HOUSE OF COMMONS LIBRARY

BRIEFING PAPER

Number 6594, 8 March 2021

Infrastructure policies and investment

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What is infrastructure?

The Economist calls infrastructure the "economic arteries and veins; roads, ports, railways, airports, power lines, pipes and wires that enable people, goods, commodities, water, energy and information to move about efficiently." Better quality infrastructure allows an economy to be more efficient, improving its productivity, and raising its long-term growth rate and living standards.

Both the public sector and private sector invest in infrastructure. Projects in the energy and utilities sectors are almost entirely privately funded. The opposite is true of projects in the transport and social sectors. Projects may be funded through a mix of public and private funding.

What is the state of UK infrastructure?

According to the World Economic Forum, the UK was ranked 11th out 141 countries in terms of the overall quality of its infrastructure in 2019.

There is broad consensus that over the past 40 years the UK has under-invested in infrastructure. The UK Government says that "[f]or too long the UK has under-invested in infrastructure…" In 2015 the OECD found that that since the 1980s UK infrastructure has suffered from under-investment, compared with some competitor countries.

What are the Government's infrastructure plans?

The 2019 Conservative Manifesto pledged an "infrastructure revolution" in the UK.[1] The Government plans to invest in infrastructure to "level up" economic growth and prosperity across the country and to address the challenges posed by climate change.[2]

The Chancellor has set out relatively large increases in government investment spending, which includes infrastructure. Government investment spending is to increase to levels last seen in the late 1970s, when there were more publicly owned industries than now. Such industries required capital investment.[3]

Government's role in infrastructure isn't limited to providing funding. For instance, it also directs investment towards projects it considers valuable and supports private investment through various mechanisms.

Alongside Spending Review 2020, the Government:

- published a National Infrastructure Strategy, which includes plans to invest in infrastructure to "level-up" and support decarbonisation and adapt to climate change. It also sets out the Government's approach to supporting private investment and improving delivery. The Strategy aims to ensure that the long-term goals for infrastructure investment are brought together with the

1 The Conservative and Unionist Party Manifesto 2019, page 2
2 HM Government, Queen's Speech 2019: background briefing notes, 19 December 2019, p90
3 For further information see House of Commons Library. Spring Budget 2020: an overview, March 2020, section 3;.3

shorter-term goal of supporting economic recovery from the coronavirus pandemic;

- announced that a UK infrastructure bank will be set up to support private investment in infrastructure – further details followed at Spring Budget 2021;
- set multi-year capital programme settlements for some infrastructure projects including High Speed Rail and the Road Investment Strategy.

The National Infrastructure Strategy was partly informed by recommendations made by the National Infrastructure Commission in its National Infrastructure Assessment, which is a comprehensive report on the UK's long-term infrastructure needs up to 2050. The National Infrastructure Commission provides the Government with impartial, expert advice on the UK's long-term infrastructure needs.

1. Definition and overview of UK infrastructure

The Economist calls infrastructure the "economic arteries and veins; roads, ports, railways, airports, power lines, pipes and wires that enable people, goods, commodities, water, energy and information to move about efficiently."[4]

The National Infrastructure Commission (see section 4.1) defines economic infrastructure as energy, transport, water and wastewater (drainage and sewerage), waste, flood risk management and digital communications.[5]

The government also includes social infrastructure such as schools, hospitals and housing in some infrastructure policies and publications.

1.1 Infrastructure and the economy

Infrastructure plays a crucial role in a country's economic welfare. For instance, a reliable source of energy allows companies to function more efficiently; a transport network enables producers to move goods to consumers; and the provision of schools provide the foundation for more highly-skilled workers of the future.[6]

In short, better quality infrastructure allows an economy to be more efficient, improving its productivity, and raising its long-term growth rate and living standards.

More infrastructure in and of itself does not necessarily translate into higher long-term growth.[7] To take an extreme example, spending billions on a 10-lane motorway far away from businesses and consumers will be a waste of money that could have been better used elsewhere.

The right kind of infrastructure investment, though, will increase an economy's long-term productive potential. For example:

- lower energy and transport costs enable firms to lower costs;
- allowing people to move easily – either via commuting or by moving home – to follow employment opportunities that match their skills, thus improving economic efficiency.

4 The Economist. Essential Economics, [accessed on 4 January 2021]
5 National Infrastructure Commission, What we do [accessed on 4 January 2021]
6 For more on the potential benefits of investment in infrastructure see, for example, White House Council of Economic Advisors, "The 2016 Economic Report of the President", February 2016, Chapter 6 and Abdul Abiad, Davide Furceri and LSE growth commission, "Investing for Prosperity: Skills, Infrastructure and innovation", October 2013, Chapter IV
7 Institute of Economic Affairs, "Infrastructure spending and economic growth", November 2016 provides arguments on the difficulties governments have in selecting efficient infrastructure investments

1.2 Current state of UK infrastructure

International infrastructure rankings provide a way of comparing the performance of UK infrastructure with other countries. According to the World Economic Forum, **the UK was ranked 11th out 141 countries in terms of the overall quality of its infrastructure** in 2019, behind France (7th), Germany (8th), and the Netherlands (2nd). The USA was ranked 13th.[8]

The Organisation for Economic Cooperation and Development's (OECD) *2015 UK Economic Survey* focussed on infrastructure. It found that infrastructure in the UK has suffered from under-investment, compared with some competitor countries, since the 1980s. [9] This attributed partly to insufficient long-term planning by successive governments. One result of this is regional disparity in the quality of infrastructure between the South East (including London) and the rest of the country. However, the OECD also note that the UK has a "strong network regulation framework" and a "strong institutional setting" which should enable infrastructure improvements.[10] More recently, the OECD has said that the UK Government is starting to address the issue.[11]

The National Infrastructure Commission (the independent body that provides advice to government on long-term infrastructure decisions), summed up the UK's infrastructure as follows:

> … investment has long been squeezed and policy has been erratic. Much of the country's infrastructure is under strain, not keeping pace with population growth and modern requirements. The failure of our digital infrastructure to provide reliable phone and internet service is especially serious.[12]

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[8] World Economic Forum, *Global Competitiveness Report 2019*, 2019, Pillar 2
[9] OECD, *UK economic survey 2015: Improving Infrastructure*, February 2015
[10] *Ibid,* p 61
[11] OECD. OECD Economic Surveys: United Kingdom – October 2020, 2020, page 30
[12] National Infrastructure Commission, *Congestion, Capacity, Carbon: Priorities for national infrastructure: consultation ahead of National Infrastructure Assessment*, 13 October 2017, p2

2. Investment in infrastructure

2.1 Sources of investment

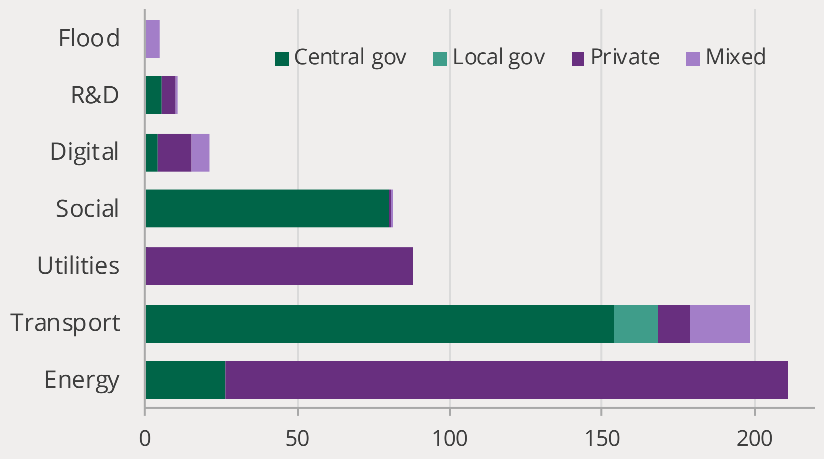
There are three ways in which infrastructure projects can be funded:

- **Public funding**: projects are funded by the government and wider public sector. The High Speed 2 railway will be funded publicly.
- **Private funding**: projects are funded by private companies who plan to recoup and earn a return on their initial investment via customer bills or charges over several years. Heathrow Terminal 5 was entirely funded by private investment.
- **Mixed public/private funding**: funding is drawn from both the public and private sector. Network Rail maintains and develops the railway infrastructure using Government grants, government-backed borrowing and private sector funding drawn from charges levied on train operators.

