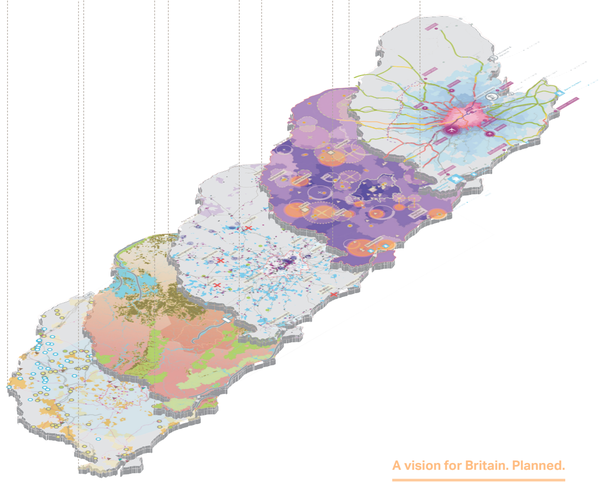
LONDON & THE WIDER SOUTH EAST TOWARDS A SPATIAL BLUEPRINT



A vision for Britain. Planned.

AECOM Imagine it. Delivered.

ONE POWERHOUSE

RSA

One Powerhouse Consortium.

A Vision for Britain. Planned.

The One Powerhouse Consortium, supported by The Sir Hugh and Lady Ruby Sykes Charitable Trust, believes that a substantial part of the problem of regional inequality in the UK can be solved not just by money, but by the transformative potential of spatial planning.

Spatial planning is the 'where' of decisions. It looks at a defined geographical area and makes an assessment of everything contained in that area – towns, cities, housing, schools, universities, roads, rails, airports, offices, factories, hospitals, energy sources, museums, parks and leisure activities - and makes a plan to develop those assets for the benefit of the people who live in that region, now and for the future.

It is well understood that countries and regions around the world have used spatial planning to focus political will, economic activity and social reform to great effect. Notable examples include Germany's Rhine/Ruhr, Holland's Randstad and New York City's Regional Plan Association.

The Value of Place and Scale

There is evidence that spatial planning has already begun to deliver results in the UK. We are not alone in recognising that the two 'regional economies' that have the highest levels of productivity are those where there are coherent regional economic plans: London and Scotland.

Indeed, in England, there is good work taking place through some Local Enterprise Partnerships (LEPs) and Combined Authorities and Mayoralties but not all. In strategic planning and investment terms, these tend to be rather small and the outcome is rather patchwork.

Our Plan

The clear 'gap' in terms of economic planning in the UK, therefore, is at the level of the English regions. Any spatial strategy needs to bring together the best local industrial strategies and plans within a wider regional strategy framework. The foundations of how this can be achieved are already present. The regions of England are already agglomerating: The Northern Powerhouse, The Midlands Engine, The Great South West and The Wider South East all exist as functional identities.

Our ambition is, in short, to work with these regional networks to prepare a series of draft spatial plans that will better enable decision-making and prioritization of investment across the country and thus help the UK as a whole develop over the long term – creating opportunity for all, jobs for all and prosperity for all.

We are also delighted to be supported on the technical side by some of Britain's most respected planning consultancies: Atkins in the North, Barton Willmore in the Midlands and the South West and AECOM in the South East.

Together, we hope to show how well thought out, long term spatial planning can start as words and diagrams on a page and end up changing lives for the better – wherever in the UK those lives are lived.

AECOM are a global network of experts working with clients, communities and colleagues to develop and implement innovative solutions to the world's most complex challenges. We connect expertise across services, markets, and geographies to deliver transformative outcomes. Worldwide, we design, build, finance, operate and manage projects and programs that unlock opportunities, protect our environment and improve people's lives.

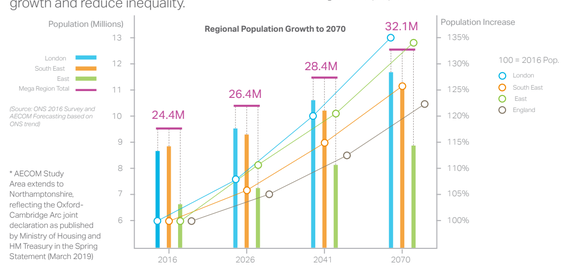
AECOM Spatial Planning.

