Infrastructure
and Projects
Authority

National Infrastructure Delivery Plan

Funding and Finance Supplement

5 December 2016

Reporting to HM Treasury and Cabinet Office

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Contents

Summary

1.1 This Funding and Finance Supplement adds to the National Infrastructure Delivery Plan (NIDP) published in March 2016 and complements the new National Infrastructure and Construction Pipeline.[1] The new pipeline sets out over £500 billion of planned investment, with over £300 billion of this to be invested by the end of this parliament in 2020/21. This supplement sets out the details of how the planned investment in the pipeline is likely to be financed, and the opportunities for private investment.

1.2 The UK infrastructure market is very active, and there is a wide range of investment opportunities in the regulated sector, the energy sector and other sectors using project finance. This allows investors to gain investment exposure to infrastructure assets by investing in infrastructure either directly, or indirectly.

1.3 Government support is also available where needed, and appropriate, to help projects access finance. This supplement sets out the range of policy actions designed to maintain investor confidence.

1.4 The Infrastructure and Projects Authority continues to engage with the investment community to help build a mutual understanding of financing requirements and investor appetite.

1 National Infrastructure and Construction Pipeline – https://www.gov.uk/government/publications/national-infrastructure-pipeline-2016

The Infrastructure and Projects Authority (IPA)

2.1 The Infrastructure and Projects Authority (IPA) works to ensure the successful delivery of all types of projects across both the government and the private sector, from infrastructure, defence and IT, through to transformational programmes designed to improve efficiency and transform the way government interacts with citizens.

2.2 To ensure the successful delivery of all types of projects, the IPA

- oversees policy on infrastructure delivery, finance and Public Private Partnerships
- deploys expert commercial, financial and delivery support
- tracks project performance and manage independent project assurance
- develops useful standards and tools, such as the Project Initiation Routemap
- supports the project delivery and project finance professions
- delivers finance schemes such as Private Finance 2 and the UK Guarantees Scheme

2.3 The IPA is led by its Chief Executive, Tony Meggs, and reports to HM Treasury and the Cabinet Office.

2.4 As the National Infrastructure Commission identifies our long-term infrastructure needs, the Infrastructure and Projects Authority ensures these are translated into successful delivery. Together both organisations establish the right framework for a comprehensive approach to infrastructure.

Introduction

3.1 The government is committed to improving the productivity of the UK economy. The government's approach to raising productivity is based on encouraging long-term investment, in order to create a dynamic economy that ensures resources are put to their best use. Infrastructure is a crucial part of this plan and is at the heart of the government's economic strategy.

3.2 The government has established a National Productivity Investment Fund (NPIF) to provide £23 billion of additional spending, which includes almost £11 billion of extra economic infrastructure and housing investment over the next four years announced at Autumn Statement 2016.[2] This is on top of the existing spending commitments on infrastructure made at the 2015 Spending Review.

3.3 The government is also committed to ensuring that this higher level of investment is maintained over the long term. As a result, at Autumn Statement 2016 the Chancellor asked the National Infrastructure Commission to plan on the basis that the government will maintain spending on economic infrastructure at 1.0-1.2% of GDP between 2020 and 2050.

3.4 However the government recognises that building the infrastructure our country needs requires more than just committing to increasing public spending. That is why the government is taking action to improve delivery and support the private funding and finance of UK infrastructure projects. At Autumn Statement the Chancellor recommitted to the UK Guarantees Scheme and extended it beyond the life of this parliament, to at least 2026. This extension helps to give investors the confidence that they need to invest.

3.5 The Chancellor also announced that the government will develop a new pipeline of projects that are suitable for delivery through the Private Finance 2 (PF2) Public Private Partnership scheme. A list of projects to make up the initial pipeline, covering both economic and social infrastructure, will be set out in early 2017.

National Infrastructure Delivery Plan 2016-21 – Funding and Finance Supplement

3.6 The importance that the government places on infrastructure finance and delivery puts the IPA at the heart of the infrastructure agenda, as the government's centre of expertise for project finance and delivery.

2 This includes £7 billion NPIF spending in the year 2021/22 which will be allocated in due course, as per the Autumn Statement 2016 announcement. As with funding already committed, the Devolved Administrations will receive Barnett consequentials in the usual way when future allocations are determined.

3.7 This Funding and Finance Supplement is being published alongside a new National Infrastructure and Construction Pipeline showing over £500 billon of investment, including over £300 billion of investment to be made by the end of this parliament in 2020-21. An accompanying National Infrastructure and Construction Pipeline Analysis document is also being published. Together these documents build on the National Infrastructure Delivery Plan (NIDP) published in March 2016, which was a step forward in bringing together the government's plans for delivering infrastructure.

