Building to Grow

An East Midlands Infrastructure Perspective

East Midlands Infrastructure Partnership

Second Edition: November 2026

East Midlands Councils

ice Institution of Civil Engineers East Midlands

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Executive Summary

Since the launch of this report in March 2025, several policy changes and the election of a new Prime Minister have led to the East Midlands Infrastructure Partnership (EMIP) updating its analysis of infrastructure programmes impacting the region, together with the growing need to invest in infrastructure to deliver growth.

The East Midlands is a region with 5.1m people and 403,000 businesses[1]. Total regional output in 2023 (as measured by GDP) was £157bn, equivalent to 5.8% of the UK economy. GDP in the East Midlands has been growing at or around the UK average for much of the last 20 years, but productivity per worker is below the UK average and has been declining[2].

The population in the East Midlands has been growing rapidly - at the same rate as London and faster than the South East and the West Midlands[3]. The East Midlands has therefore been growing its economy by growing its population; not by becoming more productive.

All sectors covered by the Government's definition of economic infrastructure are important to the East Midlands. However, the following are of particular importance to increasing productivity, delivering growth and supporting the national transition to net-zero:

- **Transport**: The East Midlands is heavily car dependant and has the lowest level of spend per head on transport of any UK region/nation, undermining regional productivity[4].
- **Flood Risk Management**: The East Midlands has the largest number (and highest proportion of) properties at risk of fluvial and coastal flooding[5], as well as much of the nation's Grade 1 agricultural land.
- **Energy Supply**: The East Midlands powered the nation's electricity grid in the 20th century and is exceptionally well-placed to lead the transition to net zero[6].
- **Water Supply and Quality**: Rapid housing and population growth along with the impacts of climate change will require significant investment in water resources and treatment[7].

The challenge of delivering the infrastructure the region needs is increasingly about delivery systems, procurement, capability, commercial models and certainty of pipeline.

Pipeline visibility can help address supply chain capacity, efficiency and skills shortages. Construction is the third largest employer in the East Midlands. Without the certainty of a reliable pipeline, the

[1] Regional and National Economic Indicators - House of Commons Library (parliament.uk)
[2] ONS domestic-product-by-uk-country-and-region
[3] Population and household estimates, England and Wales - Office for National Statistics (ons.gov.uk)
[4] Public Expenditure Statistical Analyses 2026 – CP 1624
[5] National assessment of flood and coastal erosion risk in England 2024 - GOV.UK
[6] Beyond 2030 | National Energy System Operator
[7] A summary of England's revised draft regional and water resources management plans - GOV.UK

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construction sector faces higher costs, lower productivity, reduced investment, less innovation and lower competition.

Based on our analysis, EMIP makes five strategic recommendations for change:

1. **Better Integration:** NISTA should continue to build on work such as its infrastructure pipeline and spatial tool to better bring sectors together to holistically and strategically manage regional infrastructure as a system, to identify potential bottlenecks, reduce harmful emissions, optimise performance and plan for future needs.
2. **Regional Granularity**: Improved regional granularity is needed within the 10-Year National Infrastructure Strategy and pipeline, so that demand can be anticipated, supply chains can build capacity, and the higher education and skills sector can plan the courses needed to train young people.
3. **A Focus on Existing Assets**: The maintenance, resilience and adaptability of existing assets should have greater priority in infrastructure spending programmes, nationally and locally.
4. **Improved Communication and Engagement**: Better, meaningful communication with the public and local politicians is needed to demonstrate the benefit of nationally significant infrastructure projects, and to transparently address local concerns.
5. **Deliverability and Market Capacity**: NISTA, government departments, local authorities and delivery bodies should provide a stable, visible and investable pipeline of infrastructure projects to provide regional construction employers with increased certainty to inform long-term investment in workforce and supply chain capability.

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1. Introduction

About East Midlands Infrastructure Partnership (EMIP)

1.1 EMIP brings together East Midlands Councils, which is the region's representative body for local government, and the Institution of Civil Engineers (ICE) in the East Midlands, as well as other sector specific stakeholders.

1.2 The principal purpose of the partnership is to provide informed, strategic and objective advice on behalf of the East Midlands in respect of the critical infrastructure that underpins communities and services. EMIP facilitates discussion and debate, brings together evidence and analysis and makes representations to government and national bodies as necessary.

The Institutional Landscape of the East Midlands

1.3 Currently there are 39 local authorities in the East Midlands:

- 6 Unitary Authorities
- 4 County Councils
- 29 Districts & Boroughs

1.4 In addition, the East Midlands Combined County Authority covering Derbyshire and Nottinghamshire was established in May 2024, and the Greater Lincolnshire Combined County Authority established in May 2025.

1.5 The December 2024 English Devolution White Paper[8] sets out the Government's intention to extend the mayoral combined authority model throughout the rest of the country by the end of the Parliament. The White Paper also set out a process for replacing two tier local government with unitary authorities. In July 2026 it was announced that local government in the East Midlands would comprise just ten unitary authorities by April 2028 – two for each county area. Derby, Leicester, Lincoln and Nottingham would have substantially extended boundaries better reflecting the physical extent of each city and providing opportunities for growth. North & West Northamptonshire Councils will remain unchanged. In August 2026 it was announced that these decisions would be reviewed, and any implementation is likely to be delayed as a result.

The role of NISTA

1.6 NISTA is a UK government body under HM Treasury and the Cabinet Office. Formed in 2025, it merged the National Infrastructure Commission and the Infrastructure and Projects Authority to oversee major projects and the 10-Year Infrastructure Strategy.

1.7 NISTA's core role is overseeing the UK's infrastructure pipeline and streamlining the consenting and planning process for major projects. It publishes infrastructure pipelines detailing large-scale public and private investment.

[8] English Devolution White Paper - GOV.UK

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1.8 NISTA brings oversight of strategy and delivery into one organisation, while driving more effective delivery of infrastructure across the country. In short, it will bridge the gap between what is built and how it is built.

West Midlands Transport and Infrastructure Campus

NISTA recently announced the development of a new West Midlands Transport and Infrastructure Campus as a national government centre for transport and infrastructure delivery.

This reflects a wider strategy of moving decision-making capacity out of London and into the regions. Regional Mayors, local authorities and Midlands Connect will have opportunity to establish a direct working relationship with the campus to ensure that East Midlands transport priorities, including strategic road maintenance funding and rail connectivity, are represented in its programme.

1.9 The impact of NISTA in the East Midlands is twofold: infrastructure projects of national importance will help drive regional economic growth and benefit local communities in the longer term; and investment in the region will unlock future development opportunities.

10-Year Infrastructure Strategy

1.10 The UK's 10-Year Infrastructure Strategy commits at least £725bn to a coordinated decade-long programme. It integrates economic and social infrastructure to drive regional growth, accelerate net zero, and rebuild public services, backed by five-year rolling capital budgets. Its core strategic focus is:

Growth & Spatial Planning: Targets regional productivity through a place-based approach, combining local housing, employment, and transport needs into spatial development strategies

Clean Energy: Accelerates the path to net zero, prioritising grid upgrades, long-duration energy storage, and renewable generation to deliver clean power

Public Estate Maintenance: Ring-fences £10bn per year for health, education, and justice, including major hospital restoration and the elimination of RAAC concrete

Housing: Commits £16bn of new public investment to build over 500,000 new homes, unlocking over £5.3bn in private investment.

The Purpose of this Document

1.11 The purpose of this document is to:

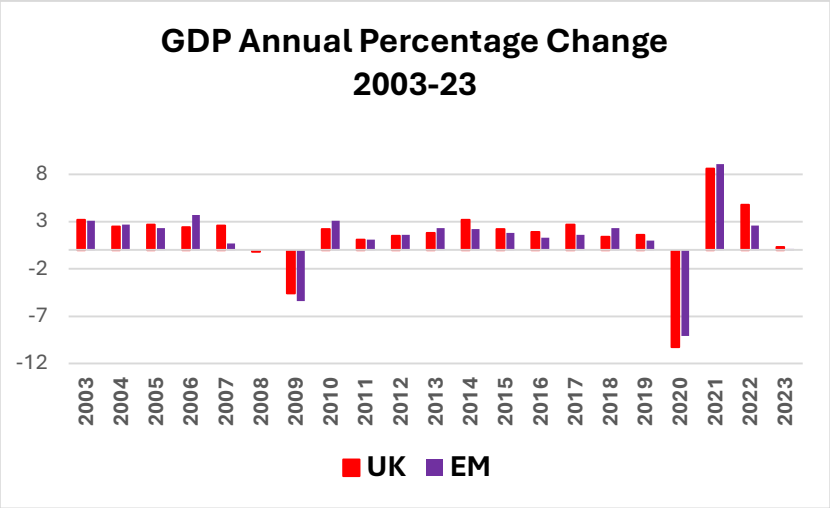
- Inform the work of NISTA by assessing regional infrastructure needs; and
- Provide a resource for regional stakeholders to draw upon which will be periodically updated.

2. Regional Economic & Population Drivers

Growth & Productivity

2.1 The East Midlands has a population of 5.1m people and 403,000 businesses[9]. Total regional output in 2023 (as measured by GDP) was £157bn, equivalent to 5.8% of the UK economy. The East Midlands employment rate is just above the UK average at 75.1% (UK=75.0%). Median weekly earnings are below the UK average: £721pw compared to £767pw. 10.4% of the workforce work in manufacturing, compared with 6.9% for the UK – although this percentage has declined significantly in recent years. The region's unemployment rate has recently increased and is now above the UK average: currently at 5.5% compared to 4.9%.

2.2 GDP growth in the East Midlands over the last 20 years has been better than most other regions/nations and generally close to the UK average. More recently it has fallen[10].



Source: Regional gross domestic product: all ITL regions - Office for National Statistics

2.3 Productivity has remained below the UK average over the last 20 years and has been declining relative to the UK to 84.8% in 2023[11].

[9] Regional and National Economic Indicators - House of Commons
[10] ONS GDP
[11] Annual regional labour productivity - Office for National Statistics (ons.gov.uk)

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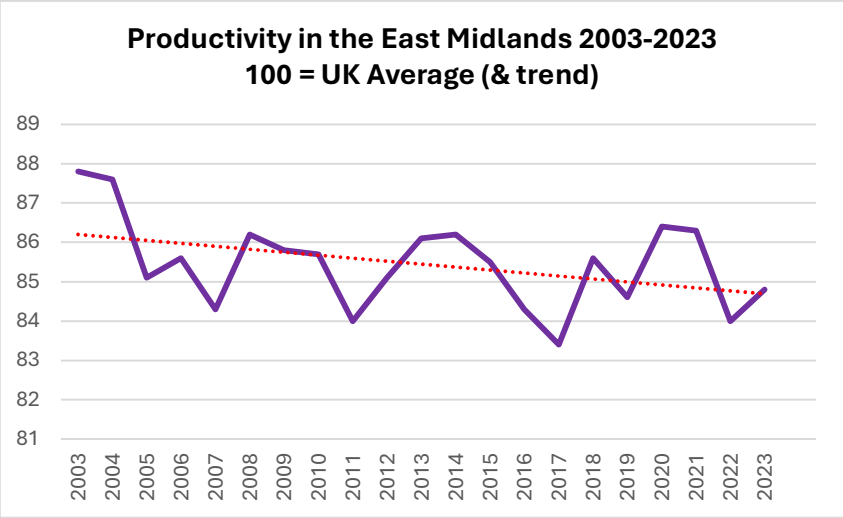
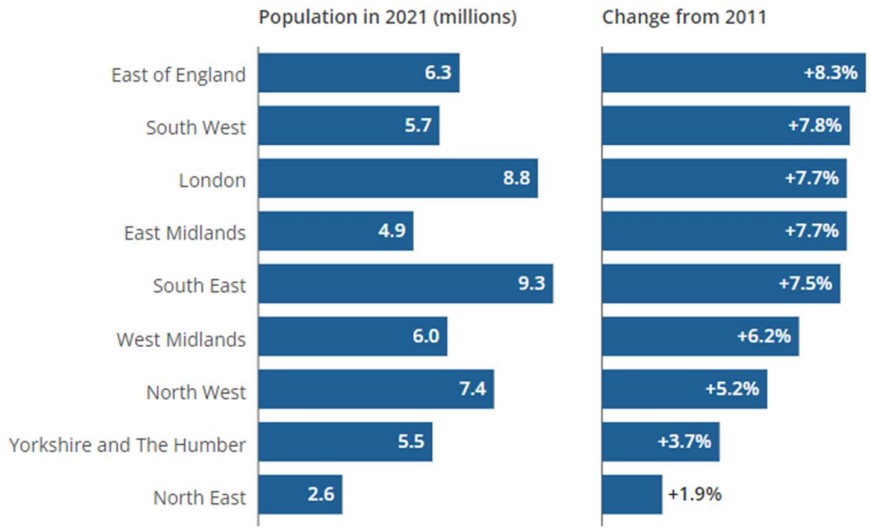


Source: Annual regional labour productivity - Office for National Statistics (ons.gov.uk)

2.4 The East Midlands benefits from a network of excellent universities and some key sector strengths including: high value manufacturing, the nuclear industry, defence, food-processing and logistics - as well the UK's only inland 'Freeport'. But maximising the collective agglomeration impacts of these assets remains a challenge and the region's cities continue to perform poorly on measures of relative UK competitiveness[12].