Supporting the ambition of the One Powerhouse Consortium, AECOM's approach to regional spatial planning for London, South East and East of England (South East Mega Region*) builds on our city and regional planning expertise, and ***London 2065*** thought leadership of the long-term challenges facing the London 'City Region'.

As an **integrated multi-disciplinary consultancy**, AECOM draws upon the work of technical leads in spatial planning, economics, transport, utility infrastructure, environmental resilience and data analytics. This integrated approach allows for a holistic understanding of the region, by assessing the interrelationships between themes and providing an evidence base for future spatial planning.

This pamphlet is the first stage in the development of a 'blueprint' for the South East Mega Region, which outlines the high level assets, challenges and opportunities.

The next stage of work will develop a vision that outlines the potential of spatial planning across this region. It is intended to stimulate debate and illustrate how a future regional or national spatial plan could support infrastructure decision-making, create balanced economic growth and reduce inequality.



* AECOM Study Area extends to Northamptonshire, reflecting the Oxford-Cambridge Arc joint declaration as published by Ministry of Housing and HM Treasury in the Spring Statement (March 2019)

Mega Region Context.

London is the Mega Region's obvious nucleus - as one of only two Alpha++ cities in the world - its sole rival is New York when it comes to integration with and influence on the world economy. **London is a global economic superpower**, with more head offices of banks than any other city in the world. Greater London's economy would be the 8th largest in Europe, if it were a country.

London's Central Activities Zone (CAZ), is one of the most competitive business locations in the world, generating almost 10% of the UK's output. It is characterised by a diverse mix of functions and places, and is fundamental to the economy of both the Mega Region and the UK.

Regional dynamics pull heavily towards London. In 2016, London accounted for 27% of England's GVA, with the entire Mega Region contributing nearly 50%, despite only representing 30% of the total land area.

Population

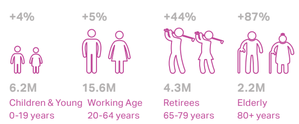
In 2016, the population of the Mega Region was 24M. ONS estimates that by 2026 the population of Greater London will increase by 9%, the East by 7% and the South East by 6%, to just over 26M people, which will be 45% of England's population.

Looking to 2070, AECOM anticipate that if current regional growth were to continue, the Mega Region's **population could increase to 32M**. London could grow by over 2.3M people, while the South East and East of England could grow by over 1.7M and 1.5M people, respectively.

This scale of population growth means we need to build homes, create employment opportunities and deliver infrastructure for more than **150,000 people every year, for the next 50 years**.

Meanwhile, the **UK population is aging**, with an increasing dependency ratio. Within the Mega Region, this is particularly acute in the East of England and along the south coast. The Mega Region will need to cater to the demands of an ageing population with transformed community and social infrastructure.

At the other end of the spectrum, **young and working age citizens are more mobile** and blending work and social life, however, this new generation is increasingly excluded from home ownership by housing supply and affordability constraints in the property market. London, in particular, home prices are 15 times the average salary and rental levels consume 40% of average earnings.



Population Change 2016 - 2041 & Total by Age Group 2041,ONS

Regional Blueprint.

The Mega Region will be subject to significant growth over the next 50 years, however social, transport and utility Infrastructure is at capacity, with cities and regions struggling to accommodate escalating demand.

Across the Mega Region, the planning process is the responsibility of 154 authorities, working alongside 13 Local Enterprise Partnerships (LEPs), Greater London Authority (GLA), Cambridgeshire Combined Authority, transport agencies, and utility providers. Yet, there is **no forum empowered to align the complex relationships** that exist to plan strategically across the region - or interface with other UK Mega Regions.

There is a need to adopt a more progressive and pragmatic approach to planning for housing, services and infrastructure delivery. While ensuring planmaking is better aligned with wider economic objectives, such as productivity; which is rarely considered.

Together, London, South East and East of England form a highly-connected economic region, in which their future development and resilience is part of the same debate. AECOM have identified a series of challenges that, ultimately, represent opportunities across the South East Mega Region, and set the context for a **national conversation about the benefits of regional spatial planning**, to optimise the potential of the UK.

Prosperity & Innovation.