The Treasury's Infrastructure and Construction Pipeline can be used to analyse what types of funding will be used in upcoming infrastructure projects. The Pipeline was last updated in autumn 2018. The following chart shows the 'funding mix' in each infrastructure sector for all projects planned for 2018/19 onwards. It considers the funding for each individual project or programme and groups them by sector.

Funding mix of upcoming infrastructure projects/programmes, by sector

£ billions, current prices, 2018/19 onwards



Source: Infrastructure and Projects Authority/HM Treasury, *Infrastructure Pipeline*, *Data tables*, 2018, House of Commons calculations

Notes: Mixed is local/central gov, or public/private mix

The proposed projects in the Pipeline are 46% funded by the public sector, 49% funded by the private sector and the remaining 5% funded from a mix of source (local and central government or public and private sector).

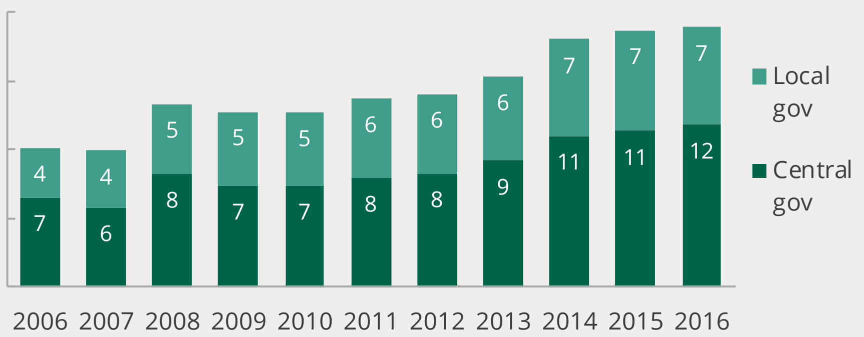
The chart shows the extent to which the source of funding differs from sector to sector. Projects in the energy and utilities sectors are almost entirely privately funded (reflecting the ownership and management of assets in these industries). The opposite is true of projects in the transport and social sectors.

2.2 Public investment in infrastructure

The Office of National Statistics (ONS) have produced 'experimental' data that show public sector investment in infrastructure from 2006 to 2016.[13,14] Over the period, the majority of general government investment in infrastructure has come from central government.

Public sector investment in infrastructure

£ billions, current prices, UK



Source: ONS, *Experimental infrastructure statistics: dataset*, *Tab: Government investment*, 2018

Government invested £18.9 billion in infrastructure in 2016, with almost 40% coming from local government and the remainder coming from central government. In 2016, 82% of central government infrastructure investment and 91% of local government investment was on transport infrastructure.

Public sector infrastructure investment, 2016

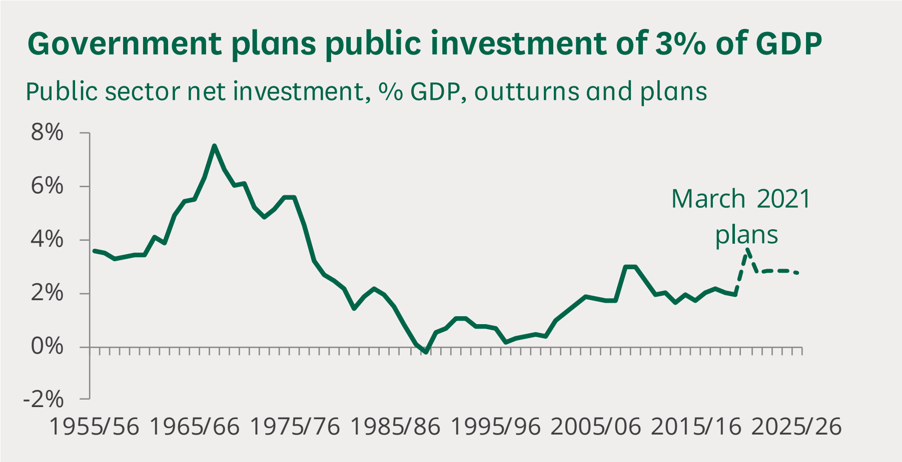
£ billion

	Central govt.	Local govt.	Total public sector
Transport	9.7	6.5	16.2
Other	2.1	0.6	2.7
Total	11.8	7.1	18.9

Source: ONS, *Experimental infrastructure statistics: dataset*, *Tab: Government investment*, 2018

Another frequently used measure is Public Sector Net Investment (PSNI), but this also includes investment into several things that are not normally considered 'infrastructure', such as NHS and defence equipment and computers. In 2019/20, PSNI totalled £43 billion, 1.9% of GDP.[15]

13 ONS, *Developing new statistics of infrastructure*, August 2018
14 The data are based on analysis of central government spending figures and local government financial returns.
15 OBR. Public finances databank – March 2021 [accessed on 10 March 2021]



Source: OBR. Public finances databank [accessed on 5 March 2021]

Increasing government investment

The Government is committed to relatively large increases in public sector net investment. Public sector net investment will increase to a little under 3% of GDP under plans first set out in Spring Budget 2020. Public sector net investment hasn't averaged 3% of GDP since the late 1970s, when there were more publicly owned industries than now. Such industries required capital investment.

Public sector net investment is set to reach around 4% of GDP in 2020/21. This jump isn't associated with an increase in infrastructure spending; it is largely a result of the spending associated with government guaranteed loan schemes (such as the Bounce Back Loan Scheme)[16] which were made available during the coronavirus pandemic. The expected cost to government of defaults on these loans count as public investment in the year the loans are made, which is 2020/21.

2.3 Private sector investment in infrastructure

Estimates of private sector investment in infrastructure are also included in the in new ONS publication used above, *Developing new statistics of infrastructure*.[17] The private sector data used here are based on ONS analysis of the Annual Acquisitions and Disposals of Capital Assets Survey, which asks private sector firms about their investment in different kind of assets.

In 2016, private sector infrastructure investment totalled £11.4 billion (this excludes investment in mining and quarrying).

£7.0 billion or 61% of this was in energy. Investment in water infrastructure was £1.4 billion.

[16] The Library briefing Coronavirus: Business loans schemes has more information about the various schemes.
[17] ONS, *Developing new statistics of infrastructure*, August 2018

Private sector infrastructure investment, 2016

	£ billion	%
Energy	7.0	61%
Water supply	1.4	12%
Other	1.0	9%
Telecommunications	1.0	9%
Sewage/waste	0.6	5%
Transport	0.4	3%
Total	11.4	

Source: ONS, *Developing new statistics of infrastructure*, August 2018, Data tab *Market sector investment*

2.4 UK country and regional infrastructure investment

There is no complete measure of all infrastructure spending at the UK country or regional level. However, data are available that cover a broader measure of public sector spending (capital spending) while another source covers private sector construction infrastructure output.

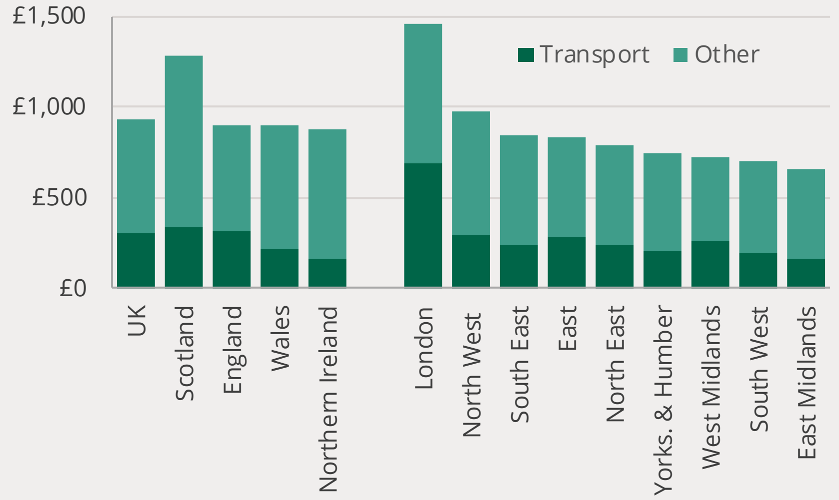
Public sector capital spending

The Institute for Fiscal Studies (IFS) – a think-tank – analysed regional public sector capital spending when considering the Government's levelling up agenda. The data doesn't include private sector spending and includes some capital spending not considered infrastructure, for instance assets such as computers and some financial transactions.

