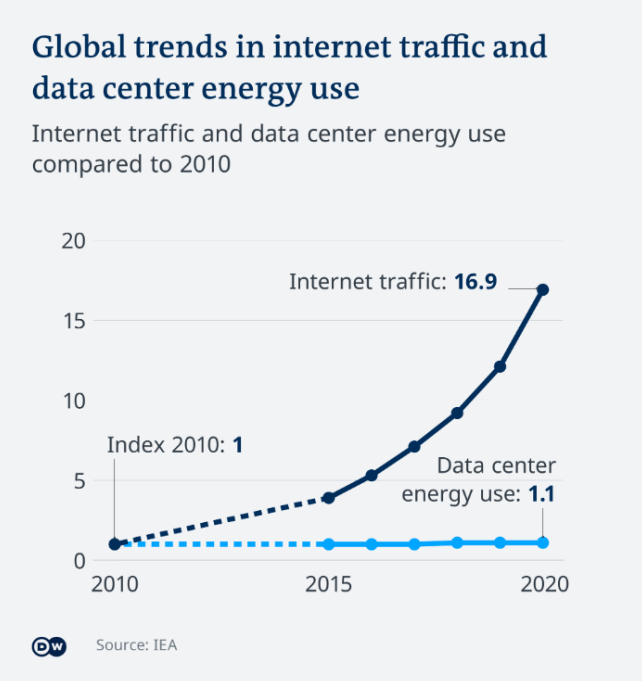

8.5 In 2018, Microsoft published a study called "*The carbon benefits of cloud computing*". Per the study, the results show that the Microsoft Cloud is between 22 and 93 percent more energy efficient than traditional enterprise data centres, depending on the specific comparisons being made. When taking into account renewable energy purchases, the Microsoft Cloud is between 72 and 98 percent more carbon efficient.




## Hyperscale: Energy Efficiency

8.6 Currently there are 7.2 million data centres in the world, according to the German statistics office. The United States has the largest number with 2,670, followed by the UK with 452, Germany with 443 and then China, the Netherlands, Australia, Canada, France and Japan.

8.7 Data centres need electricity to run their equipment and keep the machines cool. Currently, estimations show that data storage and transmission in and from data centres use 1% of global electricity. This share has hardly changed since 2010, even though the number of internet users has doubled, and global internet traffic has increased 15-fold since, according to the International Energy Agency.




Global Trends in Internet Traffic Use and Data Centre Energy Use.

8.8 There is overwhelming evidence to support the fundamental environmental advantages of Cloud computing which have a direct positive benefit to our environment, in particular when compared to current On-Premises or Legacy data centres.

8.9 The statistics below demonstrate that cloud migration will reduce energy consumption and thus cut down $CO_2$ emissions associated with data storage and processing:

1. A study suggests cloud computing can help companies reduce their per-user carbon footprint from 30% (large enterprises) up to 90% (for small businesses).

2. When it comes to the AWS cloud environmental impact, Amazon claims that its cloud computing resources can accomplish the same task with an 88% lower carbon footprint than their traditional counterparts.

3. Based on a study from Microsoft, their cloud is 93% more energy-efficient and 98% more carbon-efficient than an on-premises data centre.

4. Google reported that while the number of cloud data centres increased by 550% in 8 years (from 2010 to 2018), the amount of energy that was consumed during this period grew by as little as 6%.

8.10 Traditionally, On-Premise Data Centres have an extremely low utilization rate, using on average as little as 15% of their capacity.

8.11 Cloud computing has the power to cut the amount of greenhouse gases (GHGs) that are pumped into the atmosphere significantly. Traditional, on-site data centres create a considerable amount of GHGs. If companies switch to cloud computing, these emissions could be considerably reduced.

8.12 In fact, Equinix which runs one of the three data centres used for Prodec Networks' cloud services, operates its facilities so efficiently that it has avoided emitting over 260,000 metric tons of carbon dioxide (CO2) since

2011. Indeed, a recent forecast by market research company International Data Corporation (IDC) showed that the continued adoption of cloud computing could prevent the emission of more than one billion metric tons of $CO_2$ from 2021 to 2024. This would, therefore, be no small contribution to a greener future.