Clusters

The Mega Region contains a number of nationally significant clusters that drive the economy. London's CAZ and the North of the Isle of Dogs are dominated by professional, scientific & technical services, finance & insurance, and information & communication sectors. The Mega Region also contains a number of industrial sectors that are key for future development, including life sciences, advanced manufacturing, creative, agri-tech and energy. These sectors have **potential for growth to 2070, and for cross-fertilisation**.

The region's leading economic clusters are often associated with universities that provide vital R&D facilities, as well as a highly skilled labour force. Supported by some of the most highly-rated universities in the world, the 'golden triangle' life science clusters in Cambridge, London and Oxford are among the most productive in Europe and internationally.

Productivity Challenge

The Mega Region is the most productive area in the UK, although this has been growing at a slower rate than global counterparts. According to the Cisco UK Productivity Index, Greater London contains 15 of the 20 strongest performing local authorities. However, there is significant sub regional disparity. The East of England lags behind the national average, while the South East performs better but experiences disparities between local authorities in the north and west of the region outperforming areas in Kent and rural Sussex. A regional plan must recognise these disparities and **align planmaking with emerging Local Industrial Strategies** to restore productivity growth.

Access to Skilled Labour

Access to a labour force with adequate skills is a growing concern, particularly for high value sectors (advanced manufacturing, life sciences and finance). Constrained housing supply in London, Cambridge and Oxford is contributing to a high cost of living and making it **difficult to attract and retain the best talent**, particularly overseas workers which complement skill shortages in key sectors. As a result, the Mega Region is facing growing competition from overseas locations that compete to attract highly-skilled and globally-mobile workers.

Fourth Industrial Revolution

The 'fourth industrial revolution' is defined by new disruptive technologies (i.e. artificial intelligence), in which **advances will affect all aspects of urban life**, with complex implications for the economy, environment, lifestyles and spatial distribution of economic activity. Whilst the 'fourth industrial revolution' is likely to improve productivity, demand for labour within the Mega Region is expected to decline. Manufacturing, transport, construction, and administrative sectors are likely to see the greatest job losses, as a result of automation.

Placemaking.

Inequality

While the disparity between UK Mega Regions is often highlighted, the inequalities within the South East Mega Region are significant.

Deprivation in the Mega Region is often hidden by its comparative prosperity. Over half of England's least-deprived areas are in the Mega Region. However, the Mega Region is also home to nearly **one in five of the 10% most deprived areas in England**.

Mapping the 10% most deprived communities, presents clusters of deprivation in the coastal regions of Hampshire, Sussex, Thames Estuary, Norfolk and Suffolk. Equally, older industrial towns, such as Northampton, Peterborough, Corby, Kettering, Wellingborough, and Ipswich are all areas of greater relative deprivation.

Equally, the view of London as the centre of wealth, masks significant inequality. London is the location of the eight most deprived Local Authorities in the region, with East London Local Authorities of Hackney, Newham, and Tower Hamlets are the most deprived.

Investment

While London has significant pockets of deprivation, the coastal communities and the industrial areas in the north of the Mega Region are being left behind. Looking at this in relationship to planned housing, these communities are generating lower levels of growth in comparison to London, the Oxford-Cambridge Arc and transport corridors into London. As investment is increasingly aligned to housing delivery, this may have the compounded effect that the more deprived areas at the **periphery of the region are less likely to receive investment**, which compounds the issues they face.

The 2013 National Infrastructure Plan identified London as the recipient of 40% of England's total spend on regional projects. However this level of spend is not reflected in other parts of the Mega Region or across the country. Professor Cecilia Wong, in an article published for UK2070, highlights infrastructure investment focusing on London. On a per capita basis, investment in London is equivalent to over £4,000 per person, while the South East and East of England receive approximately £1,000pp. This contrasts with the East Midlands and North East, which receive less than £600 and £900 pp.

A regional spatial framework within the Mega Region would support coordinated investment in infrastructure and services that support new and existing communities.

Housing Delivery

AECOM research identified across the Mega Region an aggregate demand and supply deficit of over 300,000 dwellings (2015). This has increased as the region continues to not meet housing targets. If this trend continues, this could result in a shortfall of over 1 million homes by 2036. While Local and Central Government have looked to increase delivery through Garden Community initiatives, accelerated delivery and sub regional planning in Oxford-Cambridge Arc and Thames Estuary, there is a **need to look strategically to resolve the issue of housing delivery**.