The IFS examined average public sector capital spending across the latest five-year period. Capital spending is volatile, so using averages helps to smooth out this volatility.

Capital spending, £ per person, by nation and region

Annual average between 2014/15 and 2018/19 (2020/21 prices)



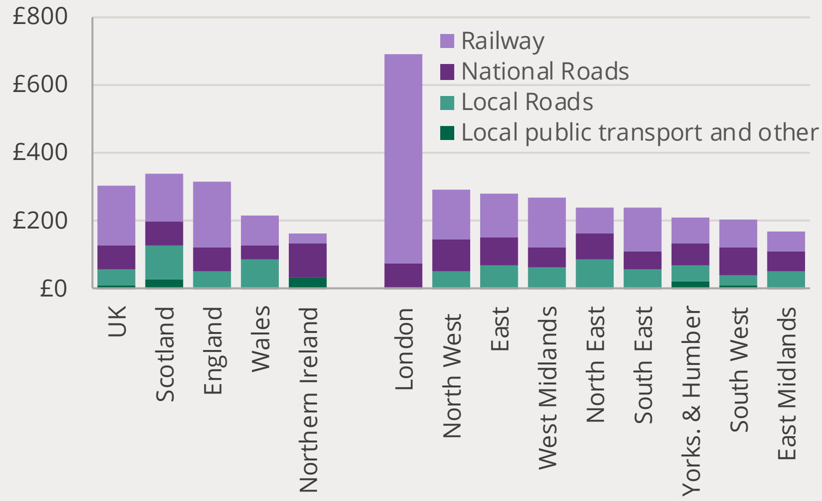
source: Institute for Fiscal Studies, The IFS Green Budget: October 2020, Figure 7.6

Overall, the IFS's clearest finding is that capital spending per head is highest in London, at an average of £1,461 a year over the period. Much of the gap is driven by higher investment in transport in London, which at £688 a year was 2.8 times higher than the average of £247 a year in the rest of the UK. London's transport spending was largely driven by investment in railways, which in recent years includes Crossrail.[18] The West Midlands has the second highest capital spending per head on railways amongst UK nations and regions.

The IFS flag up several caveats that are necessary to interpret London's data. First, some of the transport spending in London is financed through local raised taxes and fares. Second, some transport spending in London will benefit individuals living outside of the capital.

Transport spending, £ per person, by nation and region

Annual average between 2014/15 and 2018/19 (2020/21 prices)



source: Institute for Fiscal Studies, The IFS Green Budget: October 2020, Figure 7.7

The Resolution Foundation report Euston, we have a problem: Is Britain ready for an infrastructure revolution? draws conclusions similar to the IFS from the data, but also considers how much the Government should invest, what it should invest on and where.

Construction sector infrastructure output

Another source of data on infrastructure investment can be used to show how much is invested by region. This data shows the value of output by construction firms commissioned to undertake infrastructure work. This means that infrastructure construction by government departments or arms-length bodies (such as Network Rail) is not included in these figures but private sector construction is.[19]

This data shows that in the Great Britain in 2019, £24.9 billion worth of infrastructure work was carried out by construction firms.

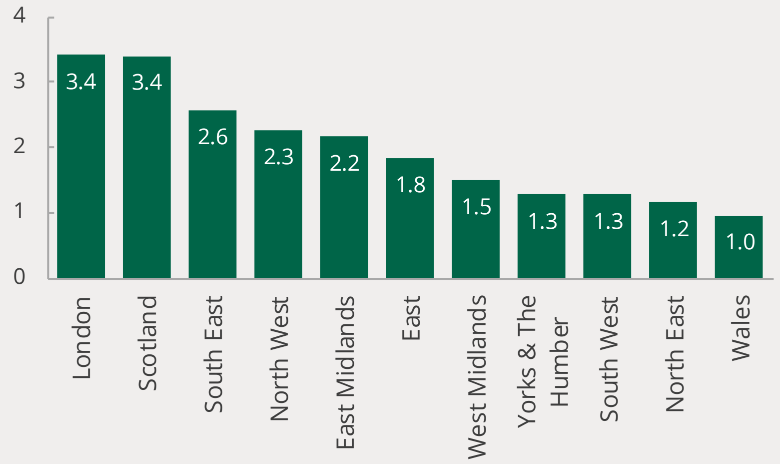
[18] IFS, The IFS Green Budget: October 2020, pages 346-349

[19] Data source: ONS, *Output in the construction sector*, June 2020, Dataset *Output in the construction industry, sub-national table*

The charts below show averages over the latest five-year period to smooth volatility. Between 2015 and 2019, London and Scotland had the highest average construction sector infrastructure output at £3.4 billion per year respectively.

Construction sector infrastructure output, £ billion

Annual average between 2015 and 2019 (2019 prices)



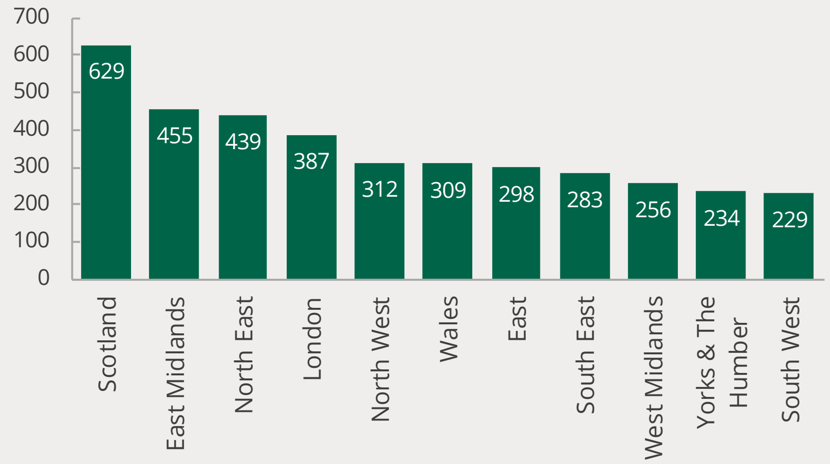
Notes: Excludes infrastructure work carried out by public sector bodies eg, Network Rail
Sources: ONS, *Output in the construction sector*, June 2020, Dataset *Output in the construction industry, sub-national table*; ONS. GDP deflators at market prices, and money GDP December 2020

Construction industry infrastructure output per head was highest in Scotland over the period.

It should be noted that people benefit from infrastructure investment outside the region in which they live. Investment in a power station would benefit people all over the country. This data should be viewed as indicating *the location of construction industry infrastructure activity*, not the regions benefitting from investment (although a region containing a new power station would also benefit from it).

Construction sector infrastructure output, £ per person

Annual average between 2015 and 2019 (2019 prices)



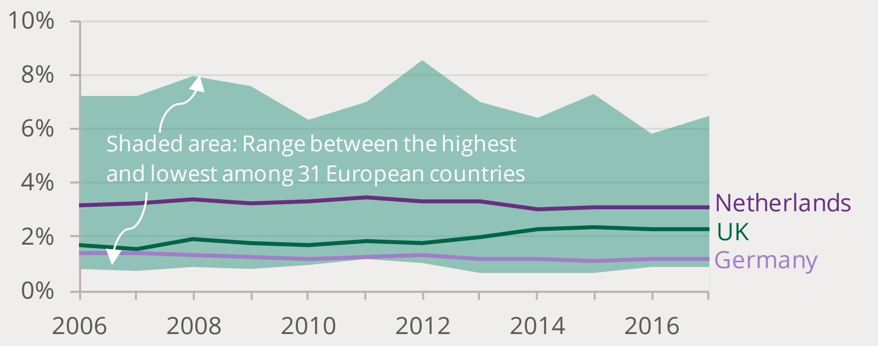
Notes & sources: See chart above & ONS Mid-year population estimates [nomisweb]