### Higher equipment refresh speed

8.13 Many companies use their on-premises servers for long periods of time and because new technologies are usually more energy-efficient than their predecessors, a faster refresh time reduces electric power consumption in the long run.

### New methods to reduce energy consumption & reduction in e-waste

8.14 Cloud providers use sophisticated cooling equipment with higher energy efficiency rates. Others go even further.

8.15 This is because it enables greater 'dematerialisation', which refers to the replacement of physical equipment with virtual equivalents. As the UK reportedly generated the second most waste electrical and electronic equipment (WEEE) per capita in the world in 2019, this is a pressing environmental issue that urgently needs to be addressed.

### Shift to renewable energy

8.16 All the major cloud service providers are gradually moving to "green" energy sources. For example, AWS is said to exceed 50% renewable energy usage and is now building four new wind farms.

8.17 Microsoft is also powered with green energy by more than 50%. What's more, by 2050, the company is planning to remove all the carbon they've emitted since 1975. Google compensated for all the $CO_2$ they've produced as early as 2007

### Remote working

8.18 Environmental benefit of moving to the cloud is that it enables employees to collaborate remotely. People who work from home don't have to use transport for daily commuting, which translates into saving 3 million tonnes of $CO_2$ emissions a year. Additionally, by replacing air travel with video conferencing tools, you are also minimizing your carbon footprint.

### Awakening to the Benefits of Cloud

8.19 In the near term, cloud adoption for research will be enabled by government and institutional stimuli and initiatives to modernize universities and academic research. For instance, Horizon Europe, the European Union's main research and funding program, will invest around €4 billion in core digital technologies, including cloud computing. It also aims to improve access to cloud. One of the projects it funds, the Open Clouds for Research Environments (OCRE) aims to democratize data-intensive research through ready-to-use service agreements that bring together cloud providers and the research community.

8.20 In the U.K., the government is investing £213 million in universities and research institutes to equip them with state-of-the-art scientific equipment, software, and hardware upgrades, c.2 £34 million is earmarked

for data and digital research infrastructure that offers advanced analytical capability and enhanced capacity to pre-identified research institutions.

8.21 We are ensuring that the growth of the digital economy aligns with net zero by providing £315 million of funding to support sustainable transitions in industry, including in the data centre sector (BEIS).

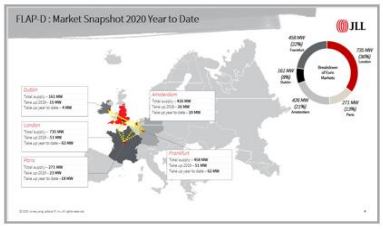
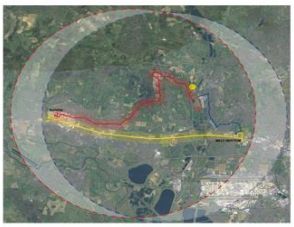
# 9. Why Build a Data Centre Here?

9.1 Site selection and site location for hyperscale and other data centres is influenced by **existing infrastructure**. The cloud is not a virtual environment high in the sky, but it is a physical set of highly connected and resilient data centre buildings. Data centres are arranged in logical clusters, arranged in such a way that they provide 100% availability to our data (this is addressed in detail further down). The proximity of these data centres is driven by physics (speed of light) ensuring they are close enough to function as an interconnected entity.

9.2 The key hubs of Slough and Hayes/West Drayton are historically positioned to take advantage of fibre and power, the two fundamental prerequisites necessary for Data Centre functionality. The existence of these clusters is what makes this available site the ideal, most suitable location for a Green Sustainable Hyperscale Data Centre to meet the mission critical demand today.

9.3 To better understand the current design configuration of Hyperscale Cloud Data Centre, we need to take a step backwards. Traditional (legacy) data centre architecture design concept was based on a single site location. This provided availability of less than 100% and the overall design relied totally on the resilience of the individual components within a single site. Therefore, if the site went down, then availability and access to data was lost.