The Mega Region has many common economic, functional and cultural relationships. The region is set to grow by 150,000 people per annum, while 1.2m people commute in both directions between London and the South East. This requires an integrated approach to regional spatial planning to better align housing growth with infrastructure and not rely on this growth to be managed within individual towns or local authority areas.

Resilience.

Green Infrastructure

Across the South East Mega Region the aggregate provision of green space exceeds minimum standards, with the region having the highest proportion of protected designations within the UK. However, access is not uniform and nearly 400,000 people lack adequate accessibility to open space, while London, in particular, is far below the minimum standard with 21m^2 per person.

The Government's recent 25-year Environment Plan (May 2019) commits to an approach whereby green space and green infrastructure will become increasingly tied to new development. This presents an opportunity to capitalise on population growth, to **develop innovative mechanisms that deliver green infrastructure as 'net gain'**. Conversely, this does not address the shortfall in parts of the region or improve access, or explicitly look to the strategic green infrastructure required to support climate change adaptation.

Redefining the Green Belt

Across the Mega Region, there are Green Belts surrounding Oxford, Cambridge and Metropolitan Green Belt around London. While Green Belts provide value – in containing urban sprawl, public access to green space, mitigation of the urban heat island and better air quality – the **rigidity with which this planning policy is enforced may not provide the best outcomes** for the environment or development.

Green space in urban areas can often be more biodiverse than the Green Belt, however, strict adherence to policy can place urban green spaces – which are often more accessible - at greater risk to development. Green Belt can lead to development leapfrogging, which results in disconnected and high-density developments beyond the urban periphery. This can result in longer commutes, due to a lack of coordinated planning of housing and transport infrastructure. Arguably, this approach to Green Belt protection inflates property values – reinforcing the affordability challenge in the South East Mega Region.

The opportunity exists to refresh and redefine the Green Belt to align with principles of sustainable development. AECOM research has identified over 63,000 hectares of developable land within one mile of existing rail stations in the Green Belt (outside otherwise protected areas or flood zone). In theory, these areas could accommodate more than 2.5 million homes, while leaving 88% of the Green Belt untouched. A strategic review of the region's Green Belt could consider which is of most value and allow for greater flexibility and functional use, while improving social and environmental value.

Climate Change

Climate change poses a challenge to both the natural and built environment. The 2018 UK Climate Projections indicate that under all climate scenarios, the Mega Region will get hotter, with drier summers and warmer, wetter winters with increased frequency and intensity of rainfall events, and rising sea levels, which will put the coastal regions at greater risk.

If these hazards are unavoidable, **planning needs to anticipate impacts** to make the region more resilient, incorporating mitigation measures and spatial development options that better manage climate change, in order to avoid lock-in and stranded assets. The interdependencies between the natural and built environment can result in climate change acting as a multiplier of risk.

Linked to climate change, the Mega Region is one of the most water-stressed regions in England. Climate change will further stress supplies as hydrological conditions change, while population and economic growth will place more assets at risk from climate hazards. Climate change consideration must therefore be incorporated into spatial plans and development policy to accommodate current risks and mitigate future ones.

Infrastructure.

Water Stress

Water stress is a major challenge in the Mega Region. Intensification of development, new settlements and economic growth will add to demand for new abstractions, which are already limited to short periods of the year. Innovative, large-scale solutions are required to accommodate growth. This will include water use reduction and reuse strategies but will also include large-scale water transfers from other areas of the UK and the likelihood for significant new investment in reservoirs and water treatment facilities within the Mega Region.

Infrastructure Delivery

There is a need for a long-term approach to utility planning that is integrated with housing growth as no one part of the Mega Region can be self-sufficient. Utility planning is currently approached on a reactive basis to development. While all utility companies set out long-term strategies to issues such as climate change, provision is approached on a short term basis, because **current regulation discourages investment ahead of need**.

Digital

Access to new forms of communication will be critical for communities and businesses to not be left behind. 5G and full-fibre will give new freedoms to how people live and work – affecting the spatial distribution of growth. Ensuring all places have equitable access to these technologies is crucial, particularly the left-behind locations, as a key economic driver – with Government intervening in their implementation. A regional spatial plan would support the **implementation of a digital strategy** that ensures both new and existing communities have access to new technologies and ensure equal opportunity.