2.5 International comparisons of infrastructure investment

The ONS' *Experimental comparisons of infrastructure across Europe* also provides international comparisons. UK government infrastructure spending was 2.3% of all government spending in 2017. This was below the level in many European countries, including the Netherlands (3.1%). But it was above many of the other large European countries such as Germany (1.2%), France (1.5%) and Italy (0.9%).[20]

Government infrastructure investment

Infrastructure spending as % of all government spending



Source: ONS, *Experimental comparisons of infrastructure across Europe*, 2019; Data table, Tab: *Gov infra invest.*

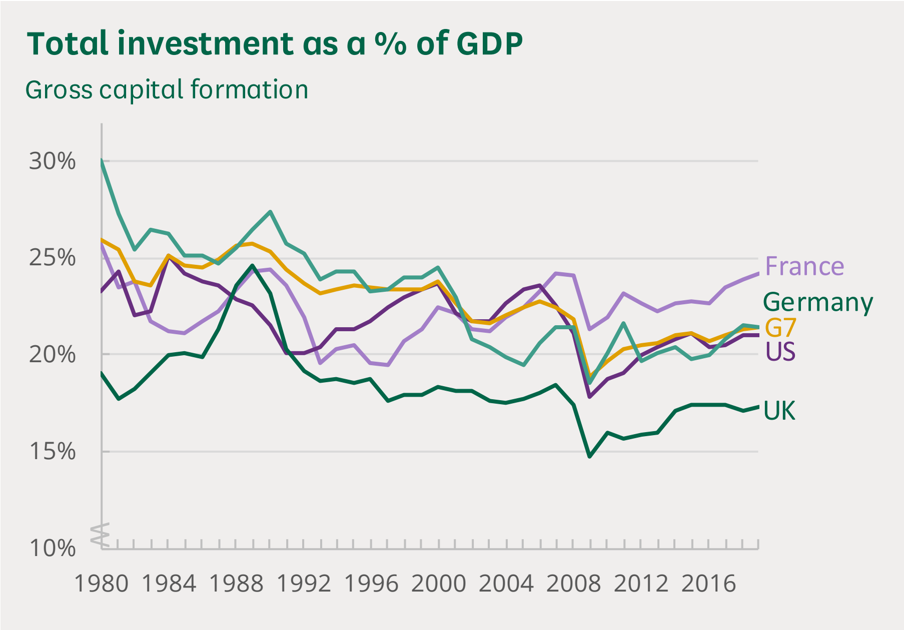
The chart below uses International Monetary Fund (IMF) data on Gross Capital Formation. This shows total investment, so includes public and private investment. It overestimates infrastructure spending because it includes investment on items that are not infrastructure, such as manufacturing machinery.[21]

The IMF estimate that UK investment was equivalent to 17% of GDP in 2019, compared to 22% in Germany and 21% in the US, and 24% in France. The G7 average is 21%.[22]

20 ONS, *Experimental comparisons of infrastructure across Europe*, 2019; Data table, Tab: *Gov infra invest - Gov spending.* Figures are government gross fixed capital formation in infrastructure sectors, as a % of total government spending. Some investment included here is in assets not normally considered infrastructure (for example, computer equipment in the Department for Transport)

21 Gross capital formation is measured by the total value of gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables for a unit or sector

22 International Monetary Fund, World Economic Outlook Database, October 2020



Notes: figures for 2019 and 2020 are estimates
Source: IMF, *World Economic Outlook Database,* October 2020

A high level of infrastructure spending can be interpreted in different ways. A high level of infrastructure investment could indicate that the stock of infrastructure is poor so needs high levels of investment. Or it could indicate that a well-funded and decent stock of infrastructure.

2.6 Planned infrastructure projects

The Infrastructure and Construction Pipeline is a forward-looking pipeline of planned projects and programmes in economic and social infrastructure. It will be updated in spring 2021 having been last updated in autumn 2018.

The Pipeline brings together major projects and programmes (largely costing more than £50 million) that are planned or underway. The projects and programmes are distributed across the UK but the majority are in England. This is because most infrastructure spending is devolved and so is the responsibility of the devolved administrations in Northern Ireland, Scotland and Wales.

The Pipeline includes both public and private sector projects and investment. It is not time-limited, so includes some projects with estimated completion dates beyond the 2030s. Many of these long-term projects are still in the scoping or design phases of development.

The purpose of the Pipeline is to provide the construction industry with information that supports forecasting and planning for investment and recruitment. It also helps both public and private sectors to plan for future needs in skills and resources.

What is in the infrastructure pipeline?

The December 2018 Pipeline includes 684 projects or programmes. These are worth £472 billion of investment (in constant 2018 prices).[23,24] Around £224 billion of this will be delivered after 2020/21, including Thames Tideway Tunnel and the Hinkley Point C nuclear power plant.

The Pipeline is dominated by investment in energy (£201 billion planned investment, 43% of the total) and transport (£141 billion, 30% of investment).

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23 HM Treasury, *Infrastructure and Construction Pipeline*, November 2018

24 As the Pipeline was published in autumn 2018 it may include some projects that have since been delivered.

3. Government's role and strategy

In the UK, the development and operation of infrastructure is largely the responsibility of the private sector (transport is the exception, which is mainly funded by government). The maintenance of operating and safety standards is the responsibility of the various regulators, which operate independently of government.

However, the UK Government still plays a role in infrastructure policy in several ways:

- **Providing funding** – the amount of public funding varies widely between sectors and projects.
- **Directing investment** and support towards certain projects that the Government considers valuable for the UK.
- Ensuring the development of coherent **infrastructure "systems"** – long-term frameworks in which individual projects play a role but which require national-level strategic leadership and decisions. For instance, setting out long-term priorities for the regulated sectors;
- **Supporting private investment** through mechanisms that reduce risks and uncertainty for investors. [25]

3.1 National Infrastructure Strategy

In November 2020, the Government published a National Infrastructure Strategy. The Strategy sets out the Government's plans for delivering "a radical improvement to the quality of the UK's infrastructure…". The Strategy forms part of the Government's National Infrastructure Commission's 2018 infrastructure assessment (see below).

The Strategy sets out the Government's ambitions for its own infrastructure investment and its wider role in developing UK infrastructure.

The Strategy was published alongside Spending Review 2020, during the coronavirus pandemic. The Strategy aims to ensure that the long-term goals for infrastructure investment are brought together with the shorter-term goal of supporting economic recovery from the pandemic. The Government wants infrastructure investment to maintain and support jobs in the short term and create the conditions for longer term growth. Programmes including High Speed Rail, the Road Investment Strategy and the Affordable Homes Programme received multi-year capital settlements in the Spending Review. The Strategy says that other new investment will be targeted at smaller schemes to upgrade existing infrastructure, in the short term.

Below we briefly summarise the Strategy's key ambitions and provide examples of steps being taken by the Government to achieve their ambitions. The Strategy goes into more detail on each of the areas discussed below.

25 "British infrastructure policy and the gradual return of the state", *Oxford Review of Economic Policy*, Volume 29, Number 2, 2013, pp. 287–306

Levelling-up

Investing in infrastructure is seen by the Government as a way to "level up" economic growth and prosperity across the country.[26] The Strategy says that investment will be prioritised for those areas that have received less support in the past. The Strategy's aims for levelling-up include:

- *Leaving no community or business behind.* Projects to achieve this include: £5 billion to support UK-wide gigabit broadband; extending 4G mobile coverage through a Shared Rural Network; £250 million for resilient and secure 5G networks; funding for bus services and cycling infrastructure; £4 billion for a levelling-up fund to invest in local infrastructure (see Box 2); £5 billion by 2027 for protecting against flooding and coastal erosion.
- *Creating regional powerhouses, making cities the engines of growth and revitalising towns.* Projects to achieve this aim include: £4.2 billion of intra-city transport settlements for city regions (outside of London); new green growth clusters in traditional industrial areas; introducing freeports;[27] the Towns Fund;[28] restoring rail services lost through the Beeching cuts of the 1960s.
- *Connecting the regions and nations of the UK, and creating a united and global Britain.* Projects to achieve this aim include: progressing HS2; investing in strategic roads; carrying out a Union Connectivity Review to identify options to improve transport links across the UK
- *Changing how decisions are made.* Projects to achieve this include: increasing the ability for the UK Government to invest directly in Scotland, Wales and Northern Ireland;[29] changing the way projects are assessed through a revised Green Book (see Box 3); expanding English devolution; relocating 22,000 civil servants out of London and the South East by 2030.