Population Change

2.5 The population of the East Midlands grew by 7.7% in the period 2011-21: at the same rate as London and faster than the South East and the West Midlands.



Source: Population and household estimates, England and Wales - Office for National Statistics (ons.gov.uk)

2.6 The region has therefore been growing its economy by growing its population - not by becoming more productive.

2.7 The East Midlands is not a heavily urbanised region - most people live outside the region's cities. Nottinghamshire and

[12] UK Competitiveness Index 2023

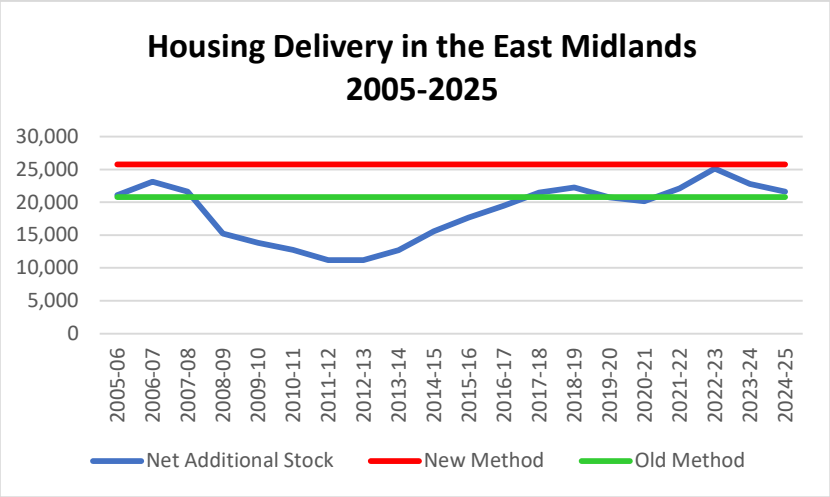
Derbyshire remain the most populous counties, but they are also the slowest growing. Since 2011, population growth has been strongest in Northamptonshire, Leicester City and Leicestershire. The region's elderly population in increasingly concentrated in more rural areas, where typically 20-25% of people are over 65 years old. In contrast, the median age of Nottingham's population is just over 30 years old.

2.8 These population trends will have long-term implications for the provision of public services and economic infrastructure in the East Midlands.

Housing Delivery

2.9 Housing delivery in the East Midlands over the last 20 years can be seen in the graph. As elsewhere, the scale of delivery has been largely determined by macro-economic conditions rather than local policies, but in recent years has been at or around the Government's expectations.

2.10 However, the Government's new Standard Method for determining housing need implies an uplift from historic levels of delivery, and a generally more dispersed pattern of distribution with the highest increases in rural and suburban areas.



Public Investment

2.11 The Treasury publishes an annual Public Expenditure Statistical Analysis (PESA) every July on where public money (capital and revenue) is spent and on what, in the previous financial year[13]. The data has the status of 'National Statistics' as defined by ONS and has been published on a broadly consistent basis over several decades. Over the 2020-25 period, total spend per head in the East Midlands on the functions overleaf were all well below the UK average – some significantly.

[13] Public Expenditure Statistical Analyses 2026 – CP 1624

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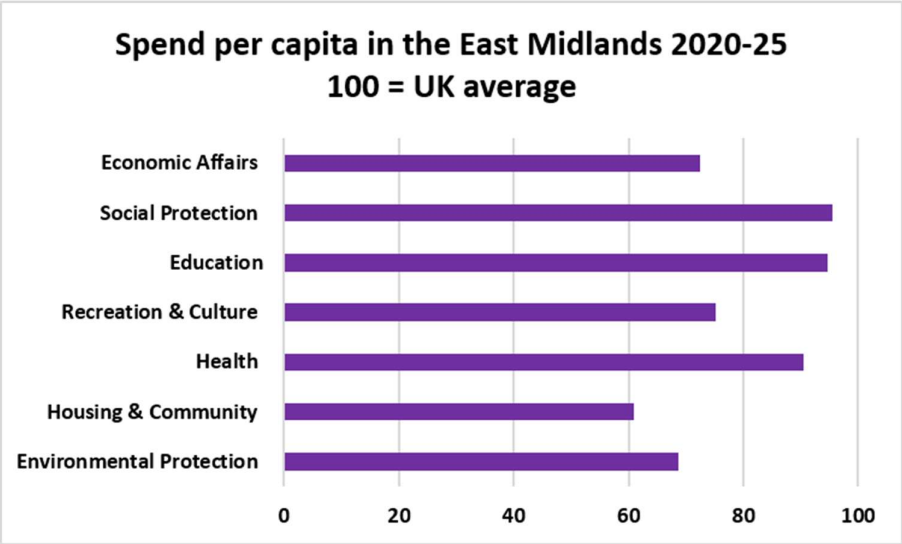

Source: Public Expenditure Statistical Analyses 2026 – CP 1624

2.12 Rebalancing national investment so that it more closely relates to population, housing and economic growth is a key strategic objective for the East Midlands: to help bring growth to every postcode.

3 Priorities for Economic Infrastructure

National Infrastructure Assessment 2

3.1 The former NIC's second National Infrastructure Assessment, published in October 2023[14], set out advice regarding priorities for investment in economic infrastructure covering: energy, transport, water and wastewater, waste, flood risk management and digital communications. We recommend that NISTA continue the National Infrastructure Assessments and engage with the public and regions in a meaningful and deliberative way to shape them.

3.2 Key recommendations to the Government included:

- Adding low carbon, flexible technologies to the electricity system to ensure supply remains reliable and creating a new strategic energy reserve to boost the country's economic security.
- Making a clear decision that electrification is the only viable option for decarbonising buildings at scale, getting the UK back on track to meet its climate targets and lowering energy bills by fully covering the costs of installing heat pumps for lower income households and offering £7,000 support to all others.
- Investing in public transport upgrades in England's largest regional cities to unlock economic growth, improving underperforming parts of the national road network and developing a new, comprehensive and long-term rail plan to bring productivity benefits to city regions across the North and the Midlands. Ensuring gigabit capable broadband is available nationwide by 2030 and supporting the market to roll out new 5G services.
- Preparing for a drier future by putting plans in place to deliver additional water supply infrastructure and reduce leakage, while also reducing water demand.
- Setting long-term measurable targets and ensuring funded plans are in place to significantly reduce the number of properties that are at risk of flooding by 2055.
- Delivering a more sustainable waste system by urgently implementing reforms to meet the 65% recycling target by 2035 and creating stronger incentives for investment in the recycling infrastructure that will be needed in the future.

Sector Priorities for the East Midlands

3.3 All sectors covered by the Government's definition of economic infrastructure are important to the East Midlands. However, the following are of particular importance and are examined in further detail in this report:

- **Transport**: The East Midlands is heavily car dependant and has the lowest level of spend per head on transport of any UK region/nation, undermining regional productivity[15].

[14] Final-NIA-2-Full-Document.pdf

[15] Public Expenditure Statistical Analyses 2026 – CP 1624)

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- **Flood Risk Management**: The East Midlands has the largest number (and highest proportion of) properties at risk of fluvial and coastal flooding[16], as well as much of the nation's Grade 1 agricultural land.
- **Energy Supply**: The East Midlands powered the nation's electricity grid in the 20th century and is exceptionally well placed to lead the transition to net zero[17].
- **Water Supply and Quality**: Rapid housing and population growth, together with the impacts of climate change, will require significant investment in water resources and treatment[18].

3.4 EMIP is contributing to the 'Built Environment Systems Review', a major UK infrastructure initiative, commissioned by the Infrastructure Client Group with the support of the Government. The review aims to establish baseline performance data and demonstrate the economic value of applying *systems thinking* to the built environment. The potential closure of the Cross Keys Bridge at Sutton Bridge in Lincolnshire is being used as a case study because of the consequence to inland ports, road transport, rail links and the designation of the bridge as a Grade II structure of historic and architectural importance.

Sector Interdependencies

The interdependence of infrastructure sectors historically planned in isolation is evident throughout report. Systems thinking is increasingly important in planning infrastructure more holistically:

- Systems thinking transforms how, for example, water and energy infrastructure are planned by recognising the interconnections. Water needs energy for pumping and treatment whilst energy generation requires water for cooling.
- Easily accessible EV charging infrastructure is essential to reducing CO2, NOx and particulate pollution from trains, lorries and cars.
- On-shore infrastructure associated with offshore wind and sub-sea cables requires the security of sustainable coastal flood defence.
- Pollution and surface water run-off from transport infrastructure adds to the challenge of wastewater treatment and cleaning our rivers.
- Accelerating housing delivery whilst reducing CO2 impacts will require a transition to solar panels, heat pumps and electric vehicle charging points with a consequent impact on green energy demand.
- All forms of infrastructure need to be more resilient to extreme weather events resulting from climate change.
- Skills and training challenges are common across sectors and require a collective understanding of demand and collaborative forward planning.

[16] National assessment of flood and coastal erosion risk in England 2024 - GOV.UK
[17] Beyond 2030 | National Energy System Operator
[18] A summary of England's revised draft regional and water resources management plans - GOV.UK

4 Transport

Institutional Landscape

4.1 At a national level, National Highways has responsibility for the Strategic Road Network in the East Midlands including the M1, M42/A42 and M69, the A1, A5, A14, A50, A453 and stretches of the A38, A46 and A52.

4.2 Network Rail has responsibility for the rail network and infrastructure. EMR, based in Derby, run most of the train services in the East Midlands under contract to DfT, although several other operators also serve parts of the region, including LNER, CrossCountry and Northern.

4.3 Following the formal establishment of Great British Railways (GBR) all rail infrastructure and service functions will sit within one organisation at arms-length from the DfT (likely 2027). GBR will have its HQ function located in Derby. The sub-national organisational structure of GBR has yet to be determined.

4.4 There are currently ten upper tier authorities in the East Midlands that traditionally have undertaken the statutory roles of Local Transport Authority (LTA) and Local Highway Authority (LHA). These authorities have responsibility for maintaining 98% of the road network and for local public transport, cycling and walking.

4.5 In 2025, the new East Midlands Combined County Authority (EMCCA) assumed the role of LTA for Derby, Derbyshire, Nottingham and Nottinghamshire – although the constituent authorities retained their highway functions. The Greater Lincolnshire Combined County Authority assumed the LTA role for Lincolnshire in April 2026.

4.6 Transport for the East Midlands (TfEM) brings together the region's LTAs (and Local Highway Authorities) under the auspices of East Midlands Councils. Birmingham-based Midlands Connect is the designated Sub-National Transport Body covering most of the East Midlands (excluding Northamptonshire which is part of England's Economic Heartland), although government funding will be withdrawn at the end of March 2027. TfEM and Midlands Connect have agreed a set of Shared Investment Priorities which are kept under review[19].

4.7 In 2020, TfEM signed a jointly funded Collaboration Agreement with DfT to provide local input into the management of rail services run by EMR. This arrangement will formally terminate when GBR is established in 2027. Instead, GBR will develop new partnership arrangements with Mayoral Combined Authorities where they exist.

[19] Our Shared Vision for the East Midlands

Overview

4.8 The East Midlands plays a crucial role in the UK's economy, acting as a key transport and logistics hub and with a large agricultural area. With the major cities of Nottingham, Derby, Leicester and Lincoln, along with critical freight and logistics networks in the so-called 'golden triangle', the region requires a robust and modern transport infrastructure to fulfil its potential.

4.9 Outside of the major cities, Northampton is a town with a population of 243,520 and other towns with populations of over 50,000 include Mansfield, Chesterfield, Boston, Loughborough and Hinkley. Each contribute significantly to the region's economy. The port of Boston handles around 1m tonnes of cargo each year. The Peak district attracts some 42.2m annual visitors and seaside resorts on the East Coast attract some 5m visitors annually. Each depends on transport infrastructure for economic vitality.

4.10 However, transport system in the East Midlands suffer from persistent underinvestment, outdated systems and inefficiencies that hinder economic growth and quality of life.