**Why Here ?**

| Regional | National | Local |
|---|---|---|
| ○ UK is a strategic location west EU<br>○ European Financial super power<br>○ Highly interconnected to FLAPD<br>○ Largely service based economy<br>○ Highly developed economy<br>○ Large skilled workforce<br>○ Globally trading nation<br>○ Brexit ! | ○ London and the southeast engine room<br>○ Existing Data Centre cluster – AZ's & RZ's<br>  ○ Slough<br>  ○ West Drayton<br>  ○ Dock lands (Financial district)<br>○ Power density aligned with CBD & eyeballs<br>○ Connectivity Backbone fibre infrastructure present (Railways)<br>○ Existing & previous critical mass | ○ Proximity to DC Centre of gravity<br>○ Critical Mass – Infrastructure<br>○ Available High Voltage Power - Iver<br>○ Demographic Skills<br>○ Key link in connectivity network<br>○ Sustainable DC development ,<br>○ Negative impact resulting from lack of investment |
|  |  |  |
| **Sustainable** – Power – Fibre – Scale - Location | **Available** – For Sale – not in use - zone | **Sustainable** - Bio Diversity – Green |

9.4 It is important to highlight that traditional data centre were intended to support a specific business and their unique needs. Cloud and Hyperscale Data Centres address and serve a greater need, that of the wider public.

9.5 In order to increase availability, it was necessary to improve the overall availability beyond the individual site to achieve as close to 100% availability to the user which is an absolute necessity for Cloud. This has led to the emergence of a different architecture which requires data centres to become highly resilient and highly interconnected.

## Availability Zone

9.6 The approach to improve resilience and connectivity was the creation of Availability Zones involving at a low-latency network connectivity (low-latency is milliseconds) to provide almost real-time synchronous fail-over protection (if one data centre / virtual machine falls over then a second one drives into default to take up workload without interruption) and in turn guarantee 100% uptime.

9.7 Location is the key consideration when choosing a technology partner for these businesses. A good choice of location means an optimised infrastructure and application environment, capable of delivering a solution to meet the increasing technical challenges. Conversely, poor location can result in unstable connections and efficiency problems, outages, availability, and reliability issues which could seriously damage a business.

## How many data centres are with each zone?

9.8 Typically, there are three data centres within one Availability Zone. This allows for high availability of data and 100% uptime. Each data centre must be equipped with independent power, cooling, and networking to run autonomously.

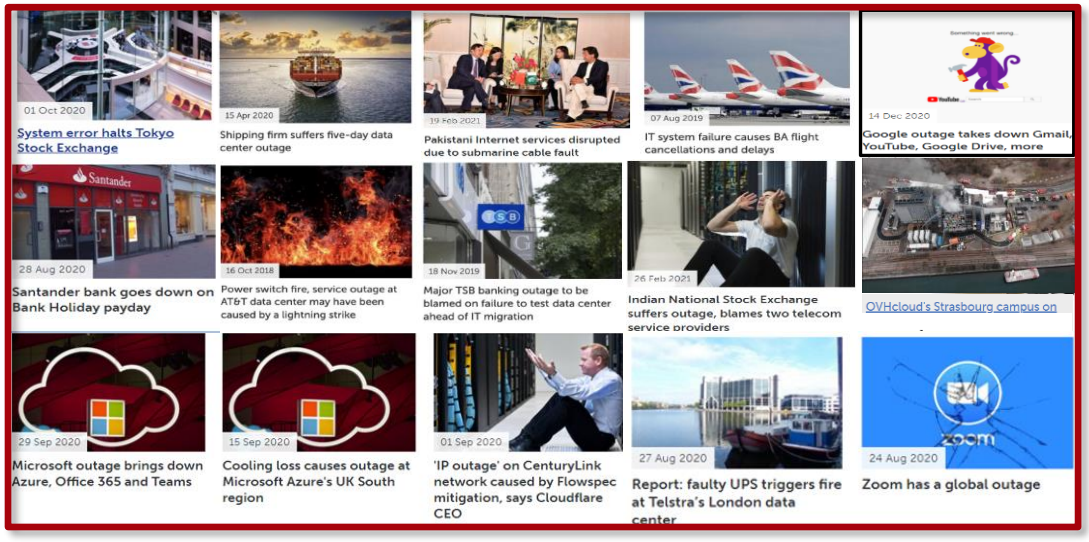
9.9 Increased downtime for cloud communications applications can have potentially devastating consequences, especially in certain industries. For example:

1. Healthcare: Patients can't reach doctors for critical information
2. Education: Students are not able to access lessons remotely
3. Public sector: Citizens can't reach critical government services
4. Financial services: Clients cannot execute their desired trade
5. Retail: When consumers are unable to reach an associate, 46% of shoppers will not buy intended product, 35% will switch to another retailer, 17% will write a negative review

9.10 The current need for businesses and society is to guarantee near 100% availability access to data at all times. For example, 95% availability equates to up to 18 days of downtime annually; this means unavailable to access necessary data. High end enterprise data centres are designed for 99.9% availability, but this equates to upwards of 9 hours annual downtime which in the world of high availability and cloud based Hyperscale would be considered as an "Outage". Today users are demanding sub one minute (between 3 and 31 seconds) per year which equated to six to seven nines of uptime.

| Availability % | Downtime per year[note 1] | Downtime per month | Downtime per week | Downtime per day |
|---|---|---|---|---|
| **90% ("one nine")** | **36.53 days** | **73.05 hours** | **16.80 hours** | **2.40 hours** |
| 95% ("one and a half nines") | 18.26 days | 36.53 hours | 8.40 hours | 1.20 hours |
| 97% | 10.96 days | 21.92 hours | 5.04 hours | 43.20 minutes |
| 98% | 7.31 days | 14.61 hours | 3.36 hours | 28.80 minutes |
| **99% ("two nines")** | **3.65 days** | **7.31 hours** | **1.68 hours** | **14.40 minutes** |
| 99.5% ("two and a half nines") | 1.83 days | 3.65 hours | 50.40 minutes | 7.20 minutes |
| 99.8% | 17.53 hours | 87.66 minutes | 20.16 minutes | 2.88 minutes |
| **99.9% ("three nines")** | **8.77 hours** | **43.83 minutes** | **10.08 minutes** | **1.44 minutes** |
| 99.95% ("three and a half nines") | 4.38 hours | 21.92 minutes | 5.04 minutes | 43.20 seconds |
| **99.99% ("four nines")** | **52.60 minutes** | **4.38 minutes** | **1.01 minutes** | **8.64 seconds** |
| 99.995% ("four and a half nines") | 26.30 minutes | 2.19 minutes | 30.24 seconds | 4.32 seconds |
| **99.999% ("five nines")** | **5.26 minutes** | **26.30 seconds** | **6.05 seconds** | **864.00 milliseconds** |
| **99.9999% ("six nines")** | **31.56 seconds** | **2.63 seconds** | **604.80 milliseconds** | **86.40 milliseconds** |
| **99.99999% ("seven nines")** | **3.16 seconds** | **262.98 milliseconds** | **60.48 milliseconds** | **8.64 milliseconds** |
| **99.999999% ("eight nines")** | **315.58 milliseconds** | **26.30 milliseconds** | **6.05 milliseconds** | **864.00 microseconds** |
| **99.9999999% ("nine nines")** | **31.56 milliseconds** | **2.63 milliseconds** | **604.80 microseconds** | **86.40 microseconds** |

*Service Level Agreements guarantee the availability of cloud applications. Lower guarantees can lead to more downtime.*




## Availability Zones

9.11 Failures can range from software and hardware failures to events such as earthquakes, floods, and fires. Tolerance to failures is achieved because of redundancy and logical isolation of services. To ensure

resiliency, a minimum of three separate availability zones are present in all availability zone-enabled regions.