Box 1: "Levelling up" and regional economic inequalities

The Government has pledged to "level up" economic conditions and opportunities across different regions of the UK. The Library has published several briefings that explore regional economic differences in the UK:

- Section 3 of Spring Budget 2020: Background briefing, provides analysis on regional economic differences
- How big are regional economic inequalities in the UK? considers the inequalities that the levelling up policy seeks to address.
- Regional and National Economic Indicators contains key economic data for the regions and countries of the UK

The Institute for Fiscal Studies (IFS) analysed UK regional inequalities and assessed which areas might be classified as 'left behind' and in need of 'levelling up' in Levelling up: where and how?

[26] HM Government, Queen's Speech 2019: background briefing notes, 19 December 2019, p90
[27] For more, see House of Commons Library Briefing paper Freeports, 17 November 2020
[28] For more, see House of Commons Library debate pack The Towns Fund, January 2021
[29] Powers to do so are included in the UK Internal Market Act 2020.

Box 2: Levelling Up Fund

The Levelling Up Fund will invest in local infrastructure projects, such as road schemes, bus lanes and town centres, up to £20 million, or more by exception.[30] Local authorities will bid for funding.[31]

The Fund was announced at Spending Review 2020. The Government published a prospectus alongside Spring Budget 2021. The prospectus provides guidance on the process for submitting bids, the types of projects eligible for funding, and how bids will be assessed. The Government also published a list identifying local authorities "most in need of levelling up in England".

Size of the fund

The Fund is worth £4 billion over this Parliament, in England. A further £800,000 has been set aside for Scotland, Wales and Northern Ireland. Up to £600 million will be available in 2021/22. The fund is jointly managed by the Treasury, the Department for Transport and the Ministry of Housing, Communities and Local Government.[32]

The first round of bidding

The first round will focus on three themes: transport investments; town centre and high street regeneration; and, cultural investment. Projects should support the Government's net zero goals.

The first round of bidding will prioritise projects that can begin in 2021/22. There will be subsequent bidding rounds, with all funding to be spent by 31 March 2024 (or during 2024/25 for larger schemes).

Index of local need

The fund will target those areas with the most significant need. The Government has created an index of need that places each local authority into one of three categories. Authorities in category 1 have the highest level of identified need.

The Government is yet to publish the exact methodology, but the index considers the: need for economic recovery and growth; need for improved transport connectivity; and, need for regeneration.

Preference will be given to bids from areas with greater need. The index of need has been controversial.[33]

The role of MPs

It's expected that authorities bidding for funding should consult local MPs, though support from local MPs is not a necessary condition for a successful bid. MPs are expected to endorse one bid that they see as a priority. Any bid may have priority backing from multiple MPs and local stakeholders. MPs can also support any or all schemes that would have a benefit to their constituencies.

Box 3: The Green Book review

Following a review, the Treasury has changed how it will assess major investment programmes to make sure that "government investment spreads opportunity across the UK." The Treasury's approach to appraising projects is set out in the latest version of the Green Book, published in November 2020.

What is the Green Book?

The Green Book is Treasury guidance on how to appraise policies, programmes and projects, and on the design and use of monitoring and evaluation. It has existed in one form or another for decades, with periodic updates and revisions. It applies to all government departments, and to arm's length public bodies with responsibility derived from central government for public funds and regulatory authorities.

The Green Book sits alongside general Treasury guidance, such as Managing Public Money (on the use of public resources), and guidance on related topics such as business case development.[34]

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30 Bids above £20m and below £50m will be accepted for transport projects only, such as road schemes

31 HM Treasury. Spending Review 2020, para 24; ibid, para 3.16; ibid, para. 6.57

32 HC Deb. 25 November 2020:c827 [Spending Review 2020 and OBR Forecast]

33 Full Fact. Details missing on levelling up funding, 4 March 2021; "Tories accused of levelling up 'stitch-up' over regional deprivation fund" *The Guardian*, 4 March 2021; "Johnson under pressure to publish 'levelling-up' fund criteria" *FT,* 4 March 2021

34 The Green Book page on gov.uk has links to related and supplementary guidance

Why was the Green book reviewed?

The review was set up (at Budget 2020) in response to concerns that the Green Book guidance may "mitigate against investment in poorer parts of the UK and undermine the Government's aim to "level up" these areas".[35] The review went wider looking, for instance, at appraising environmental impacts and the impact of intervention on equalities.

What is the outcome of the review?

The Green Book has been revised based on the findings of the review. HM Treasury say that the revisions:

- introduce a stronger requirement to establish clear objectives from a projects outset to support the Government's overall strategic ambitions (such a levelling-up or achieving net zero carbon emissions by 2050);
- mean that only options with a strong strategic case should be short listed for more detailed analysis, known as cost benefit analysis;
- introduce new guidance on appraising transformational changes, which are radical permanent changes to the subject being transformed;
- will ensure appropriate analysis of place-based impacts. Place-based impacts are the effects a policy may have on specific geographic areas of the UK. Where they are thought to be significant, an assessment of place-based impacts will be expected;
- highlights and clarifies the tools for appraising environmental projects or projects with environmental impacts;
- improve analysis on how impacts vary across groups, including in assessments stemming from the Equality Act public sector equality duty, and under the Government's 'family test'.

The review's findings are also leading to changes in the culture and process of appraisal and decision making, including that:

- departments' bids for funding through Spending Review 2021 process will have to be aligned with the new guidance and principles in the revised Green Book;
- departments will be expected to appoint an official to support project owners who is trained and accredited at practitioner level in the Treasury's business case methodology, and who has a strong understanding of the relevant policy area and its strategic context;
- training for practitioners will be expanded;
- more digital Green Book content will be made available, including 'bite size' sessions on individual aspects of appraisal, as well as online FAQs and case studies;
- peer support is being improved and stronger links between HM Treasury and Green Book users forged through a newly established network of Green Book users.

Decarbonising and adapting to climate change

The Government has committed to achieving net zero carbon emissions by 2050. The National Infrastructure Strategy sets out the approach the Government will take to infrastructure in order to meet net zero and climate change commitments. The approach includes:

- working closely with investors, industry and households – for instance, by providing policy and regulatory certainty for investors;
- using public finance to overcome short-term barriers to investment in new technologies;
- using regulation and tax measures to drive competition and open new markets.

Measures being taken by the Government include:

[35] HM Treasury. Green Book Review 2020: Findings and response, November 2020, para 1.3

- investing in offshore wind, modern ports and manufacturing infrastructure to expand renewable energy generation;
- up to £525 million to bring forward large scale nuclear and invest in the development of advanced nuclear technologies;
- £1 billion to support carbon capture and storage;
- investing £1.3 billon in charging infrastructure for electric vehicles;
- setting a regulatory environment to promote energy efficiency;
- supporting the roll-out of existing technologies such as heat pumps and development of emerging technologies to help heat decarbonisation;
- investing £5.2 billion by 2027 for flood defence and preventing of coastal erosion.

Supporting private investment

As discussed previously, significant infrastructure investment comes from the private sector. The National Infrastructure Strategy sets out the Government's approach for supporting and encouraging such investment:

- setting up a UK infrastructure bank (see below);
- supporting independent economic regulation, such as that operating in the utilities sectors. A policy paper on economic regulation, considering areas such as regulator duties, will be published in 2021;
- developing new revenue support models to reduce uncertainty for private investors.

The Government's approach was informed by a review of private investment in infrastructure (the Infrastructure Finance Review – see section 4.2) and a review of the UK's system of economic regulation by the National Infrastructure Commission.

Accelerating and improving delivery

Much of the Government's reforms in this area arise out of a Government project set up in summer 2020 to "review every part of the infrastructure project life cycle and identify where improvements could be made."[36] The Government labelled the project as Project Speed. The reforms cut across four areas:

- reforming infrastructure planning and better environmental regulations, which includes accelerating planning permission by improving the planning system;
- simplifying procurement regulations and modernising the construction sector;
- more effective decision making;
- improving capability and leadership.