Connectivity.

Investment

Transport infrastructure in the Mega Region is **heavily influenced by London**, with national and international strategic rail and road networks radiating from the capital. These connections enhance trip gravity in the Mega Region towards London, which have contributed to its economic growth.

However, London is considered to be the most congested city in Europe, with the worst traffic hotspot along the western section of the M25. By 2043, rail capacity in the approach to London will be a significant constraint, but future infrastructure such as Crossrail 1, HS2 and the proposed Crossrail 2 are expected to ease some of these issues.

London has traditionally received greater infrastructure investment than the rest of the UK. However, **infrastructure in the wider South East Mega Region and nationally has not kept pace with growth**. The implication of this lack of investment, combined with peripheral urban growth has been heavily car reliant communities.

Within the Mega Region, areas to the north, for example, have limited east-west connectivity. There is now a growing trend to resolve this issue, with the area between Oxford, Milton Keynes and Cambridge expected to benefit with better connections from East-West rail and an expressway, together with the strategic improvements to the A14 towards the Port of Felixstowe, the UK's busiest container port.

International Significance

The Mega Region provides multiple **international gateways that connect with the rest of the world** via air, ports, train and road. London's six airports account for 61% of all UK airport capacity (terminating passenger flows), with Heathrow accounting for over a quarter of the share (80 million passengers). However, expansion of air capacity in the South East, particularly at Heathrow, is controversial. On one hand, the third runway project enables regional and national growth that maximises the 'value' of the UK's hub airport. On the other hand, expansion also means complex mitigations to manage local air quality, congestion and strategies to promote balanced economic growth across the UK.

The significant share of movement in the Mega Region is further exemplified by ports. Four of the UK's top ten major ports are located in the region and account for a third of total UK freight arriving/departing. In addition, train and road travel to France and Continental Europe begins in London and travel via Channel Tunnel.

What's next:
This prototype will be developed further over the coming months. Using this prototype and the equivalents for the South West/Midlands/North, the One Powerhouse Consortium and the RSA will create joined-up plans. All these documents will be released by the end of 2019.

How to contact OPC:
If you are interested in this project, please get in touch with us at: info@onepowerhouseconsortium.co.uk

Acknowledgements:
Thank you to the Sir Hugh and Lady Sykes Foundation for funding this project and to the One Powerhouse Consortium, the RSA and UK2070 Commission for their ongoing assistance.

AECOM:
For more information about **AECOM's** approach to integrated spatial planning, or our vision for the future of the London City Region, South East Mega Region and the UK more widely, please contact:

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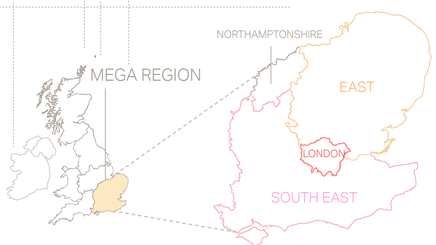
LONDON & THE WIDER SOUTH EAST TOWARDS A SPATIAL BLUEPRINT



AECOM has developed a series of **evidence-based maps** that illustrate the **challenges** and **opportunities** facing the South East Mega Region. The key messages arising from this are:

1. **Strong radial corridors** from London towards the North and North West - these corridors link to where the greatest levels of housing growth is planned, existing economic assets and clusters and utility infrastructure (digital connectivity)
2. **Economic clustering** is linked to major university cities and environmental conditions (i.e. agri-tech aligned to Grade I & II agricultural land)
3. **Climate Change** poses a significant challenge to the entire region, however, London and the west are predicted to warm the most
4. **Potential opportunity for growth** to the north east and to the south east of the Mega Region that could capitalise on existing transport capacity to unlock latent economic potential. However, significant environmental constraints and the coastal areas are relatively isolated

AECOM's **integrated approach** to regional scale planning is the first step in the development of a blueprint for a spatial plan and vision for the South East Mega Region that will set out and address its major challenges.