4.11 The East Midlands is heavily car dependant with up to 80% of journeys to work made by car[20]. The main strategic routes run on a north-south axis linking London and South East with the major conurbations of the North. East-West connectivity across the region is generally poor.

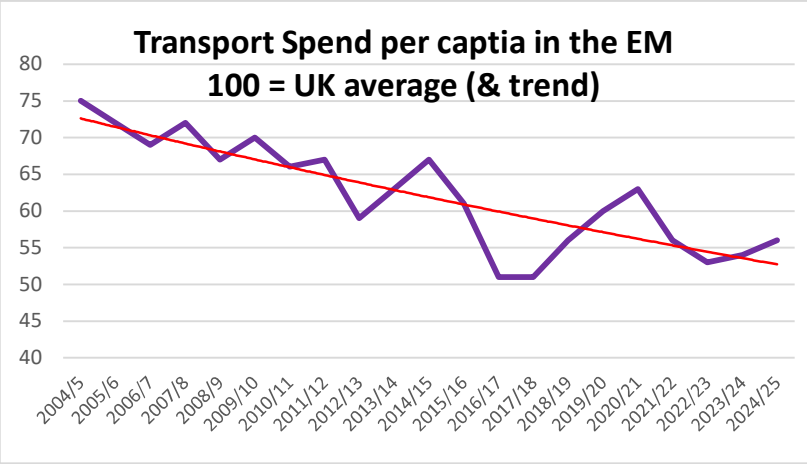
4.12 The 'poly-centric' nature of the region's settlement structure has tended to mitigate against the provision of mass public transport networks outside of Nottingham. Public transport options are therefore generally limited and relatively expensive. As a result, new development has tended to re-enforce patterns of car dependency[21].

4.13 The Treasury's PESA analysis demonstrates that transport spend per head in the East Midlands has been significantly below the UK average level for the last 20 years. Transport spending in the region has now declined to just 56% of the UK average for 2024/25, the lowest level of any UK region or nation.

4.14 These latest figures indicate the disparity in levels of investment spend per head between the East Midlands (£376) and the West Midlands (£656) continues to endure. If the region was funded at a level equivalent to the UK average over the 5 years (2020-21/2024-25), a not unrealistic target, the region would have received an extra £6bn to spend on transport investment and services. People in London benefit from a spend per head of population of £1,195.

[20] Transport Statistics Great Britain: 2022 Domestic Travel - GOV.UK

[21] RTPI | The Location of Development 4



Source: Public Expenditure Statistical Analyses 2026 – CP 1624 & previous releases

Strategic Roads

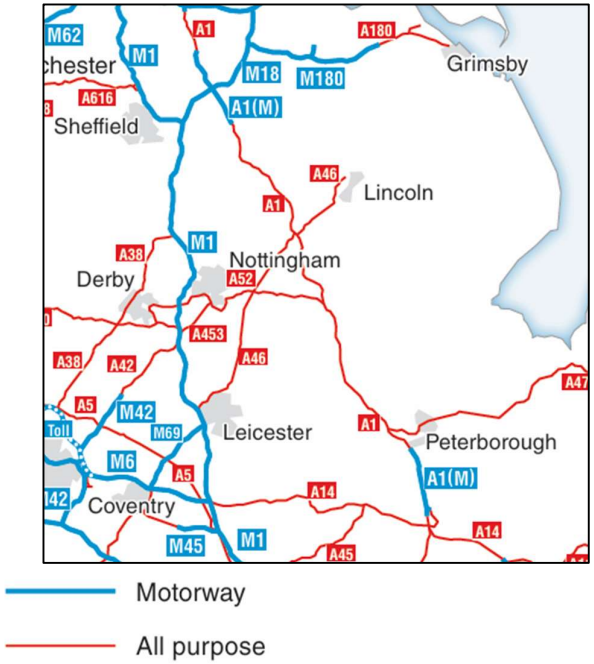
4.15 Although the Strategic Road Network in the East Midlands is important for both domestic and international connectivity, it suffers from congestion, high traffic volumes and maintenance backlogs. Key corridors, including the M1, A46, and A52, experience significant pressure due to increased demand and developments.

4.16 The M1 is one of the busiest motorways in the country, with strategic traffic flows reaching 125,000 vehicles per day in certain sections (e.g., Junctions 24-25). Freight makes up around 15% of this volume, placing additional stress on the network. The high traffic volume results in frequent delays, particularly during peak hours when average queue lengths can extend to 5km during morning and evening rush hours, with delays averaging 20-40 minutes. These delays are exacerbated during periods of adverse weather or accidents, reducing the resilience of the road network and significantly impacting economic activity.

4.17 Substantial improvements to Junction 15 of the M1 and the A508 were completed in 2025 to serve the Northampton Gateway Rail Freight Terminal with the support of significant private sector investment. Developer contributions at the East Midlands Freeport have the potential to contribute to much needed improvements at M1 Junction 24, subject to DCO approval.

East Midlands Freeport

East Midlands Freeport is the only inland UK Freeport and has the potential to add £9bn to the economy over the next 25 years, together with the creation of 28,000 jobs. It incorporates the East Midlands Airport and Gateway Industrial Cluster, the East Midlands Intermodal Park and the redevelopment of the Ratcliffe-on-Soar Power Station site. However, the area has a congested road network and very poor levels of public transport provision. The key to unlocking growth will be improving capacity in and around M1 Junction 24, which is close to capacity and heavily constrained. National Highways have no plans for major investment in the M1 Junction 24 area for the forceable future – so a private sector-led solution is being explored.



4.18 The East Midlands has a relatively high reliance on road transport, with around 60% of freight transported by road. This reliance on road infrastructure places additional stress on already congested routes. The A1, A5 and A46 in the region are particularly important from a freight perspective.

4.19 The A1 is vital for connections to major ports on the East Coast, including Felixstowe, Grimsby, Immingham and Dover (via the M25). It also has a key economic role within the East Midlands, particularly for agri-food, logistics, manufacturing and tourism. However, in contrast to the motorway standard sections immediately to the north and south, the A1 through the East Midlands is a dual carriageway 'A' road, characterised by sub-standard junctions, right turn movements, accident blackspots and a lack of resilience that suitable alternative routes might provide during closures.

4.20 Given the age and condition of the SRN, it is recognised that the balance of future investment by National Highways will shift more towards maintenance and renewals. Inclusion in the Governments Road Investment Strategy 3 (RIS3) of the resurfacing of a concrete section of the A46 is welcomed. However, there will still be a need for targeted enhancement schemes to increase capacity to facilitate economic growth and reduce congestion.

4.21 The A46 forms a nationally significant trade route linking the Humber and East Midlands Freeports with Bristol, identified by Midlands Connect as the 'Trans-Midlands Trade Corridor'. The A46 around Newark from Farndon to the interchange with the A1 and A17 has been a 'bottleneck' for many years which causes congestion, pollution and safety issues. The delivery of the A46 Newark Bypass had been a top SRN priority for TfEM for over a decade and was included as committed scheme in RIS3 published in March 2026. The Government had approved the Development Consent Order (DCO) for the scheme in October 2025, but a start date was not confirmed. In July 2026, DfT began consultation on the cancellation of the scheme to fund the Government's Defence Investment Plan (DIP).

4.22 The A38 Derby Junctions scheme had also been confirmed as a committed scheme in RIS3. The scheme would have reduced congestion in the city and enabled major housing growth across a wider area but was cancellation of the scheme was included in the same DIP consultation.

Consultation

Together with other regional bodies, EMIP objected to the Department for Transport proposals to cancel the A46 Newark Bypass and A38 Derby junctions' projects, which are vital to East Midlands communities, for four reasons:

- The A46 and A38 play a critical role within the Strategic Road Network (SRN) and are key to regional transportation. Both are congested, have poor injury records and inhibit economic growth.
- The region continues to be funded at or below the UK average per-head across all major government functions. Focusing RIS3 cuts on the East Midlands prejudices competitiveness.
- EMIP welcomes Government devolution ambitions which should shift investment decisions from Westminster to regions. Elected Mayors should have a stronger voice in RIS3 decision making.
- The A46 Newark Bypass and A38 Derby Junctions are elements of both RIS3 and the National Infrastructure Pipeline. Savings to fund the DIP should be sought across the NIP, through value engineering and alternative sources of funding. Savings of less than 2% on a project such as Sizewell C (£38bn) would allow the A46 Newark Bypass to proceed.

4.23 The cancellation of these two schemes along with the earlier cancellation of Midland Mainline Electrification means the East Midlands lost around £2.5bn in planned infrastructure investment in the period following the 2025 Spending Review.

Local Roads

4.24 The strategic road network (SRN) represents only 2% of the network in England. The remaining 98% (186,200 miles) is managed by local authorities. In 2021, 26.3bn vehicle miles were travelled across 19,900 miles of roads in the East Midlands. Almost all journeys start or finish on local roads, so realising the benefits of national infrastructure relies on the resilience and effectiveness of the local highway network.

4.25 Like any physical asset, the local highway network requires maintenance and renewal to counter deterioration. Planned, preventative maintenance is the most cost-effective method of keeping the road surface in good repair. However, roads generally decline over time, so the implications of underinvestment are not immediately obvious. This has made it an easy target for savings as local government revenue funding fell by 25% between 2010 and 2019. Funding provided by the DfT for local road maintenance in 2021/22 was less than £1.4bn, 0.3% of its total asset value of £400bn. This is simply not sufficient.

4.26 The Local Government Finance Settlement 2026/27 to 2028/29 provides a welcome multi-year funding framework. It

consolidated capital and revenue grants designed to support local highway maintenance, mass transit, and sustainable travel.

Local Strategic Road Links

The Cross Keys Swing Bridge at Sutton Bridge, carries the A17 linking Lincolnshire and Norfolk. A Grade II listed structure constructed in 1897, it was not designed for the volume and weight of today's traffic. Replacing the bridge would cost £100m, so Lincolnshire County Council has opted for incremental maintenance and targeted upgrades, despite the high cost of maintenance that must adhere to the strict regulations aimed at retaining its historic and architectural character. This places a major strain on the council's already stretched maintenance budgets. A similar squeeze on maintenance budgets is causing major challenges for Derbyshire County Council in maintaining roads prone to landslips. The council currently has some 200 landslips across its network that it is trying to manage. The Snake Pass, which carries the A57 between Sheffield and Manchester, is one road that faces potential closure. Traffic lights have been installed at Cupit for safety reasons because the council does not have the resources for a full repair.

Rail

4.27 The East Midlands does not have an extensive rail network compared to London or other provincial metropolitan areas, such as the West Midlands or Greater Manchester. There are only 108 stations in the East Midlands serving a population of 5m. Less than 17% of the region's population live within a 20-minute walk of a rail station. In addition, 75% of stations in the region are served by just one train an hour or fewer, with even lower levels of service on Sundays and increasingly overcrowded trains on Saturdays[22].

4.28 Consequently, rail in the East Midlands is poorly used. On average each person in the region uses the train around seven times a year (half the amount of use in the West Midlands) and the region has the lowest rate of station usage per head in England.

4.29 Even in its current state, however, rail has a critical role in supporting people, the economy and reducing the impacts of travel on the environment. Evidence from TfEM suggests that rail services in the East Midlands are directly worth around £356m per year to our regional economy - including the time it saves people who may otherwise drive. To this should be added the £5.8bn per year that the Rail Delivery Group estimates rail services and users generated for the East Midlands through wider economic activity.

[22] A-Platform-for-Growth.pdf

4.30 HS2 is currently being constructed across West Northamptonshire where works include more than 3 miles of tunnel and three of up to 515m in length. Local supply chains are involved in delivery, and the project is supporting regional employment. There are, however, no stations on the line to serve the region's communities.

4.31 The Midland Main Line remains the backbone of the region's rail network and has a nationally significant role linking London St. Pancras and Sheffield, with a branch to Nottingham. It also provides important connectivity to Leicester, Derby, Loughborough, Chesterfield, Corby and to the North of England.

4.32 The line supports a variety of both local commuter and inter-city services. East Midlands Railway operate intercity services between Sheffield/Nottingham and London, as well as 'EMR Connect' services between Corby and London via Kettering, and a regional link from Leicester northwards to Nottingham and beyond. Thameslink operate services to Bedford on the southern section of the route.

4.33 Unlike the East and West Coast Main Lines, the Midland Main Line is not fully electrified. Electrification only extends between London and Bedford, Kettering and Corby and terminates just south of Leicester. Further electrification of the route initially through Trent Junctions was planned to commence in 2024 but was delayed and subsequently cancelled by the Government in July 2025.