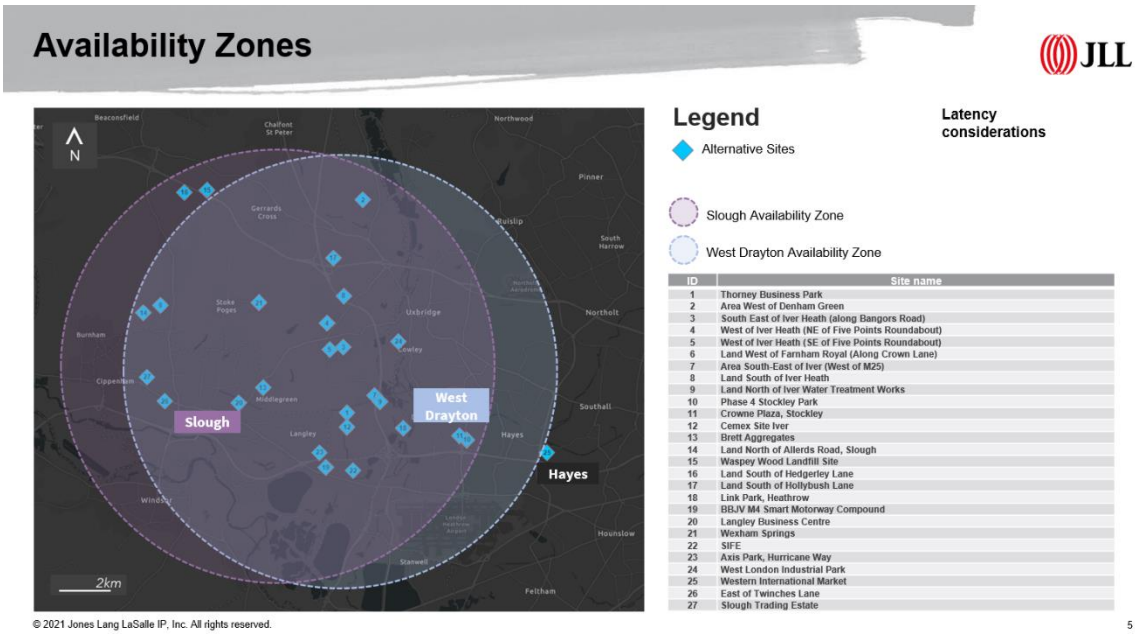
9.12 Availability zones are connected by a high-performance network with a round-trip latency of less than 2ms. They help data stay synchronized and accessible when things go wrong. Each zone is composed of one or more data centres equipped with independent power, cooling, and networking infrastructure. Availability Zones are designed so that if one zone is affected, regional services, capacity, and high availability are supported by the remaining two zones.

9.13 Data centre locations are selected by using rigorous vulnerability risk assessment criteria. This process identifies all significant data centre-specific risks and considers shared risks between availability zones.

9.14 With Availability Zones, you can design and operate applications and databases that automatically transition between zones without interruption. Availability Zones are highly available, fault tolerant, and more scalable than traditional single or multiple data centre infrastructures.

9.15 The selected site at West London Technology Park is ideally situated within the seamless proximity to the existing world class data centre clusters of Slough and Hays/ West Drayton and the substation at Iver makes this site an appropriate location for a Data Centre.

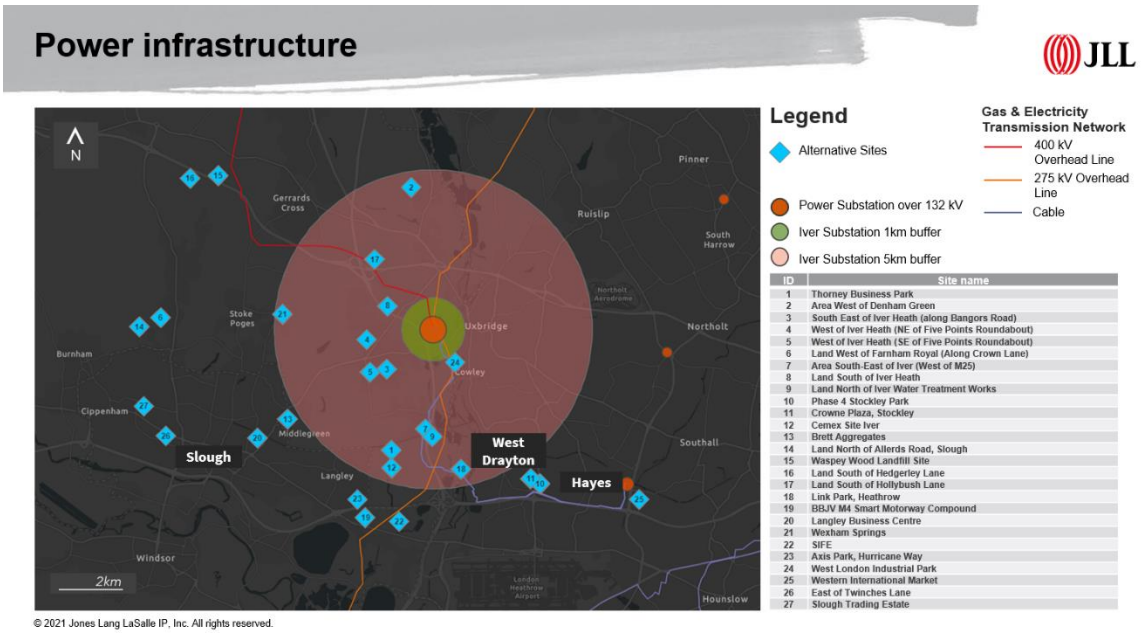
9.16 As discussed in this report, Data Centres exist within Availability Zones to ensure near 100% uptime. In London, there are three established locations. These are Slough, Hayes and London Docklands. This map highlights the Hayes and Slough/West Drayton availability zones which have the greatest number of data centres in the UK and where there is a very significant need to address the continuing demand for increased processing capacity.