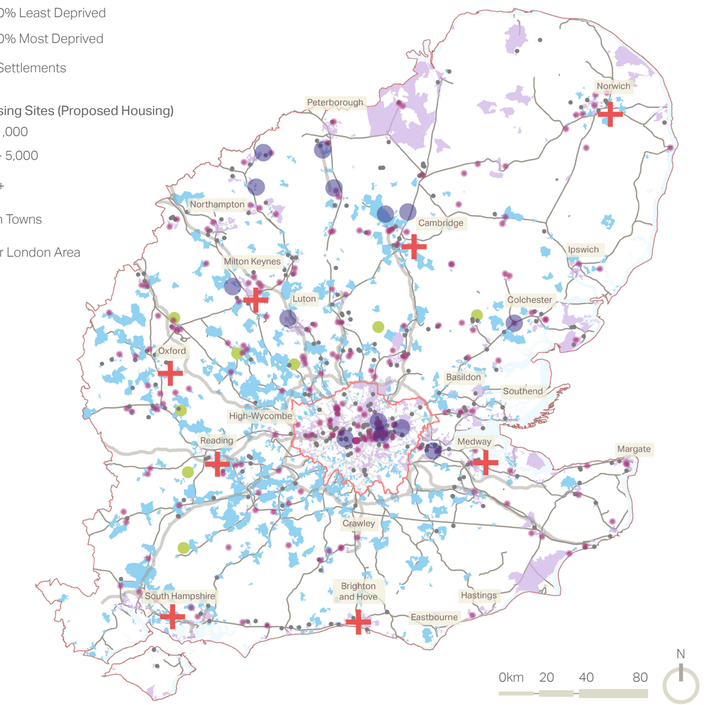
PLACEMAKING

Key

- Motorways
- Rail lines
- IMD: 10% Least Deprived
- IMD: 10% Most Deprived
- Major Settlements

Strategic Housing Sites (Proposed Housing)

- 500 - 1,000
- 1,000 - 5,000
- 5,000 +
- Garden Towns
- Greater London Area



CONNECTIVITY

Key

- Motorways
- Rail lines
- Interchange stations
- East West Rail
- OxCam Expressway
- HS2
- HS1 & Channel Tunnel
- Crossrail 1
- Crossrail 2 (proposed)

Airports (Passengers per year)

- 500k - 1.5M
- 1.5 - 20M
- 46M - 78M

Ports (Passengers per year)

- 500 - 3,000
- 3,000 - 25,000
- 30,000+

Freight Ports (Tonnes per year)

- 2M
- 25M
- 50M+

London Inbound Commute
as % of MSOA

5% – 60%

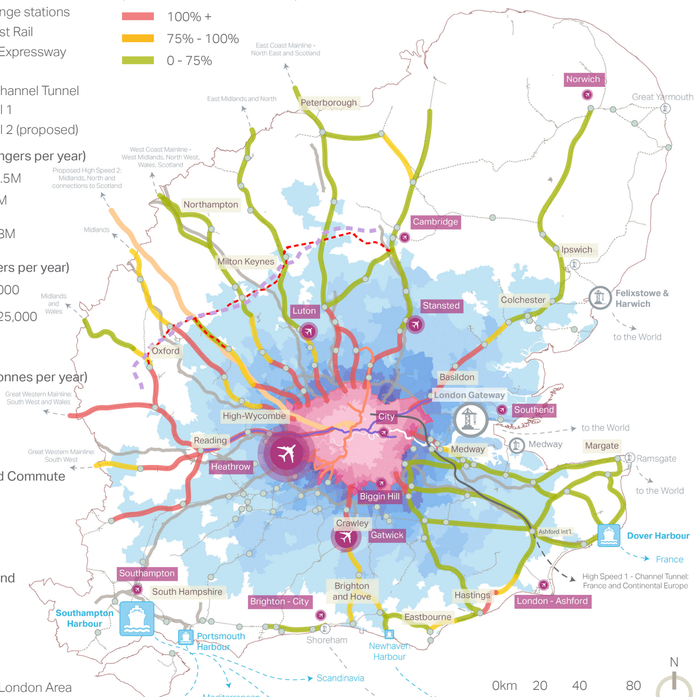
London Outbound Commute

5% – 60%

Greater London Area

Rail Capacity: 2043
(Where information is available)