4.34 The East Coast Main Line also serves the region and is quicker and cheaper for many journeys to London, Leeds, Newcastle and Scotland, but only directly serves the towns of Grantham, Newark and Retford in the East Midlands.

4.35 Northampton is served by London Northwestern Railway which operates on the Northampton Loop of the West Coast Main Line. Political leaders and transport groups are actively lobbying the Department for Transport to integrate Northampton into the new East West Rail (EWR) network. Proponents estimate direct services could link Northampton to Bedford in 27 minutes and open direct links to major employment hubs in Milton Keynes and Oxford.

4.36 In terms of rolling stock, the East Midlands has benefitted from state-of-the-art diesel-electric bi-mode inter-city Class 810s (Aurora) trains, introduced on the Midland Main Line from late 2025. When fully deployed the new fleet will increase the number of available seats on the route by up to 40%.

4.37 Fully electric Class 360 commuter trains operate between Corby and London and are currently being refurbished.

4.38 EMR's regional fleet is made of Class 170 and Class 158 diesel trains, which are also in the process of refurbishment to extend their life for at least a further decade. However, a longer-term regional rolling stock strategy is required. Battery electric bi-mode trains are currently being deployed in

Germany[23] and Ireland[24] and appear to offer an attractive low carbon option for the East Midlands providing that some further electrification of the Midland Main Line is completed.

Long Distance Battery trains to be built in Derby

In September 2026, the Government announced a near £1bn investment for Alstrom to build at Derby the UK's first battery-electric trains for long-distance main-line services. The new trains will replace diesel. The trains will charge their batteries on sections of track with overhead lines and at rapid charging points located at terminus stations. The contract to build the new fleet will support 350 jobs in Derby (2028-2035). Whilst the new fleet will not serve the East Midlands, technology has longer term implications for the region's rail network. Whilst the reduction in diesel dependence is welcomed, electricity to power the trains needs to be generated from green energy sources (see Section 6).

Auroa Class 810 Bi-Mode Inter-City Train

[23] First of many battery trains enter service in Germany - Trains

[24] Ireland to Purchase 90 Battery-Electric Train Carriages from Alstom | Railway-News

Rail Freight

4.39 The Government has set a new target to increase the amount of freight carried by rail by 40% by 2040. Department for Transport data from 2024 shows that 8% of domestic freight is carried by rail compared to 80% by road and 10% by water. A freight train is said to remove 76 lorries from the road network.

4.40 The East Midlands sits at the intersection of key north-south and east-west rail freight routes and supports a mix of markets, most notably construction, marshalling/engineering, and intermodal. This reflects the presence in the region of large quarries, Toton Yard, the terminal at East Midlands Gateway and Northampton Gateway. Freight services are predominantly internal or linked to neighbouring regions, such as the East of England, West Midlands, and Yorkshire and the Humber. Rail freight passing through the region is dominated by intermodal traffic, especially flows to and from Felixstowe. This reinforces the regions' role as a strategic bridge between ports, inland terminals, and national distribution centres[25].

4.41 The region has benefitted significantly from recent public and private sector investments in rail freight which is reducing the volume of HGVs on our roads, and there are proposals for significant future investment.

[25] Freight-Growth-in-the-East-Midlands-Systra.pdf

4.42 The East Midlands Gateway, adjacent to East Midlands Airport and M1 Junction 24, comprises dedicated rail access and reception sidings; an intermodal facility of approximately 6m square feet of rail served warehousing with accompanying infrastructure.

4.43 East Midlands Gateway 2 – is currently proposed. This would cover circa 252 acres and deliver up to 326,500 square metres of "state-of-the-art" employment space. It would create 5,720 jobs and represents £325m of investment in the East Midlands economy. The project would form part of the East Midlands Freeport, the UK's only inland freeport, where businesses can benefit from tax and customs incentives designed to boost trade.

4.44 As well as industrial units, the plans include major infrastructure improvements, including new access from the A453, upgrades to M1 Junction 24, a new bus interchange and enhancements to the site's rail terminal.

4.45 A similar intermodal rail freight terminal has recently opened at Northampton. Northampton Gateway enjoys direct northbound and southbound connections to the West Coast Main Line via the Northampton loop

4.46 Future proposals at Northampton Gateway include a freight connection to East West Rail.

[25] DfT-Better-connected-a-strategy-for-integrated-transport.pdf

Bus and Light Rail

4.47 The Government's Integrated National Transport Strategy has now been published as Better Connected: A Strategy for Integrated Transport (April 2026). It is the first national transport strategy for England in over two decades and is intended to provide a single framework for how transport should be planned, delivered and operated across all modes[25].

4.48 Bus usage is very low in the East Midlands and inflated by the exceptionally high levels in Nottingham City. The average person in the East Midlands makes 29 bus journeys per year, compared with 45 in the West Midlands and 190 in London[26].

4.49 The Nottingham Express Transit (NET) is the region's only light rail system. There are currently two lines in operation with 50 stops across the conurbation including the Queens Medical Centre, Nottingham Midland Station and seven Park & Ride Sites. Annual ridership was 15.5m in 2023-24[27], an increase on the previous year but still below the pre-pandemic peak. Potential extensions to the system will be considered by the East Midlands County Combined Authority (EMCCA).

4.50 The Light Rail Transit Association (LRTA) has proposed a four-line tram network for Derby as part of the EMCCA Mayor's Transport Plan (aka The Mayor's Big Transport Plan). Estimated to cost £405-500m, lines 1&2 would form an urban and

[26] See: Bus usage GOV UK/Bus01.ods
[27] Light rail and tram statistics GOV.UK

southern loop whilst lines 3&4 would extend services westward and eastward to connect with NET at Toton.

4.51 EMCCA has secured £2bn in funding from the Transport for City Regions Fund (2026-2032) with £10m allocated for Sutton-in-Ashfield bus station and £4m for Derby Bus Station, alongside investments in electric buses and real-time shelter updates. Over £40m is to be dedicated to walking, wheeling, and cycling infrastructure.

The Ride East Midlands App

The Ride East Midlands app was launched in 2025 as part of a £4m project. Funded by the Government's Future Transport Zones and operated by EMCCA, it brings together journey planning for buses, trams, trains, walking, cycling and shared transport services. Travellers can map door-to-door journeys across multiple providers, making sustainable travel easier, more accessible and more convenient. Through an interactive live map, users can track buses in real time.

International Gateways

4.52 East Midlands Airport (EMA) is home to the UK's largest dedicated air cargo operation, making it the country's most important airport for express freight. EMA is a hub for DHL, UPS, FedEx and Royal Mail. EMA is a four-hour truck drive to 90% of the population of England and Wales. Unique among its competitors, it benefits from unrestricted night flights.

4.53 EMA's passenger operation is focussed on the low-cost market, currently serving 72 destinations and carrying over 4m passengers a year. EMA directly employs over 800 people and supports a total of 7,800 jobs on site.

East Midlands Airport Freight Hub

4.54 Public transport access is limited to bus services, some of which are operated by local employers. The nearest rail station is East Midlands Parkway which is five miles away and on the other side of the M1 motorway. As a result, EMA is very car dependant, which is a challenge given the contained nature of the strategic and local road network.

4.55 EMA is engaged in a £120m investment programme which is targeting a 54% freight boost and over 20,000 future jobs. Circa 120 acres of airport land are earmarked for new warehousing and aircraft stands. The expansion by two plots that hold tax-site status under the East Midlands Freeport which is aimed at driving economic growth.

4.56 Boston in Lincolnshire is the region's only coastal port. The Port is located on the Wash and serves a wide hinterland. It handles around 1m tonnes of cargo each year. The Port is rail connected and has an active daily steel train service to the Victoria Group Steel Terminal in the West Midlands.

4.57 However, the region's economy benefits significantly from the proximity of the much bigger Humber ports of Immingham, Grimsby, Goole and Hull, which together handle around 17% to 25% of the nation's trade (58-65m tonnes of cargo annually with a value of around £75bn). They play a vital strategic role for the UK as a global trade gateway. These ports also comprise the Humber Freeport designation. Rail links from Grimsby and Immingham run through the East Midlands and the M180/A180, A46 and A15 are key access routes into the Humber Ports from the East Midlands.

5. Flood Risk Management

Institutional Landscape

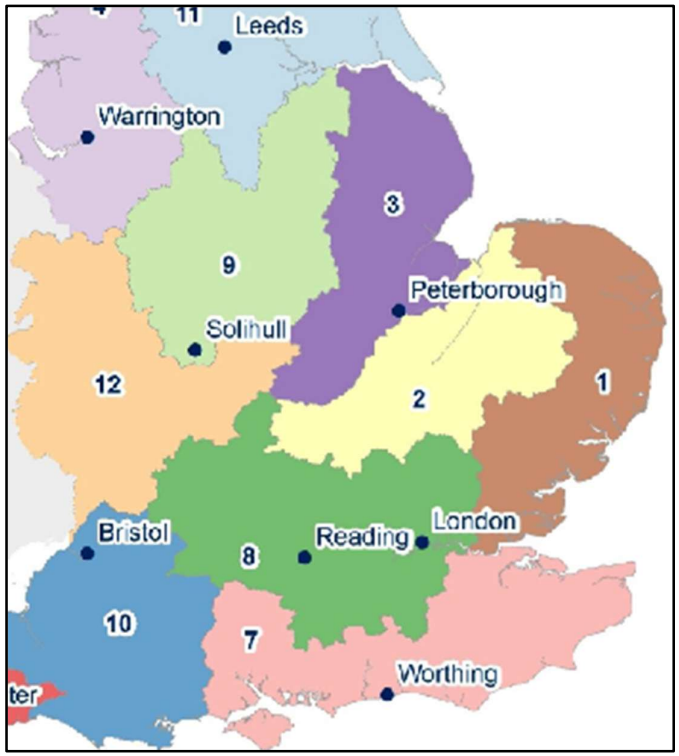
5.1 Flood Risk Management in England falls under the remit of the Department of Environment, Food & Rural Affairs (Defra) with delivery led by risk management authorities (RMAs) including the Environment Agency, local authorities, water companies and Internal Drainage Boards (IDBs).

5.2 The Environment Agency has a strategic overview of all sources of flooding and coastal erosion as defined in the Flood and Water Management Act 2010 (WFMA). It is responsible for flood and coastal erosion risk management activities on main rivers and the coast, regulating reservoir safety and working with the Met Office to provide flood forecasts and warnings. It must also look for opportunities to maintain and improve the environment for people and wildlife while carrying out its duties.

5.3 Under the FWMA 2010, county councils and unitary councils are designated as Lead Local Flood Authorities. These authorities (of which there are ten in the East Midlands) lead on managing local flood risks, including flooding from surface water, ground water and ordinary (smaller) watercourses. Responsibilities also include a duty to maintain a strategy for local flood risk management, to maintain a register of flood risk assets, to investigate significant local flooding incidents and publish the results of such investigations.

5.4 Regional Flood and Coastal Committees (RFCCs) were established by the Environment Agency under the FWMA 2010.

RFCCs guide flood and coastal erosion risk management activities within their river catchments and along the coastline. RFCCs bring together members appointed by Lead Local Flood Authorities (LLFAs) and independent members with relevant experience. There are 12 committees in England, and each has a chair appointed by Defra. There are two RFCCs covering the East Midlands: Anglia Northern (3 on map below) and Trent (9).



Regional Flooding & Coastal Committee Boundaries

East Midlands Infrastructure Partnership Secretariat
Email: ice.eastmidlands@ice.org.uk

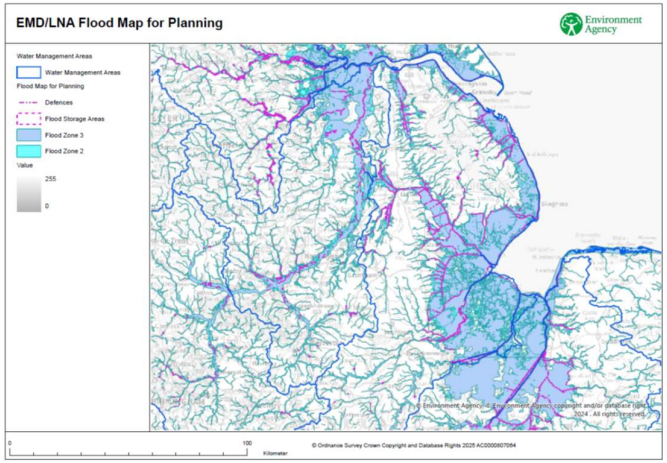
5.5 In some parts of the East Midlands IDBs also build and maintain flood defences. IDBs are public bodies responsible for managing water levels and can levy charges on councils. Boston Borough Council handed over £2.5m of the £4.2m it collected in council tax in 2023/24 for the IDB levy – around 60%. Many Lincolnshire authorities have also seen major increases over the last two years, with East Lindsey's bill increasing by £1.3m – the highest rise in the country.