Upcoming reviews/publications

The Government is publishing a series of publications to set out further details on key areas of infrastructure policy:

- In the next three months:

[36] HM Treasury. National Infrastructure Strategy, November 2020, page 78

  - The Union Connectivity Review
  - The Construction Playbook
  - The Integrated Rail Plan
  - The Energy White Paper
- In the next six months:
  - The Net Zero Review final report
  - The National Infrastructure and Construction Pipeline
  - Transforming Infrastructure Performance 2021
  - A transport decarbonisation plan
- In the next twelve months:
  - The English Devolution and Local Recovery White Paper
  - An electric vehicle charging infrastructure strategy
  - A heat and buildings strategy
  - A hydrogen strategy
  - An industrial decarbonisation strategy
  - A refreshed Industrial Strategy

3.2 Planning and infrastructure

Nationally Significant Infrastructure Projects

The *Planning Act 2008* and the *Localism Act 2011* set out a planning permission framework for approvals relating to projects in energy, transport, water, and waste. This framework is intended to speed up the planning permission process for this sort of project.

The 2008 Act sets out a threshold over which projects are considered 'nationally significant'. Once this status has been granted by the Planning Inspectorate, the application will be examined by the Inspectorate and a recommendation will be made to the relevant Secretary of State, who will make a decision on whether to grant consent or refuse planning permission for the project. The process is timetabled to take approximately 15 months from start to finish.[37]

By making the process more transparent and quicker, it is hoped that fewer potential infrastructure investors will be put off by the planning permission process.

Further information can be found in the House of Commons Library briefing Planning for Nationally Significant Infrastructure Projects and Box 1 of What next for planning in England? The National Planning Policy Framework.

[37] National Infrastructure Planning website, Planning Inspectorate role, 2012

4. Infrastructure bodies

4.1 National Infrastructure Commission

The National Infrastructure Commission (the Commission) provides the Government with impartial, expert advice on the UK's long-term infrastructure needs.

In each Parliament, the Commission will provide a comprehensive report on the UK's infrastructure needs over the next 30 years (called the National Infrastructure Assessment, the first of which was published in July 2018). The Government's response to the assessment was published alongside the National Infrastructure Strategy in November 2020.

The National Infrastructure Commission provides the Government with impartial, expert advice on the UK's long-term infrastructure needs.

In addition to the National Infrastructure Assessments, the Commission publishes reports on individual infrastructure projects as requested by the Government.

The Commission was established permanently as an Executive Agency of HM Treasury on 24 January 2017.[38]

Box 4: Charter for the National Infrastructure Commission

The Commission's relationship with Government was formalised in a Charter published on 12 October 2016.[39] The Charter explains that the Commission must carry out its work in accordance with a remit and terms of reference set by the government, but in all other respects it has complete discretion to determine independently its work programme, methodologies and recommendations, as well as the content of its reports and public statements.

The Charter commits the Government to:

- Issue a formal response to all recommendations contained in Commission reports, stating whether the Government accepts or rejects the recommendations.
- Provide reasons for disagreeing with Commission recommendations
- Lay Commission reports before Parliament
- Share relevant information with the Commission and respond to reasonable requests

Further information on the Commission can be found in the Commons Library Briefing Paper on the National Infrastructure Commission.

National Infrastructure Assessment

The major output of the Commission is the National Infrastructure Assessment. Once a Parliament, the Commission provides a comprehensive report on the UK's long-term infrastructure needs up to 2050. The government is obliged to respond to the recommendations, either by accepting them or suggesting alternatives. The Commission's first Chair, Lord Adonis, stated that "developing the National Infrastructure Assessment will be an enormous piece of work".[40]

[38] National Infrastructure Commission, Corporate Plan 2017-18 to 2019-20, p. 6
[39] HM Government, *Charter for the National Infrastructure Commission*, 12 October 2016
[40] National Infrastructure Commission, Assessment Consultation, May 2015

The first National Infrastructure Assessment was published in July 2018 and is organised around the following recommendations:[41]

- **Low carbon energy** – making a switch to low-carbon and renewable sources for both the country's power and heating, combined with a move towards electric vehicles, would mean the customer of 2050 would pay the same in real terms for their energy as today
- **Digital technology** – that the Government devise a National Broadband Plan by Spring 2019, to deliver full fibre connections across the whole of the country, including those in rural areas – this should ensure that the technology is available to 15 million homes and businesses by 2025, 25 million by 2030, and all homes and businesses by 2033
- **The future for the nation's roads** – that the Government work with councils and private companies to deliver a national network of charging points for electric vehicles and ensures that the impacts of connected and autonomous vehicles are taken into account when planning for the next rail control period and road investment strategy;
- **Encouraging growth of cities** – that Metro Mayors and city leaders develop and implement long-term strategies for transport, employment and housing in their areas, to support economic growth, with new powers and devolved infrastructure budgets. The National Infrastructure Assessment's spending plans include funding for projects including Crossrail 2 in London, and Northern Powerhouse Rail linking the major Northern cities, and recommends a boost in funding for major cities totalling £43 billion to 2040, with cities given stable five-year budgets, starting in 2021;
- **Tackling floods** – that the Government should put in place a long-term strategy to deliver a nationwide standard of flood resilience by 2050 with funding for flood risk management increasing significantly over the coming decades
- **Cutting waste** – that new national rules for what can and cannot be recycled be introduced, with restrictions on the hardest-to-recycle plastics, aimed at increasing rates and reducing the amount of plastics going to incinerators. This would also mean that all food waste is separated making it available to create biogas, so it can be used to heat people's homes and potentially as a transport fuel

The Assessment also includes an assessment of the total overall cost of the proposals. In each five-year period, the recommendations will cost between 1.2% and 0.8% of GDP. The costs are detailed in the following table taken from the Assessment:[42]

41 National Infrastructure Commission, *National Infrastructure Assessment summary*, 2018
42 National Infrastructure Commission, *National Infrastructure Assessment*, 2018, p112

Table 7.1: The fiscal remit

Average annual expenditure (£ million, 2018/19 prices)	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045	2045-2050
Transport						
HS2	4,500	3,900	900			
Crossrail 2	200	2,200	2,900			
Northern Powerhouse Rail	200	1,100	1,700	1,800		
Network Rail	6,100	6,100				
Highways England	4,300	3,200				
Strategic Transport*			10,500	11,400	11,200	11,600
Devolved Cities	3,300	3,600	4,600	5,400	6,100	6,800
Transport for London	2,600	2,900	2,200	2,000	2,200	2,400
Urban Major Projects	500	400	2,400	3,100	3,500	3,900
Non-urban local transport	2,700	2,900	3,400	3,800	4,200	4,700
Local Roads Backlog		500	500			
Housing Infrastructure Fund	500	200	200	200	200	200
Energy						
Energy efficiency	100	300	300	100		
EV Charging	2**					
Digital						
Rural fibre	400	300	100			
Waste	600	500	500	500	500	500
Flood Resilience	600	700	900	1,300	1,300	1,300
Studies Contingency	300	400	400	400	400	400
Total expenditure on infrastructure	**26,900**	**29,200**	**31,500**	**30,000**	**29,600**	**31,800**
As a % of GDP	**1.2%**	**1.2%**	**1.2%**	**1.0%**	**0.9%**	**0.8%**

*combined allocation for road and rail.
**£10m funding in 2020/21.

The Government's response to the assessment was published alongside the National Infrastructure Strategy in November 2020. The Government either fully, mostly or partially endorsed 56 of the Assessment's 64 recommendations.[43]

4.2 Infrastructure and Projects Authority

On 11 November 2015 it was announced that the Major Projects Authority (MPA) and Infrastructure UK would merge to form a new body from 1 January 2016, called the Infrastructure and Projects Authority (IPA).[44]

The IPA reports jointly to the Treasury and Cabinet Office. It combines the functions of project assurance and monitoring from the MPA and the focus on long-term financing from Infrastructure UK.

The IPA reports annually on the status of all the major projects on going in government.[45] This is done in the form of a RAG (red, amber, green) report that scores projects on the likelihood of them achieving their aims. A project given a green mark is highly likely to be completed on time and on budget. A project given a red mark appears unachievable in the given timescale and budget.