- 100% +
- 75% - 100%
- 0 - 75%



PROSPERITY + INNOVATION

Key

- Universities
- Major Global Universities
- Local Enterprise Zone

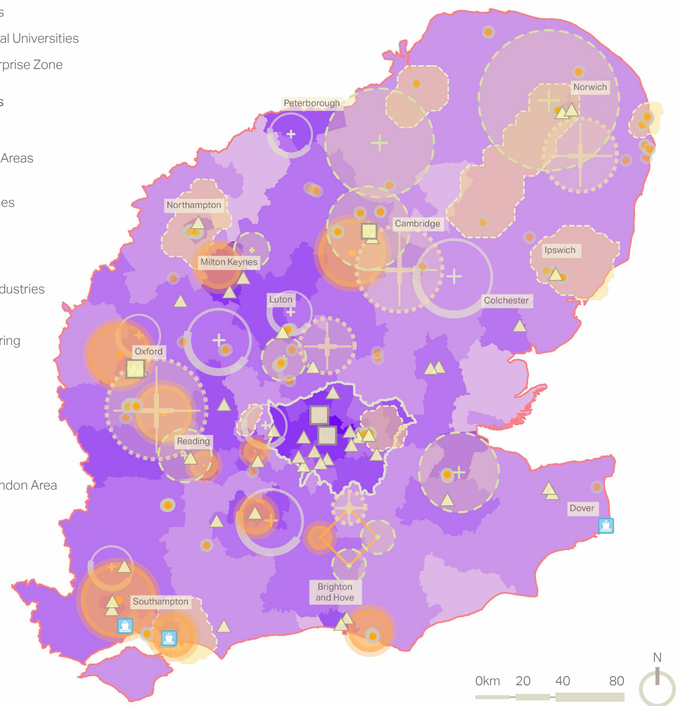
Economic Clusters
Size reflects scale

- Innovation Areas
- Life Sciences
- Agri-tech
- Creative Industries
- Advanced Manufacturing

GVA per region
As % of UK total

0.1% – 3.4%

Greater London Area



INFRASTRUCTURE

Key

- Gas Pipes
- Gas Sites
- Liquefied Natural Gas Facilities
- National Grid
- Substations

Renewables

- Solar
- On-shore Wind
- Biomass
- Off-shore Wind

Fossil Fuels

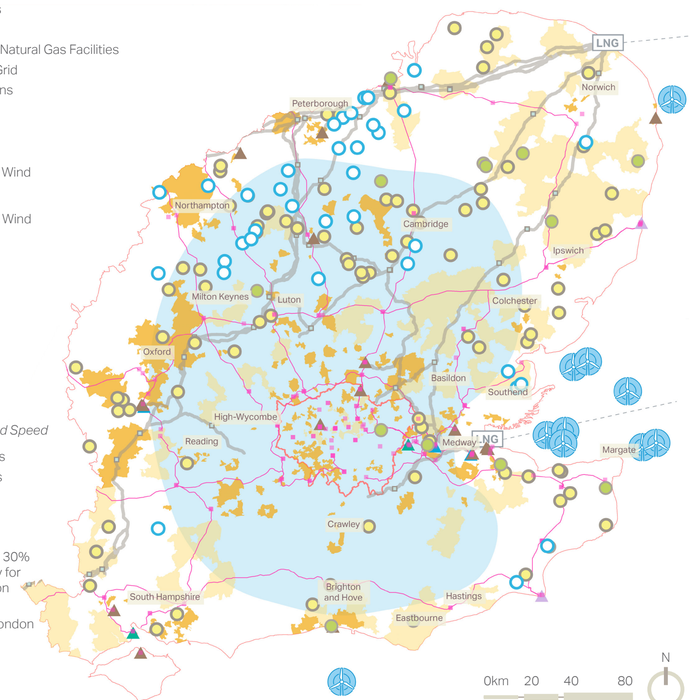
- Gas
- Oil
- Coal
- Nuclear

Broadband
Average Download Speed

- > 60 Mbps
- <20 Mbps

Indicative Water Stress Region

- Less than 30% availability for abstraction
- Greater London Area



RESILIENCE

Key

- Major Flood Defence Projects
- Thames Barrier
- Natural Flood Zone 3

Natural Assets

- High Quality Agricultural Land
- Area of Outstanding Natural Beauty
- National Parks

Climate change
*Mean Summer Temperature projected increase to 2079 using year 2000 baseline**

2 °C – 8 °C

Greater London Area

*adapted from Met Office (BEIS and DEFRA) Scenario/Projection 02491