The Scale of Flood Risk

5.6 In December 2024, the Environment Agency published an updated National Assessment of Flood & Coastal Erosion Risk in England[28]. The Assessment highlighted that the East Midlands has the greatest share of properties at risk of flooding from rivers or the sea in England (18.4% - 127,500), and the highest proportion of properties at risk of any English Region (4.6%). These figures are exacerbated by a very significant increase in the number of properties at high or medium risk of surface water flooding.

5.7 The Environment Agency assessment is consistent with research published by East Midlands Councils in 2015 that was informed by analysis commissioned from the Met Office, which concluded that 'the East Midlands region has the highest exposure to increases in flood risk due to climate change in England'[29].

5.8 The 1953 East Coast Floods illustrated both the exposure of Lincolnshire to coastal flood risk, and the economic cost of coastal inundation. At today's costs, the flood caused an estimated £1.36bn in equivalent economic damages (around £37.5m in 1953). Some 65,000ha of valuable farmland in East Anglia and Lincolnshire were inundated by the sea. A key factor in the economic cost is that inundated farmland remained uncultivated or severely affected by saltwater for 2-3 years. Whilst some areas grew crops by the second harvest, full agricultural recovery - restoring soil structure and leaching out high salt concentrations - took much longer. Harvests did not fully recover until 1956. As we plan coastal infrastructure adaptation, this multi-year impact needs to be factored in better to economic impact studies.



Flood Risk Areas in the East Midlands (© Environment Agency)

[28] National assessment of flood and coastal erosion risk in England 2024
[29] The-Changing-Nature-of-Flooding.pdf

5.9 Lincolnshire Coast 2100+ is a strategic partnership formed in October 2025 to address long-term coastal flood risks, rising sea levels, and climate change impacts along the low-lying Lincolnshire coastline. Partners include Environment Agency, Lincolnshire County Council, and East Lindsey District Council, alongside local drainage boards and regional leaders.

5.10 In addition to large expansive areas of low-lying land on the Lincolnshire Coast, the river systems of the Trent, Derwent, Soar, Witham and Nene drain through the region's most heavily built-up areas, many of which were historically developed around river crossings.

5.11 The insurance industry is increasingly concerned about continued building in flood risk areas[30]. The Flood Re initiative, agreed between the Government and insurers, aims to make the flood cover more affordable but only applies to properties built before 1 January 2009.

Recent Flooding Events

5.12 Major flooding events have occurred with increasing regularity in the last 20 years. All counties and cities in the region have been directly affected. Storm Babet (October 2023) and Storm Henck (January 2024) inflicted considerable damage across the region (including the loss of life), the impacts of which is still being felt in many communities.

5.13 The January 2025 flooding events appear to have resulted from a combination of rapid snowmelt and a period of extended heavy rain. The impacts were particularly acute across Leicestershire[31] and Lincolnshire[32], which both declared Major Incidents, and in parts of Nottinghamshire.

- In Leicestershire, 800 homes and businesses and 160 roads were flooded, with over 60 people rescued from properties and 27 from vehicles.
- Over 100 homes were flooded in Lincolnshire, some of which were also flooded in the 2023/24 storms, along with numerous local road closures.

Flooding in Charnwood January 2025

5.14 The 2025/26 winter was the eighth wettest recorded in England with a succession of storms (Bram, Goretti and Chandra) causing both fluvial and surface water flooding across large

[30] Proportion of new homes built in flood areas rises to one in nine - Aviva plc
[31] Letter presses Government to release flooding cash | Leicestershire County Council
[32] More investment is needed to protect Lincolnshire from flooding – Lincolnshire County Council

areas. Leicestershire was particularly affected with 883 properties damaged and more than 100 businesses disrupted. Three rest centres were opened and nearly 90 people were rescued by boat.

5.15 Flooding can cause significant economic damage to people, businesses, landowners and infrastructure.

5.16 Following the flooding caused by Storms Ciara and Dennis in 2020, the Association of British Insurers estimated that the average insurance claim per household was £32,000. The Environment Agency estimated the total economic damage for all floods between January 2016 and November 2019 in England and Wales between £504m and £924m, with a best estimate of £708m at 2024 prices[33].

5.17 Research also shows that flooding can cause severe long-lasting mental health issues for those affected, including depression, anxiety and post-traumatic stress disorder (PTSD)[34].

Insurance

5.18 Access to affordable insurance for people and businesses at risk of flooding is critical to maintaining economic viability and investor confidence.

5.19 The 'Flood Re' scheme is a joint initiative between the Government and insurers[35]. Its aim is to make the flood cover part of household insurance policies more affordable. The funding comes from three sources – a Levy, a premium and an excess – all of which are paid by insurers (and ultimately consumers). In establishing the scheme, the Government also committed to long-term public investment in flood defences.

5.20 Flood Re was introduced in 2016 and will run until 2039, at which point insurers should be offering policies based on actual risk to property and insurance premiums in flood risk areas could increase significantly. This would impact the East Midlands disproportionally because of the large areas affected. Land values and the cost of development will be significantly altered, reducing the viability of economic regeneration and increasing to social deprivation in affected areas.

Investment in Flood Risk Management

5.21 Government has committed a 3-year investment of £4.2bn to reduce risk from, and increase resilience to, flooding and coastal erosion. This investment covers the period from April 2026 to March 2029. Some £151m has been allocated to schemes across the East Midlands for financial year 2026/27.

[33] Insurance pay outs to help customers recover from Storms Ciara and Dennis set to top £360m | ABI
[34] The English National Cohort Study of Flooding & Health: psychological morbidity at three years of follow up
[35] Flood Re - A flood re-insurance scheme

5.22 Significant projects delivered to date include:

Boston Barrier: This project, combined with other investment along the Boston Haven, offers protection against a 1 in 300 (0.33% AEP) tidal flood event. The benefits of the scheme include significantly reduced tidal flood risk for over 17,000 properties (including more than 700 commercial properties and delivery of up to £1,989m of direct benefits - excluding indirect benefits).

Saltfleet to Gibraltar Point: This is the UK's largest and longest running coastal defence scheme which is managed by the EA and reduces the flood risk to 40% of Lincolnshire. Annual beach nourishment sustains the current standard of protection, as part of a much longer-term strategy to provide flood risk management for the area.

Derby Our City Our River (OCCUR): Comprises multiple packages of projects called the Munio projects. It has a dual purpose of reducing flood risk whilst creating a high-quality riverside, linking Derby city centre with the River Derwent. The initial package from Darley Abbey to the Silk Mill was commenced in 2015. To date, 1,200 properties are better protected from the works completed.

5.23 Significant projects planned or currently under construction include:

Lowdham: Construction of the new flood storage reservoir will better protect almost 200 properties from flooding and provide £50m of benefits to the local area and local economy. The area has had a long history of frequent floods over the past 25 years.

Derby Our City Our River (OCCUR): Planning for the next phase of flood alleviation measures at Derby Riverside has been submitted, which covers the east bank of the River Derwent from Causey Bridge to Derwent Bridge. The new flood defences will better protect a further 670 properties from flooding, taking the overall programme closer to the target of protecting over 2,000 properties.

5.24 Analysis by the National Audit Office[36] highlighted that the East Midlands receives close to the lowest level of funding per property at risk at £3,227, despite the region's high level of inherent risk. This compares unfavourably to the Northeast, which receives almost four times as much at £12,563 per property, and the Northwest, at £10,204.

5.25 A 2024 report by the Public Accounts Committee highlighted that the impact of construction inflation and scheme delays would significantly erode the effectiveness of planned

[36] Resilience to flooding

investment by the EA over coming years[37]. The report also highlighted that lack of investment in existing assets is also increasing risk to communities. This is exacerbated by the investment associated with new housing development, where developers may be obliged to contribute to new flood defences but subsequent responsibilities and liabilities for ongoing maintenance are passed onto the EA and Local Authorities.

5.26 Public investment in flood defences requires a very strong business case (typically a BCR of more than 9 to 1) and a local partner contribution. This funding model makes delivering flood defences in areas with low land values (including Grade 1 Agricultural land) more challenging. There is often good social, economic and environmental reasons to protect local areas, but the investment methodology may preclude this. While the Government might expect the partnership model to 'stretch' public funding, in practice it can cause schemes to stall before any real momentum has been gained.

The Natural Flood Management Programme

5.27 Natural flood management (NFM) uses natural processes to reduce flood risk. These processes protect, restore and mimic the natural functions of catchments, floodplains and the coast to slow and store water. NFM measures can include:

- Soil and land management
- River and floodplain management
- Woodland management
- Run-off management
- Coast and estuary management

5.28 NFM can also provide wider benefits including:

- Enhancing habitats and biodiversity
- Improving water quality and availability of drinking water
- Improving carbon capture
- Boosting health and wellbeing

5.29 In September 2023, the Environment Agency and Defra announced £25m funding for improving flood resilience through a new NFM programme. Out of the 34 project business cases that are complete, three are in the region[38]:

- Leicester City Council: Leicester Urban NFM – Willow Brook
- Lincolnshire County Council: Barrow Beck chalk stream restoration
- Lincolnshire County Council: River Rase catchment

5.30 Sustainable Urban Drainage Systems (SuDS) can also help to reduce the risk of surface water flooding and create natural habitats with community benefits - but require regular maintenance. Schedule 3 of the Flood and Water Management

[37] Flood resilience eroded by poorly maintained defences with Government in the dark on progress - Committees - UK Parliament

[38] NFM Hub https://nfm-theriverstrust.hub.arcgis.com/pages/progress-dashboard

Act 2010 made provision for 'Lead Local Flood Authorities' (county and unitary authorities) to establish SuDS Approval Bodies to ensure long-term maintenance arrangements for all new schemes. However, successive governments have failed to implement these powers. We call for Schedule 3 of the Flood and Water Management Act 2010 to be finally implemented with appropriate financial support.

The Way Forward

5.31 The scale and impact of climate change and sea level rise is such that our historic approach of building large-scale concrete defences will have to change. The East Midlands will have to become more resilient as a region.

5.32 We need to protect the properties and the vital infrastructure of the East Midlands from flooding. We need to maintain flood risk management assets to an agreed standard of protection. This requires a shift in funding from 'new' to 'maintain' and an assessment of how climate change will impact flood and coastal risk management assets' performance and resilience.

5.33 As a region particularly prone to flood risk and the impacts of climate change, we support the recommendations of the ICE policy paper[39]. Making resilience count: the economic value of climate readiness. Whilst investment in existing assets can maintain the current standard of protection to properties, other measures - for example natural flood risk management and catchment-based flood risk management - may be required to provide head room for climate change. Property level resilience measures may become more necessary as inflation and duration of construction delivery leave properties undefended. So, it may be necessary to take best advantage of new funding policies which enable a greater focus on resilience and maintaining existing assets alongside new schemes and support a broader range of projects including property flood resilience, natural flood management and sustainable drainage systems.[40]

5.34 We need to recognise that climate warming will continue to contribute to rising sea levels and to more extreme weather events, the scale of which can overwhelm drainage systems and flood defences built to a previous understanding of risk. These climate impacts are likely to become more severe over the coming decades. Given projected sea level rise, there may come a point when radical interventions will be required in parts of the region to keep communities safe.

[39] ICE Policy Paper: Make Resilience Count

[40] Flood and coastal erosion risk management funding policy guidance - GOV.UK

6. Energy Supply

Background

6.1 Our energy system is still largely based on fossil fuels, such as natural gas and contributes to climate change. In 2021, around 30% of UK greenhouse gas emissions came from generating electricity and heating buildings. Electric vehicles, heat pumps and increased insulation can help businesses and households reduce energy demand, but energy generation itself also needs to be decarbonised and enhanced to meet growing demand.

6.2 Historically known as 'Megawatt Valley', the 13 coal-fired power stations of the lower Trent Valley generated up to a quarter of power demand for England and Wales. The Trent Supercluster programme aims to redevelop the former Ratcliffe-on-Soar, West Burton, Cottam and High Marnham power station sites and the transmission infrastructure that surrounds them, to create new clean energy[41].

6.3 EMIP supports the ambition set out in the Midlands Engine Energy Security White Paper published December 2024[42]. In the short-term however, the East Midlands APPG noted that new developments and businesses often struggle to secure grid connectivity, even when renewable energy is being locally generated – which is hugely frustrating for communities[43].

Institutional Landscape

6.4 The National Energy System Operator (NESO) has been established to work alongside Great British Energy to deploy renewable energy. NESO is responsible for planning Great Britain's electricity and gas networks, operating the electricity system and creating insights and recommendations for the future whole energy system. Great British Energy has been launched to invest in clean, home-grown energy.