9.17 Each of these Availability Zones has the existing necessary infrastructure that enables the efficient development of data centres with interconnectivity to other sites. It is this high speed (zonal configuration) interconnectivity that provides the 100% Availability and integrity of data.

9.18 Data Centres need to coexist within a defined set of physical and technological parameters and therefore, sites which sit in both the Hayes and Slough/West Drayton Availability Zones are best suited to meet the minimum functionality requirements. Data Centres which are located beyond these zones will fail to meet the minimum latency requirement necessary to provide near 100% accessibility to user data.

9.19 Data transfer rate between sites is also a critical consideration, although data travels at the speed of light through a straight piece of glass, the internet does not operate at the speed of light. Therefore, there are limitations to the maximum distance between the different sites (physical / Fibre & Optical distance) is important to avoid problematic latency.




9.20 Furthermore, not only does a site need to meet the physical and geographical parameters for functionality, but also must have access to adequate power. The majority of the grid transports power at 400KV or 275KV. A Data Centre facility typically requires power at 132KV, an output typically only available from a limited number of Grid Supply Point substations in specific locations. One such substation is in Iver and is highlighted in the above map.

9.21 The Iver substation provides the only viable source of power usable by a Data Centre within the relevant Availability Zones. The above map shows the power coverage of the Iver substation, the gas and electricity transmission networks and the land sites that would fall within their reach.

9.22 The closer a site is to these, the greater the security of supply, the lower the environmental impact and the lower the number of agreements required with third party landowners for cable easements. The availability of power today should increase the suitability and priority of this site as an ideal data centre today.

## Slough Availability Zone

9.23 A fundamental inalienable factor is the existing data centre critical mass, with the top two primary Data Centre clusters in Slough and West Drayton being within 20km of Iver. This is the historic location of choice for Data Centre investment and location, and this is not going to change. The critical infrastructure, namely power and metropolitan network (back bone) is situated towards the M4 corridor providing a link-route

between London – Data Central – and the International subsea cable landing stations on the west coast of America.

9.24 As with all key national infrastructure (Road, Rail, Airports, Population, River, Port) Data Centres are strategically located in this area. Hence the attraction of this area for digital investment which is underpinning the countries future economic growth. Without this infrastructure at this strategic location the economy will struggle to prosper.

9.25 Considering the pre-requisites for Hyperscale development to take place (Power, Fibre, Proximity, Land) it's clear that Iver is the best location, and this particular site has power available immediately, the proposed development at West London Technology Park offers the opportunity to deliver hyperscale data centre in the immediate term.

9.26 The market demand is live and active today, hyperscale data centre operators who are willing to negotiate commercial terms to acquire the site upon the grant of planning permission to satisfy this Availability Zone.

9.27 It is imperative in the UK national interest that land is made available in the right locations to meet the needs, demands and requirements of the market as this is the location at which the market interest is directed. Without making the right choice it will be difficult to sustain the minimum economic growth the area requires.

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**Town & Country Planning Act 1990 (as amended)**
**Planning and Compulsory Purchase Act 2004**

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