For example, in the IPA's most recent annual report, a green mark was awarded to the Prison Education Programme, which is providing

[43] Recommendation 23 was split into 23a and 23b. The Government mostly endorsed 23a but didn't endorse 23b. Recommendations not endorsed were: 14, 19, 33, 35, 42, 62 and 63.
[44] Cabinet Office, Government creates new body to help manage and deliver major projects for UK economy, 11 November 2015
[45] IPA, *Annual Report 2019/20*, 2020, p31

education services for adult prisons in England. A red mark was awarded to London's Crossrail project.[46]

[46] Ibid, p40, 335

5. Government policies to encourage investment

The Government has taken, or is taking, measures to increase infrastructure investment or to make this type of investment more attractive to the private sector.

5.1 UK Infrastructure Bank

The Government is setting up a UK Infrastructure Bank to, amongst other things, co-invest alongside the private sector in infrastructure projects (see section 3.1). The Bank will help the Government deliver the National Infrastructure Strategy and will begin operating in an interim form in spring 2021.[47]

The Bank will replace some of the activities of the European Investment Bank (EIB), of which the UK is no longer a member, but "will provide more targeted support….and will be better aligned with the UK government's objectives."[48] The National Infrastructure Commission previously recommended that a UK Infrastructure Bank should be established once the UK left the EIB.[49]

Objectives and focus

The Bank's core objectives will be to help tackle climate change and support regional and local economic growth. To do this the Bank will extend loans, equity financing, and guarantees to fund private sector projects that are consistent with these objectives.

The Bank's primary focus will be on the economic infrastructure sectors covered in the National Infrastructure Strategy, including clean energy, transport, digital, water and waste. It will also be able to lend to university projects that generate a return to support regional and local growth.

Functions

To support its objectives, the Bank will carry out the following functions:

- provide a range of financing tools across the capital structure including debt, hybrid products, equity and guarantees to support private infrastructure projects
- provide loans to local authorities for strategic infrastructure projects
- act as a centre of expertise and provide advisory support to projects
- expand institutional investment in UK infrastructure

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[47] HM Treasury. National Infrastructure Strategy, November 2020, page 70; HM Treasury. Infrastructure Finance Review: Summary of consultation feedback, November 2020; HM Treasury. Response to the National Infrastructure Assessment, November 2020, paras 1.192-1.195

[48] HM Treasury. Infrastructure Finance Review: Summary of consultation feedback, November 2020

[49] National Infrastructure Commission. National Infrastructure Assessment, Jul 2018, page 118

Over the next five years, the Bank will have £12 billion in capital to finance loans and equity (actual liabilities) and £10 billion for issuing of guarantees (contingent liabilities). The Bank will also take over the UK Guarantee Scheme.

The Bank will prioritise investments where this an under-supply of private sector financing. By reducing barriers to investment – such as through making direct equity investments – the Bank will aim to 'crowd in' private capital.

In the public sector, the Bank will focus on providing loans to local and mayoral authorities for "high value and strategic projects of at least £5 million".

Operating and oversight

The Bank will be based in Leeds and will begin operating in an interim form in spring 2021. It will later be established as a statutory body. The Government will bring forward legislation "as soon as the parliamentary timetable allows".

The Bank will be an arm's length body owned by the Government. It will have "a high degree of operational independence."

The Government will set out a framework document for the Bank to set out its relationship with government later in spring 2021.

Further information is available in UK Infrastructure Bank: Policy Design.

Box 5: The UK and the European Investment Bank

The UK was a member of the European Investment Bank while it was in the EU.[50] Since 1973, the European Investment Bank (EIB) has lent €119 billion to the UK for a range of infrastructure projects, including the Channel Tunnel, Canary Wharf, hospitals and affordable social housing.[51]

The EIB leverages capital paid in by its members to raise money on international bond markets at low rates and lends out this money to projects. It chooses the projects to lend to based on the priorities of the EU, with decisions taken by a Board of Directors nominated by the EU member states.

Further information on the EIB can be found in the House of Commons Library briefing paper, *The European Investment Bank*.

5.2 Review of infrastructure finance

The government launched a consultation on infrastructure funding at the 2018 Budget: *The Infrastructure Finance Review*. The review highlighted the need for long term stable investment, particularly from the private sector. The review looked at the Government's tools for supporting private investment, and how they are delivered, in the context of the UK's ending relationship with the European Investment Bank.

50 The UK remained a member of the EIB during the Brexit transition period, which ended on 31 December 2020.

51 EIB. Financed projects [accessed on 8 January 2021]

The review concluded in autumn 2020, following a delay.[52] The Government's response formed part of the National Infrastructure Strategy and focused on three areas: a new national infrastructure bank, improving independent economic regulation and continuing to develop innovative tools to support investment.

The Government published a summary of the feedback they received to the review.

5.3 UK Guarantees Scheme (UKGS)

The UK Guarantees scheme (UKGS) was announced in July 2012 and was given statutory backing by the Infrastructure (Financial Assistance) Act 2012. Initially, the scheme was due to close in December 2016, but it has been extended to at least 2026.[53]

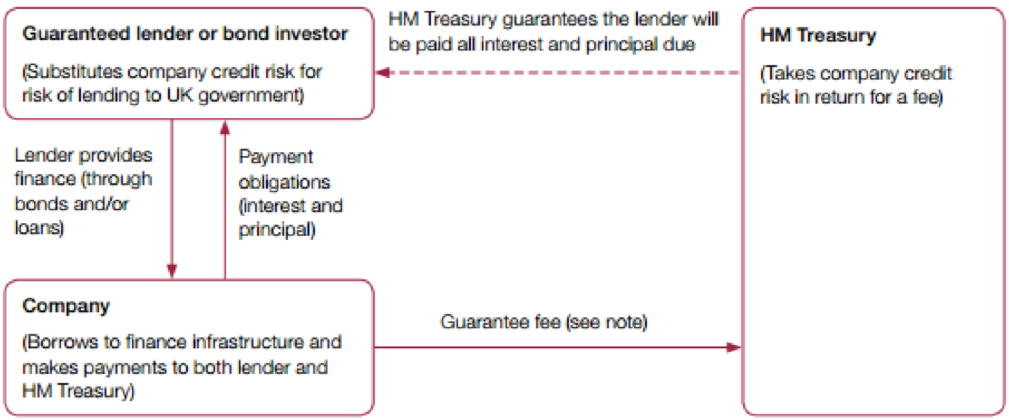
The Government takes on the risk that the company delivering infrastructure won't repay its loans

UKGS supports infrastructure investment by providing financial guarantees for money lent to fund infrastructure projects, in return for a commercial fee. Government backing of infrastructure bonds and loans reduces investors' risk. Eligible sectors include transport, energy, utilities, housing, health and education.

The following diagram from the NAO outlines how the scheme works:[54]

Figure 1

How the Scheme works



Note

1 The company agrees to reimburse HM Treasury for any payments under the UK Guarantees Scheme. HM Treasury and the company document various bilateral rights.

Source: National Audit Office, based on *A brief overview of the standard documentation 2013*, Allen & Overy for HM Treasury

The key aspects of the scheme:

- The scheme is intended to "avoid delays to investment in UK infrastructure because of adverse credit conditions making it difficult to secure private finance."[55]
- HM Treasury provides guarantees to lenders so that if the recipients of loans are unable to keep up re-payments or if the

52 The review was due to report alongside the 2019 Budget, but this was delayed when the Budget was postponed

53 HM Treasury, Autumn Statement 2016, para 3.26,

54 NAO, *UK Guarantees scheme for infrastructure*, 2015, p6

55 *Ibid*, p12

projects fail, the banks will still be reimbursed. This is intended to transfer the risk of investing in infrastructure from the banks to the government and therefore encourage more bank lending for this sort of project.

- In return for the guarantee, HM Treasury charge an annual fee to each infrastructure project company. The fee is based on the risk associated with the scheme. It is intended that the fee income paid to the Treasury exceeds any losses.