6.5 NESO published a transitional Regional Energy Strategic Plan (tRESP) in January 2026 to guide network upgrades and align local decarbonisation targets[44]. The first plans are due to be published in 2027. The transitional framework establishes a foundation for future regional strategies. Key planning drivers for the East Midlands include:

- Logistics & Warehousing concentrated along the M1 and large freight clusters.
- Network Planning assumptions and energy pathways for 2028-2033, dictating strategic investments in electricity distribution.
- Regional Collaboration - NESO will work with local authorities and the Midlands Net Zero Hub to ensure priorities like jobs and net zero are integrated.

[41] Trent Supercluster programme
[42] Midlands-Engine-Energy-Security-White-PaperDev12WEB-1.pdf
[43] East Midlands APPG REPORT 2023
[44] Transitional Regional Energy Strategic Plan (tRESP) | National Energy System Operator

6.6 In addition to NESO, the North Sea Transition Authority licenses, regulates and influences the UK oil and gas, offshore hydrogen, and carbon storage industries. The UK Atomic Energy Authority (UKAEA) regulates and controls nuclear energy, including development of new nuclear energy projects.

6.7 National Grid owns and operates the high-voltage transmission network across England and Wales, transporting power from generation sources to local distribution networks. In September 2026, the Government launched Great British Grid, as a new publicly owned body housed within Great British Energy. Great British Grid is intended to accelerate electricity network infrastructure delivery, cut connection delays, drive down consumer energy bills, and increase competition.

6.8 These energy bodies must comply with national and local regulatory and planning processes that create checks and balances in the roll-out of renewable energy. Nationally Significant Infrastructure Projects (NSIPs), introduced under the Planning Act 2008, streamline the consenting process for big infrastructure schemes whilst local planning authorities check that smaller projects satisfy community needs.

Energy Generation & Major Users

6.9 NESO has said there are two pathways towards the government's goal of generating more low-carbon electricity than we consume. The first relies heavily on a surge of new renewable energy projects, including plans to more than triple the UK's offshore wind capacity to 50 gigawatts in the next six years. The second path depends on extending the life of existing nuclear reactors and building new ones, alongside gas plants fitted with carbon capture technology.

6.10 In both pathways the UK needs to double onshore wind capacity from 13GW in 2023 to 27GW by 2030 and triple its solar power from 15GW to 47GW.

6.11 Under both scenarios, the UK would continue to use gas-fired power stations to generate electricity when renewable or stored electricity is unavailable – but this would make up less than 5% of the country's power consumption[45].

Business Community Concerns

At a roundtable event hosted by East Midlands Chamber in September 2026, several energy supply concerns were raised. UK industrial electricity prices are among the highest in the 32-country membership of the International Energy Association. Unlike domestic customers industrial and business electricity users are not protected by Ofgem's domestic energy price cap. British Chambers of Commerce research shows that 37% of businesses disagreed that the national grid was giving them what they need. Businesses at the roundtable reported significant challenges when trying to expand through electrification or install renewable energy generation on their sites. Some firms have been given connection dates into the mid-2030s and beyond.

[45] Guardian report 5 November 2024

6.12 The second National Infrastructure Assessment found that electricity demand in Great Britain will increase by around 50% by 2035. A 35% annual rise in heat pump installations is needed to decarbonise 7m buildings. A 30% annual growth in deployment is needed to deliver 300,000 public EV charging points[46].

6.13 In 2020, data centres in the UK consumed up to 35 TWh of electricity. The Government's new AI Opportunities Action Plan places further demand on supply. NESO estimates that high levels of development in AI and off-site computation are expected to increase data centre electricity demand by fourfold from today to 2030.

Grid Capacity

6.14 As the climate crisis becomes ever more urgent, the shift from fossil fuels to renewables is a vital part of the UK's mission to meet net zero targets. The Labour government's Clean Power 2030 target commits to at least 95% of clean power generation by 2030.

6.15 Nationally, consumption is projected to double by 2050. Only so much can be done with a power system that evolved in a different era. As fossil fuel reliance is replaced with renewable energy, generated in large parts by offshore wind farms as well as solar, significant new distribution and transmission infrastructure is needed to connect that renewable energy from where it is generated to where it is needed.

6.16 National Grid has embarked on "The Great Grid Upgrade[47]" - the largest overhaul of the UK's electricity grid in generations and is made up of 17 major infrastructure projects. New or improved power lines, substations, underground and underwater cables and other infrastructure will increase the grid's capacity to transmit clean electricity more efficiently across the country.

6.17 Great Grid Upgrade projects in the East Midlands include:

- **Grimsby to Walpole:** 140km long, 400kv overhead line on 50m high pylons, including new substations at Grimsby West, Bilsby, Weston Marsh and Walpole[48].
- **North Humber to High Marnham:** 90km upgrade to existing 400kv overhead line.
- **Chesterfield to Willington:** 60km long, 400kv overhead line on 50m high pylons. Includes a new 400kv substation at Chesterfield. The existing Brinsworth to High Marnham line will be upgraded from 275kv to 400kv.
- **Eastern Green Links:** Two new offshore high voltage electricity links and associated onshore infrastructure linking Scotland and England. The links would transport enough clean energy from Scotland to power up to 4m homes in the Midlands and South of England. The

[46] Second National Infrastructure Assessment
[47] National Grid: The Great Grid Upgrade
[48] National Grid: The Great Grid Upgrade Grimsby to Walpole

proposed onshore elements would be in the districts of East Lindsey, Boston and South Holland in Lincolnshire, and King's Lynn in Norfolk.

6.18 A number of these proposals are controversial locally because of the visual and environmental impacts of major new infrastructure in predominately rural areas. Local governments in Lincolnshire and Norfolk are particularly concerned about the impact of the Grimsby to Walpole overhead line on the visitor economy and wish to see it under-grounded[49].

Transition to Net Zero: Solar

6.19 In March 2024, the UK's installed solar capacity was 15.8GW. The government's goal is to increase this to 70GW by 2035. Many significantly sized solar farms are currently being built or are planned across the East Midlands. Smaller solar farms in Derbyshire and Leicestershire are subject to local authority planning processes and are meeting significant local opposition. In Northamptonshire the Green Hill Solar Farm will have a 500 MW capacity. In Nottinghamshire three major solar farms are planned. The Cottam Solar Project will generate 600MW, the Great North Road Solar and Biodiversity Park will generate 800MW and the Steeples Renewables Project near the former West Burton Power Station will generate 600MW.

Springwell Solar	800MW	One Earth Solar	740MW
Gate Burton Energy Park	500MW	Tillbridge Solar	500MW
Beacon Fen Solar	400MW	Mallard Pass Solar	350MW
Fosse Green Solar	320MW	Temple Oaks Solar	240MW

6.20 It is in Lincolnshire, however, where solar farms are causing significant community concerns. There are currently seven major solar farms classed as Nationally Significant Infrastructure Projects (NSIP) in the planning process. Two major sites straddle the Lincolnshire – Nottinghamshire border (Gate Burton and One Earth Solar). Together they would increase installed capacity by 24.4%

2026 Wind and Solar Energy Record

The UK has avoided the need for gas imports worth £5.9bn since the start of the Hormuz crisis due to record generation from wind and solar. While gas prices are surging to levels not seen since the 2022 energy crisis, the UK has been generating record amounts of power from wind and solar, up 14% year-on-year. This unprecedented clean-power generation is directly cutting the need for gas-fired electricity, which is down by nearly 10% year-on-year. In total, wind and solar have generated a record 41% share of the UK's electricity needs in 2026 to date, compared with 25% from gas.

[49] BBC News: National Grid decline to share detailed pylon costs, council says

6.21 In April 2026, the Secretary of State for Energy Security and Net Zero approved plans for Springwell Solar Farm. The application would cover 1,280 hectares of land near Scopwick in North Kesteven, it would be the UK's largest solar farm. Lincolnshire County Council and North Kesteven District Council have formally submitted a claim for a High Court Judicial Review against the UK Government's approval of the Springwell Solar Farm. The councils allege the use of high-quality agricultural land threatens national food security, and that procedural flaws led to an unsound decision[50].

Transition to Net Zero: Onshore Wind

6.22 The Government has announced that onshore wind projects above 100MW in England will be reintroduced into the NSIP regime from spring 2025.

6.23 An Onshore Wind Industry Taskforce has been established. Challenges include identifying sites taking account of population, environmental and other factors. Financial viability is primarily driven by wind speed. Sites on windy mountaintops have the lowest energy costs in the world, but much of lowland UK is unviable without heavy subsidies. The only two sites currently in the planning process in England are on the Pennines near Rochdale and Hebden Bridge.

Transition to Net Zero: Offshore Wind

6.24 The Outer Dowsing offshore wind farm, located 54km off the Lincolnshire Coast, is classed as an NSIP. It was approved by the Secretary of State in February 2026. It will generate 1.5GW of renewable electricity, equivalent to the annual electricity consumption of over 1.6m households. It is planned to be generating power by 2030 and will play a critical role in achieving the UK Government's ambition to deliver 50GW of offshore wind by 2030.

6.25 Underground transmission cables will come ashore to the north of Chapel St Leonards and connect to a substation to the north of Spalding.

Transition to Net Zero: Energy from Waste

6.26 The North Lincolnshire Green Energy Park proposal consists of an Energy Recovery Facility (ERF) converting up to 650,000 tonnes per annum of Refuse Derived Fuel (RDF) to generate a maximum of 95 Mega Watts of electrical output (MWe) and/or 380 Mega Watts of thermal output (MWt) to provide power, heat and steam. The Project will incorporate battery storage, hydrogen production from the electrolysis of water, hydrogen storage, heat and steam storage, carbon dioxide capture and an extended district heat network of 5km, power and gas network to service a proposed housing development

Transition to Net Zero: Energy Storage

6.27 Both solar and wind power are susceptible to the weather. Energy storage is therefore important in maintaining a consistent supply. A few storage systems are available, and others are under development.

[50] BBC News: Court challenge to UK's largest solar farm plan

6.28 Pumped hydro storage has been used by National Grid for many years by pumping water into reservoirs when demand is low and releasing it to generate power when needed.

6.29 Hydrogen can be stored underground and used to generate power when needed. Gas-fired power stations can be converted to hydrogen. Cadent is exploring geological hydrogen storage potential in the East Midlands (EMstor - *see Hydrogen section)*.

6.30 Battery energy storage systems (BESS) use lithium-ion batteries to store electricity. In 2017, South Derbyshire District Council approved a 40MW 'Energy Barn' at Breach Farm, Swadlingcote which became the first to deliver electricity to National Grid's Balancing Mechanism. In 2022, EDF commissioned a 50MW energy storage system connected to the high-voltage transmission network at Willington, Derbyshire.

Systems Thinking: Cleaner Transportation

Lithium-ion batteries offer the opportunity to reduce CO2 emissions across public transport and haulage, as well as private cars, particularly when charged by green energy. Leicester now has over 190 electric buses in operation over 75% of its network. An additional 60 buses will be delivered by March 2027, with funding secured for up to 30 more. Nottingham City Transport has completed its rollout of 62 electric buses. The buses have a range of up to 275 miles, enough for a full day service.

6.31 The roll-out of BESS is continuing: High Peak Borough Council has approved a battery storage system at the New Mills Substation capable of storing sufficient power for 10,000 homes.

Electric Vehicles

There are over 2m fully electric cars on UK roads (Zapmao data August 26) accounting for roughly 6% of all total cars in the UK. There are also roughly 1m plug-in hybrid electric vehicles (PHEVs) in active use. New electric car registrations represent a 25.6% share of the new car market. There are an estimated 1,500 to over 1,800 cumulative electric Heavy Goods Vehicles (eHGVs) registered in the UK, following a record 587 registrations in 2025 and continued growth into 2026. Most eHGVs available in the UK deliver a typical driving range between 150 and 300 miles (240 to 480 km) on a single charge. Large corporate investments - such as Amazon expanding its eHGV fleet past 160 vehicles - are driving a significant portion of these deployments.

Transition to Net Zero: Hydrogen

6.32 East Midlands Hydrogen is the UK's largest inland hydrogen cluster. Plans for regional hydrogen production, distribution and industrial use are gathering momentum. Twenty East Midlands manufacturers including Boots, Rolls Royce and Toyota have produced forecasts for switching from gas to hydrogen, with a forecast combined demand of 10TWH hydrogen per year. This would save 1.9m tonnes of CO2 annually.

6.33 Hydrogen production forecasts total 650MW production capacity by 2050, making use of coal fired power station sites and Megawatt Valley electricity infrastructure. Plans for the redevelopment of the Ratcliffe Power Station site include a 500MW green hydrogen project to be constructed by 2030 by German utility company, Uniper.

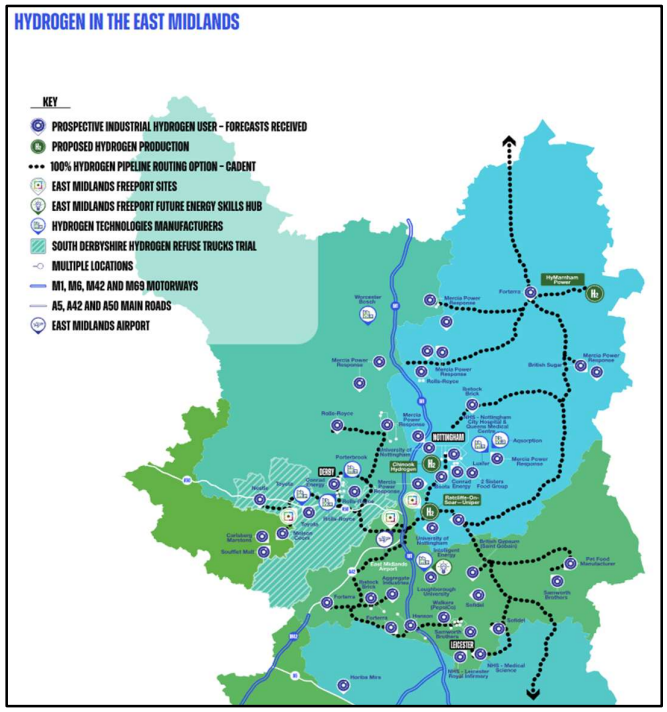
6.34 A proposed Gas Transporter Pipeline project planned by Cadent, the H2East Pipeline was added to the NSIP pipeline in April 2026. Stretching from the Humber to Nottinghamshire it will convey hydrogen from production at North Killingholme on the Humber and High Marnham in Nottinghamshire to industrial users across North Lincolnshire and Nottinghamshire.

6.35 HyMarnham Power, a £50m joint venture between GeoPura and JG Pears, is repurposing the former High Marnham Coal Plant into a clean hydrogen hub. Powered by renewable energy, with 15 MW of electrolysers, the green hydrogen plant is driving industrial decarbonisation, off-grid power, and hydrogen mobility.

6.36 Electrolysers can utilise excess wind and solar power, converting the energy into storable, transportable, hydrogen fuel, reducing curtailment and grid congestion. By transitioning to green hydrogen, businesses can future-proof their energy strategy, reduce reliance on volatile fossil fuel markets, and contribute to global decarbonisation goals.

6.37 HyMarnham is currently supplying hydrogen to industrial users by road and rail transport. Eventually it will feed into the HS2 East pipeline which will consist of some 150km of underground pipes together with several above ground Installations along the route of the pipeline. Currently undergoing pre-application, with a full application expected December 2028.

6.38 H2East will be the first of several hydrogen pipelines planned for industrial users across the region. The economic impact of East Midlands Hydrogen is estimated at £10bn gross added value with 110,000 jobs created or protected.



Potential hydrogen pipelines linking production to industrial users (source: https://eastmidlandshydrogen.co.uk)

Transition to Net Zero: Carbon Capture & Storage

6.39 Carbon capture and storage (CCS) is a key part of the UK's plan to achieve net zero emissions by 2050. So far, the Government has announced a significant £22bn investment in two CCS projects, in Merseyside and Teesside.

6.40 In April 2025, the Viking CCS Pipeline was granted development consent by the Secretary of State for Energy Security and Net Zero[51]. Onshore facilities will be built at Theddlethorpe on the Lincolnshire coast. The Viking project can provide an initial storage capacity 300m tonnes of CO2 and 10m tonnes per year by 2030. The CO2 will be stored by pumping into depleted gas wells. The project aims to capture, transport and store 50% of Humber emissions.

6.41 Agreements have been signed to connect both the West Burton B and RWE Staythorpe Combined Cycle Gas Turbine Plants to Viking CCS in future phases.

Transition to Net Zero: Nuclear Fusion

6.42 In January 2025, the Government announced five bids to build a fusion power plant on the site of the former West Burton coal-fired power plant near Retford. Funding of £410m for the coming year was also announced.

6.43 The ILIOS consortium, led by Kier and Nuvia, was appointed in March 2026 to develop the site, with the contract worth £200m. The fusion programme and redevelopment project are expected to create up to 10,000 jobs in the UK by 2030.

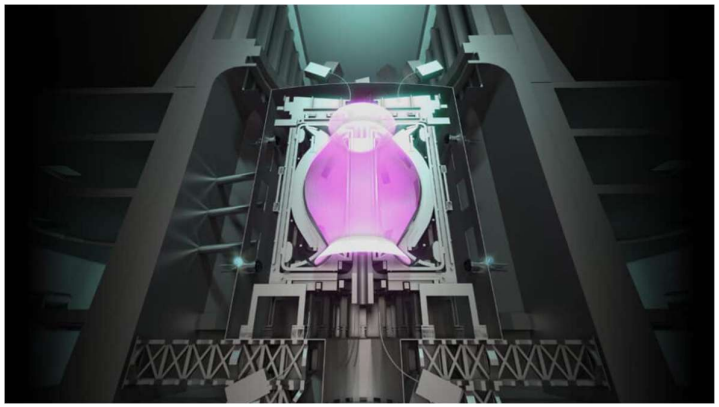


Illustration of STEP Fusion power plant with plasma burning

6.44 Nuclear fusion is carbon-free at the point of generation. By harnessing the process that powers the Sun, fusion has the potential to provide a safe, abundant source of low carbon energy. The UK Industrial Fusion Solutions (UKIFS), a UK Atomic Energy Authority subsidiary is charged with building a commercial fusion plant, known as STEP (Spherical Tokamak for Energy Production). Although STEP is currently 100% government funded, UKIFS will establish and lead a public and private alliance to deliver the programme. The project aims to demonstrate net energy from fusion in the 2040s.

[51] Capturing CO_2.

Transition to Net Zero: Small Modular Reactors

6.45 Small Modular Reactors (SMRs) are smaller nuclear reactors that can be built in factories, intended to help the UK meet its energy needs. The Government aims to deploy the first SMR by the early 2030s.

6.46 SMRs are cheaper to build than large reactors because they can be manufactured in factories, avoiding the high upfront costs of building on-site. They can be built faster and deployed more flexibly than large reactors.

6.47 The derelict site of the former Cottam power station is set for a dramatic transformation into the UK's first SMR-powered data centre campus. The £11bn redevelopment is expected to create thousands of construction jobs and long-term skilled roles in the East Midlands and provide a major boost to the local economy.

6.48 Holtec International and EDF, the world's largest nuclear operator, have submitted a joint proposal for the deployment of Holtec's SMR-300 small modular reactors to power the growing demand for secure, sustainable data infrastructure. Under this proposal the former coal power station site will locate up to four SMR-300 units, representing approximately 1.3 gigawatts of clean, reliable generating capacity.

6.49 The projects at Cottam (SMR), West Burton (STEP Fusion) and High Marnham (green hydrogen) will help re-establish the East Midlands as a centre of energy innovation, attracting investment and supply chain opportunities across Nottinghamshire, Derbyshire, Lincolnshire, and Leicestershire.

Rolls Royce SMR

Rolls Royce is a major East Midlands employer. A £12m manufacturing development centre in Derby is dedicated to advanced testing, precision assembly, and developing build processes. Technology design activities commenced in April 2026 as part of the Government's Clean Energy Mission. The National Wealth Fund is committing £599m to Rolls-Royce SMR to support the development of its small modular reactors.

By supporting British nuclear technology, the fund is playing a critical role in increasing investor confidence and helping to bring in additional private investment to fund the development of this new technology here in the UK. A Rolls-Royce SMR power station will have the capacity to generate 470MW of low carbon energy, which is more than 150 onshore wind turbines. The Rolls-Royce SMR programme is forecast to create 40,000 UK jobs by 2050 and £52bn in economic benefit. The first deployment in the UK will be at the former Wylfa nuclear power station plant in Anglesey, Wales.

7. Water Supply & Quality

7.1 In a country where rainfall is assumed to be plentiful, resilient water supplies are taken for granted. As the climate changes and populations grow, that resilience is being tested.

7.2 The UK Government Drought Summary[52] reports that the severe 2026 drought has left roughly 30m people under Temporary Use Bans (hosepipe bans) as reservoir storage sits significantly below average across England. National reservoir storage dropped to around 56.9% by September 2026, with over a dozen major reservoirs or groups falling below half capacity. Anglian Water warns that dry conditions and depleted groundwater could persist in 2027 without sustained heavy autumn and winter rainfall.

7.3 The Environment Agency estimates that by 2050, there will be a shortfall of almost 5bn litres of water per day between the sustainable water supplies available and the expected demand. The eastern part of the region is one of the driest parts of the UK.

7.4 Water quality is at risk of pollution from wastewater, pollution from towns, cities and transport, pollution from farming and changes to the natural flow and level of water. Sewage overflowing from treatment plants, and the age and capacity of combined sewerage systems built during the rapid development of towns and cities in the 19th century, add to the challenges facing our water companies.

Institutional Landscape

7.5 The Environment Agency is responsible for monitoring, improving, and maintaining water quality in the UK. Its role includes monitoring water quality, identifying pollution sources and developing improvement plans. Its regulatory functions include permits for activities that affect water quality. It investigates pollution incidents and works with partners to address them; it also provides water quality information to the public. It works with a variety of partners, including councils, water companies, farmers, local businesses, and communities.

7.6 The Water Services Regulation Authority (Ofwat) regulates water quality by ensuring that water companies provide safe drinking water. Ofwat inspects water companies to ensure they are following the Water Quality Regulations and verifies that water companies are conducting the correct tests on drinking water. It sets standards for water quality and uses regulatory rules to ensure water companies prioritise environmental improvements. Ofwat's other roles include ensuring water companies are well run and that the water system is sustainable.

[52] Dry-weather-and-drought-in-england-2026

7.7 In January 2026, the Government published A New Vision for Water[53], setting out proposed reforms following a review undertaken by Sir John Cunliffe. The changes include:

- A new single regulatory body bringing together Ofwat, the Drinking Water Inspectorate, and the water environment functions of the Environment Agency and Natural England;
- Simplified regulatory regime;
- Enhanced regional water planning functions.

Infrastructure Investment

7.8 In December 2024, Ofwat approved water companies in England and Wales combined £104bn investment plans for the eighth asset management period (AMP8), between 2025 and 2030. This decision marks a significant shift in the scale of investment in the sector; nearly quadrupling expenditure compared to previous years.

7.9 Central to the AMP8 investment strategy is an allocation of £12bn aimed at reducing sewage spills from storm overflows by 45% from 2021 levels by the year 2030. Additional funding includes £6bn for upgrades targeted at combatting nutrient pollution across approximately 1,000 sites, £3.3bn focused on nature-based solutions to enhance biodiversity, and £2bn marked for development financing to unlock a projected £50bn investment in the sector.

7.10 This latter funding will help kickstart 30 major infrastructure projects, including the construction of new reservoirs and large-scale water transfer schemes, aimed at bolstering water supply resilience amid changing climate conditions.

7.11 The public continues to be concerned regarding stormwater overflow discharges causing pollution of rivers and bathing waters. Over the last year, Northwest Leicestershire District Council has reviewed water management in the Coalville Strategic Growth Area following complaints made by residents about levels of sewerage pollution along the River Sence from storm overflows, linked to the impact of new housing development[54].

The review identified a disconnect between planning processes and sewerage investment programmes. Housing continues to be built when sewerage systems are known to be over capacity. Surface water ingress to cracked foul sewers together with misconnections exacerbates the problem. Improvements are needed to planning processes, developer contributions and water company investment programmes to better protect communities and the natural environment from sewage pollution.

[53] Defra water white paper 2026

[54] Agenda Document for Community Scrutiny Committee 2026

Water Consumption

7.12 The UK faces a growing gap between water and demand due to population increase and climate change. It is predicted that by 2050, summers in the Midlands will be on average 2.6°C warmer than today, with 16% less rainfall. This will place a strain on available water supply leading to potential water scarcity, particularly during dry periods. Over-abstraction of groundwater and the need for increased water efficiency measures - by both individuals and water companies – is vital to manage usage responsibly. Issues such as water leakage from aging infrastructure and a lack of public awareness regarding water usage habits are also a concern.