UKGS reports each year in the Infrastructure (Financial Assistance) Act 2012: annual report. The most recent report on the year ending March 2020 states that the Treasury was liable for Guarantees worth £1.5 billion.[56]

As of 2017, the projects supported were worth £4 billion of capital investment in UK infrastructure across 9 projects.[57]

5.4 Private Finance Initiative (PFI)

At the 2018 Budget, the then Chancellor Philip Hammond announced that he would abolish the use of private finance initiatives (PFI) for future building projects.[58]

PFI is a controversial approach to building and maintaining new infrastructure, such as schools, hospitals, roads and prisons. It involves a long-term contract with a company specially set up for the project – the public sector pays the company for providing the building and often associated services.

The popularity of PFI-style financing had been declining for several years. In 2004, 68 PFI project contracts were signed. In 2018, only one was signed.

However, payments for existing PFI projects will continue. Total payments for current PFI projects will be £10.3 billion in 2019/20 and will then fall as projects end.

For more information on this kind of infrastructure funding, please see the Library Insight: *Goodbye PFI*.

5.5 Pensions Infrastructure Platform

The Pensions Infrastructure Platform (PIP) was the result of a Memorandum of Understanding between the Government and UK pension funds signed in November 2011 in which the parties agreed to develop a facility to help UK pension funds invest more in UK infrastructure assets.[59] [60]

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56 HM Treasury, *Infrastructure (Financial Assistance) Act 2012: annual report for year to March 2020*, 2020, p5
57 HM Treasury. UK Guarantee scheme, August 2017 [accessed on 8 January 2021]
58 Phillip Hammond, *Budget Statement 2018*, 29 October 2018
59 Memorandum of Understanding between HM Treasury, (NAPF) and (PPF), November 2011
60 Memorandum of Understanding between HM Treasury and the pensions fund group, November 2011

UK pension funds have historically invested relatively small amounts in infrastructure assets. This is because most UK pension funds lack the capacity and in-house expertise to invest directly and assess risks. Pension funds in other countries such as Canada and Australia have been investing in infrastructure for over 20 years.[61]

The PIP intends to help UK pension funds overcome these traditional difficulties by providing a platform for UK pension funds to invest in infrastructure. As of March 2013, the platform had secured ten founding investors and reached £1 billion of investment capital.

The PIP has a target of raising an additional £2 billion of infrastructure investment.

Although the PIP is the result of an agreement with the Government, the scheme is entirely independent. The PIP is the first of its kind in the UK.

Signatories to the Memorandum include the National Association of Pension Funds (NAPF), which represents around £800 billion of assets, the Pension Protection Fund (PPF), with over £6 billion, and a group of smaller funds holding a combined £50 billion.

PIP has attracted some criticism, particularly surrounding the extent to which Government intervention was necessary to encourage pension funds to invest in infrastructure projects. Deiter Helm, an academic of infrastructure policy commented "…quite what the market failure was to which PIP was supposed to be the answer remains opaque."[62]

5.6 Local government pension scheme pools

Related to the PIP scheme is the British Wealth Funds Policy. This was announced in George Osborne's speech to the 2015 Conservative Party Conference:

> At the moment, we have 89 different local government pension funds with 89 sets of fees and costs.
>
> It's expensive and they invest little or nothing in our infrastructure.
>
> So I can tell you today we're going to work with councils to create instead half a dozen British Wealth Funds spread across the country.
>
> It will save hundreds of millions in costs, and crucially they'll invest billions in the infrastructure of their regions. [63]

By 22 January 2018, the Government had received proposals from LGPS administering authorities in England and Wales to "consolidate their assets into a small number of pools to take advantage of their scale." The Government committed to working with administering authorities to establish a new LGPS infrastructure investment platform to "boost

[61] Fund managers back infrastructure plan, *Financial Times*, 25 November 2011
[62] "British infrastructure policy and the gradual return of the state", *Oxford Review of Economic Policy*, Volume 29, Number 2, 2013, pp. 287–306
[63] George Osborne, *Speech to the 2015 Conservative Party Conference*, 5 October 2015

their capacity and capability to invest in infrastructure."[64] Eight asset pools have been established.[65]

The Ministry for Housing, Communities and Local Government ran a consultation on statutory guidance on asset pooling in the first quarter of 2019.[66] The draft guidance includes guidance on infrastructure investment, including:

> There is no target for infrastructure investment for pool members or pools, but pool members are expected to set an ambition on investment in this area. Pool companies may provide pool vehicles for investment in UK assets, or overseas assets, or both, as required to provide the risk and return profile to meet pool member investment strategies. However the Government expects pool companies to provide the capability and capacity for pools over time to move towards levels of infrastructure investment similar to overseas pension funds of comparable aggregate size.[67]

It isn't clear whether this has become statutory guidance yet.

Further information on local authority pension fund investments can be found in the Library briefing, *Local Government Pension Scheme investments.*

[64] PQ 123038, 22 January 2018
[65] HL132, 21 January 2020
[66] LGPS Scheme Advisory Board website
[67] ibid

6. Appendix

6.1 National Infrastructure plans (2011-2016)

Between 2011 and 2016, government's infrastructure priorities and its overall approach to infrastructure were set out in the annual National Infrastructure Plans *National Infrastructure Delivery Plan*. The National 2016-2021 plan was published in March 2016. It set out three key criteria guiding government in deciding which projects to invest in or support:

- Projects are **nationally significant** and must enhance **quality, sustainability and capacity**.
- Projects must have the potential to **drive economic growth** or attract significant **private sector investment**.
- Projects must help **meet the government's strategic objectives**.[68]

The Plan set out government's approach in key sectors.

[68] HM Treasury, National Infrastructure Delivery Plan 2016-2021*,* March 2016, p. 17

Government policy approach - key infrastructure sectors

Sector	Policy approach
Transport	
Roads	Maintenance and development of strategic roads is funded directly by government through the Highways Agency. Local Authorities are responsible for managing and maintaining local roads. Larger enhancements to local roads are supported by central government.
Rail	Passenger train services are provided through franchises let by the Government (except in devolved cases). Private companies bid for franchises to provide specific services. The physical infrastructure of the network is maintained and developed by Network Rail which is funded partly through money from government grants and partly through money paid to it by freight and train operating companies. The government also directly funds some schemes, such as High Speed 2 and Crossrail.
Aviation	In a largely privately owned market, the government sees its role as one of facilitating competition, ensuring a level playing field and maintaining high standards of safety and security. The development of the aviation sector is seen as a priority for industrial policy.
Energy	Government energy policy is to minimise energy costs for consumers over the long term and to meet renewables targets by 2020. Investment is from the private sector, and the government believes that "the current market is unlikely to deliver further investment...at the scale and pace required. The Government has set out several policies to tackle this problem, further information on which can be found in the relevant House of Commons Library Briefings.
Communication/digital	Government seeks to achieve increased coverage and affordability of broadband for consumers and businesses. In addition to ensuring an effective regulatory framework, Government will provide public investment where there is limited commercial viability to providing increased coverage.
Water	In the privately owned water industry, the Government's role is to ensure, though the regulator, that water is of a safe and acceptable standard, that prices are affordable and that companies are investing at levels which will meet long-term pressures.
Flood	The Government coordinates the work of Defra, the Environment Agency, private water companies and local authorities to ensure that the risks from flooding and coastal erosion are properly mitigated. The Government funds the management of rivers and flood defence system through the Environment Agency
R&D	The Government views science and innovation as key drivers of the economy. Public funds are invested in research through funding agencies, particularly the higher education funding bodies, the research councils and the Technology Strategy Board. The Government also seeks to leverage private finance for research projects.
Waste	The Government aims to ensure the current infrastructure is in place to deal with waste as efficiently and as safely as possible. Financial support is provided by government to private sector firms and local authorities in dealing with waste. The Government also seeks to meet EU-wide targets for reducing landfill use and increasing recycling.

Source: House of Commons Library analysis

The various sectors are diverse, with differing priorities, types of investment, risks and levels of public sector involvement. However, there are several themes which are common to them all:

- In all of the sectors, there is a tension between ensuring short-term affordability (for consumers and businesses) and ensuring that long-term investment is secured.
- Since investment in these sectors is unlikely to produce short-term returns, long-term involvement is required from potential investors (whether public or private sector).
- The involvement of both the public and private sectors, with the influence of independent regulators, is common in all of the sectors. This means that the competing priorities of these groups must be managed to ensure results which are acceptable to all of them.

BRIEFING PAPER
Number 6594, 8 March 2021