7.13 To increase the availability of water supply, Anglian Water is planning two new reservoirs, one of which is in the East Midlands. The Lincolnshire Reservoir near Scredington (North Kesteven) will cover 1,200 acres of countryside and is classed as a Nationally Significant Infrastructure Project. It will hold 55m cubic metres of water, which the company says is vital in keeping up with the growing population.

7.14 The Environment Act 2021 sets a target to reduce the use of public water supply in England per head of population by 20% by 2037-38, from the 2019-20 baseline. The immediate focus should be on saving water. There are opportunities to use water more efficiently and stop millions of litres of water being lost per day in our homes and businesses through leaking pipes, toilets, taps and urinals.

Proposed Lincolnshire reservoir near Scredlington

7.15 Severn Trent is responsible for 49,000km of pipes supplying water to homes and businesses. It targeted a 15% target cut in pipe leakage across its water network over the 2020–2025 period. Under their subsequent investment plans (leading toward 2030 and beyond), it has pledged further reductions in leakage. Plans include enough replacement water mains by 2030 to go from Land's End to John O'Groats twice. It is also investing in new 'in-pipe' monitoring to help spot where water might be escaping.

7.16 Currently around 60% of household properties are metered in England. Most meters require a physical visit to record consumption. The Environment Agency is asking water companies to stop installing these types of meters and instead, roll out smart meters which capture daily and sub-daily usage data.

7.17 In October 2024, Anglian Water announced the extension of contracts with its delivery partners to complete its smart meter roll out by 2030. So far, Anglian Water has fitted 1m smart meters across its region. Technology is critical to influencing consumption and has helped find and fix over 300,000 leaks so far. The aim is to install over 1,500 smart meters a day to finish upgrading all water meters in the region.

Impact of Climate Change

7.18 According to the Met Office, by 2050, winters will be warmer and around 13% wetter across the Midlands, with more extreme heavy rainfall events. During winters, rainfall intensity could increase by 25%. While summers are projected to become drier, when storms do occur, they are likely to be 20% more intense; this could lead to a heightened risk of flooding by 2070, especially under high emission scenarios.

7.19 The Environment Agency has published peak rainfall intensity guidance to help developers allow for increased intensity in their designs. Water companies face a great challenge in upgrading existing drainage systems to cope with storm intensities for which they were never designed. In towns and cities, increased rainfall entering aging combined sewerage systems risks both flash flooding and pollution of rivers through storm overflows.

Installation of Smart Water Meters (source Anglian Water)

7.20 Severn Trent is to create the 'urban catchment of the future' in four towns in its region[55]. In doing so, it aims to protect circa 840 properties from internal flooding and improve flood resilience for over 1.3m customers. It will do this using a combination of natural, AI, traditional and community focused solutions including:

- Building nature-based resilience with 92 nature hubs, creating new green spaces in communities
- Redirecting rainfall by replacing 30 hectares of hard standing in the form of roads and roofs with sustainable urban drainage
- Installing 150 monitors and smart controls across 4,000km of sewers

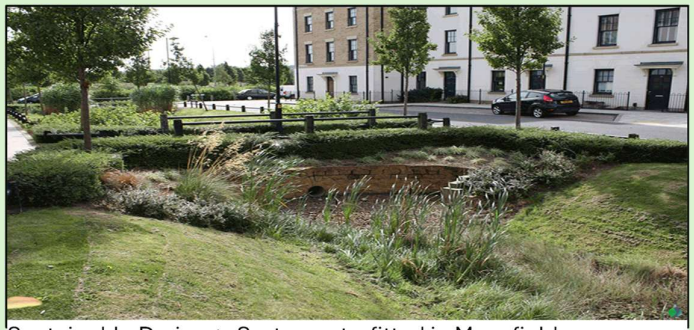
[55] Severn Trent: Driving Lasting Change Business Plan 2025-30.pdf

- Using its innovative Artificial Intelligence of Things (AIOT) flow management to optimise the use of latent capacity in its existing network.

The Greening of Mansfield

Severn Trent invested £76m in Mansfield on a range of nature-based solutions to protect communities from flooding. Working alongside Mansfield District Council and Nottinghamshire County Council, it is the largest project of its kind to ever be attempted in the country.

The scheme can store over 58m litres of surface water – about 23 Olympic-sized swimming pools. In real terms, this means reduced flood risk for 90,000 people, as well as the creation of 390 jobs locally. Solutions include more than 20,000 Sustainable Drainage Systems including basins, planters and swales, permeable paving and rain gardens.



Sustainable Drainage System retrofitted in Mansfield

Water Treatment and Pollution

7.21 The primary water treatment challenges facing water companies in the East Midlands include climate change impacting water availability and quality, and declining river water quality due to pollution from farming and transport. Further challenges include 'forever chemicals' contaminants like PFAS (see below) which are difficult to remove. Companies are required to balance water usage with environmental sustainability, while ensuring the delivery of clean drinking water.

7.22 These challenges are being addressed by investing in infrastructure upgrades to replace old pipes, improving treatment plant efficiencies and implementing leak detection.

7.23 River basin management plans provide a more holistic approach by collaborating with a range of stakeholders to improve water quality in rivers through pollution reduction strategies. Water conservation campaigns are also important in educating the public on responsible water usage and implementing water saving technologies.

7.24 AMP8 – the next Asset Management Period, will shift focus from compliance-driven initiatives to broader environmental stewardship. Key priorities will include:

- Resilient infrastructure: Replacing ageing assets to minimise system failures and pollution incidents.

- Energy efficiency: Increasing the use of renewable energy, such as anaerobic digestion and solar power, in wastewater treatment processes.

7.25 PFAS (per-and poly fluoroalkyl substances) pose complex challenges due to their persistence and wide-ranging environmental impacts. International collaboration and robust regulatory frameworks will be crucial in mitigating their spread and protecting ecosystems and human health from these enduring pollutants. The absence of specific regulatory standards for PFAS in drinking water in England and Wales highlights a critical gap in current legislation. The EU has acted and set limits on PFAS in drinking water. Looking ahead, the UK may follow suit with potential updates to its regulatory framework under the Environment Act 2021.

7.26 Further legislation may include the Government's Net Zero Strategy targeting reduced carbon emissions and plastics regulations requiring utilities to implement measures such as fine filtration to reduce microplastic emissions.

Sewerage and Wastewater treatment

7.27 The challenges of increased rainfall and the environmental impact of storm water overflows discharging polluted water to our rivers, increase the need for investment in sewerage systems and wastewater treatment.

Systems Thinking: Working with Nature

This new state-of-the-art Witches Oak water treatment works in Derbyshire provides an additional average flow of 65m litres per day and increases resilience of the Derwent Valley aqueduct (DVA) network, which supplies the East Midlands grid. The project harnesses the natural environment by using floating wetlands as pre-treatment.

The 33 floating wetlands function as natural filters to clean the water before it reaches the new works. Natural pre-treatment means the plant requires less energy, with lower carbon emissions and fewer chemicals to treat and clean the water. The plant includes ceramic membrane technology and a UV disinfection system for effective removal of pathogens, suspended solids and organic compounds.

7.28 In 2024, Anglian Water outlined its plans for additional work to protect the environment by investing in clever technology and improvements to its vast sewer network; all with the aim of reducing storm spills, preventing pollution and protecting the environment. Improvements included:

- Public sewer cleaning programmes and improvements in the top 100 highest risk areas, targeting thousands of blockages caused by wrongly disposed of fats, oils, greases and other 'unflushables' identified by the installation of 30,000 high-tech monitors with AI to give early warning of problems before they arise.
- Create more capacity in sewers in 50 hotspot locations across the region and an increase in storm water storage at water recycling centres so they can deal with more rainfall during extreme weather.
- New sustainable drainage systems in key hotspot areas, to slow rainwater from entering the sewer network, helping to prevent flooding and reduce storm spills.

7.29 Despite leading the industry with the lowest level of storm spills, every single one of the 1,471 sites across Anglian Water's network has a detailed improvement plan that will mean storm overflows becoming a thing of the past. In the last five years, 10% of the storm overflows in the region have been completely stopped. By 2030, the company aims to have reduced the negative impact it has on rivers to zero.

Systems Thinking: Powering a Water Grid

Anglian Water's regional water transfer network is designed to move water from the wetter north of its region to the drier south and east. Key elements include the Lincoln to Grantham transfer corridor capable of transferring 55m litres per day, and a new 20m storage tank at Welby, Lincolnshire.

Anglian Water powers its strategic water grid and operations using a mix of grid electricity and self-generated renewable energy. It currently generates about 30% of its energy from renewables, aiming for 44%. Power sources include Combined Heat and Power engines running on biogas (methane and carbon dioxide) created from advanced digestion at sludge treatment centres, together with solar and wind generation across its estate.

East Midlands Infrastructure Partnership Secretariat
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8. Deliverability and Market Capacity

8.1 Two recent industry reports identify similar steps necessary to improve industry capacity to deliver the Governments infrastructure ambitions, together with regional programmes:

The **ICE Next Steps programme**[56] identified six key themes:

- Clear central government leadership to join up infrastructure strategies and be accountable for delivery
- Prioritising investment in maintaining, adapting, upgrading and repurposing existing infrastructure
- Enabling collaborative, long-term supply-chain relationships
- Developing a comprehensive, long-term plan for skills aligned with the government's infrastructure objectives
- Building a more rational planning and consenting system.

The **Competition and Markets Authority (CMA) Civil Engineering Market Study** [57] identified persistent underperformance in productivity, innovation and the speed of delivery. Five core root causes were identified as:

- A fragmented public sector landscape
- Pipeline uncertainty
- Capacity constraints including capability and skills gaps
- Procurement policy and approaches
- Regulatory barriers.

8.2 Whist these reports focus on national programmes and governance, they have clear lessons for delivering programmes across the East Midlands.

8.3 The CMA report states that the greatest barrier to investment in skills, plant, modern methods of construction and digital delivery is uncertainty of future workload. Construction is a key regional employer that contributes significantly to the East Midlands economy. Infrastructure clients across the East Midlands should build on the NISTA National Infrastructure Pipeline to create a visible and reliable forward programme.

8.4 Infrastructure professionals across the East Midlands should embrace initiatives fundamental to successful delivery:

- NEC collaborative contracts
- Enterprise models
- Early contractor involvement
- Alliancing
- Framework arrangements
- Outcome-based procurement

8.5 Workforce challenges for employers in the region to address include an ageing workforce, project management capability, digital skills and specialist environmental and geotechnical capability. Regional clients and industry leaders need to respond to the ICE Next Steps programme and the CMA report by collaboratively building regional capacity and capability.

[56] ICE Pinch Points to Delivering on the UK's Infrastructure Ambitions

[57] Government CMA Cases

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9. Conclusions & Recommendations

9.1 The East Midlands makes a hugely important contribution to the national economy and has the potential to grow further and faster – and be at the heart of a sustainable energy transformation. To do so, the systemic underfunding of infrastructure across the East Midlands must be addressed.

9.2 The value of economic infrastructure should not be underestimated. Existing assets reduce flood risk to land and property; transport assets provide access to jobs and services and take goods to market; water and sewerage assets are vital to health and protect the environment; and energy assets power our homes and industry, the latter of which have been in the East Midlands for decades and been pivotal in powering the nation.

9.3 Underfunding of maintenance risks the integrity of assets that communities depend on and brings forward the time when expensive renewal is necessary. Improving existing assets is often more cost effective than building new.

9.4 Climate change and sea level rise is a global phenomenon. In a region that is so prone to flooding it has demonstrable local consequences. Reducing harmful emissions from our homes and businesses, modes of transport and energy production bring local benefits. All infrastructure sectors have a role to play in tackling climate change.

9.5 Based on analysis, EMIP makes **five strategic recommendations for change**:

1. **Better Integration:** NISTA should establish mechanisms to bring sectors together to holistically manage regional infrastructure as a system to identify potential bottlenecks, reduce harmful emissions, optimise performance and plan for future needs.

2. **Regional Granularity:** Improved regional granularity is needed within the 10-Year National Infrastructure Strategy and pipeline, so that demand can be anticipated, supply chains can build capacity, and the higher education and skills sector can plan the courses needed to train young people.

3. **A Focus on Existing Assets:** The maintenance of existing assets should have greater priority in infrastructure spending programmes nationally and locally.

4. **Improved Communication and Engagement:** Better, meaningful communication with the public and local politicians is needed to demonstrate the benefit of nationally significant infrastructure projects, and to address local concerns transparently.

5. **Deliverability and Market Capacity:** NISTA, government departments, local authorities and delivery bodies should provide a stable, visible and investable pipeline of infrastructure projects to provide regional construction employers with increased certainty to inform long-term investment in workforce and supply chain capability.