3.8 This supplement adds to the NIDP by looking in more detail at the role that private funding and finance will play in delivering the pipeline, just over 50% of which will be financed by the private sector. This supplement focuses on the financing requirements for the different sectors of the pipeline and the government support that is available. Following the publication of this supplement the IPA will continue to engage with the market to ensure that an active dialogue continues between the government and the private sector.

Infrastructure funding and finance

4.1 Securing the right funding and finance is key to delivering the infrastructure the UK needs. Over time the UK has developed a range of flexible models for infrastructure finance, using both public and private investment to deliver projects as efficiently as possible.

Funding

4.2 Our infrastructure is ultimately paid for (funded) through consumer bills, user charging, public funds from taxation, or a combination of these sources. These sources provide the revenues that cover the costs for construction, operation and maintenance. However, upfront capital investment (finance) is needed to get projects under construction. Funding and finance models differ across infrastructure sectors as shown in Table A.

Table A: Economic infrastructure funding and finance models

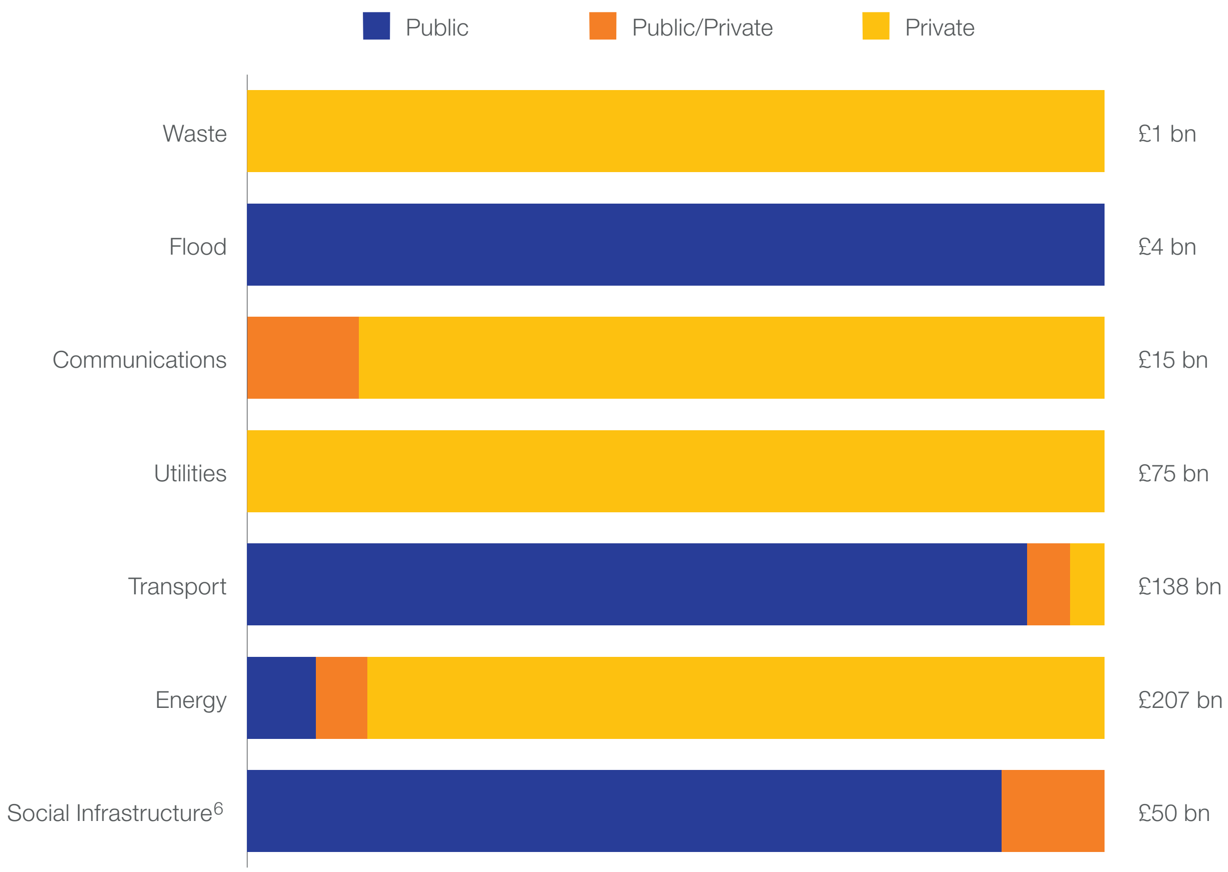
<table>
<tr><th>Funding</th><th>Energy</th><th>Comms</th><th>Transport</th><th>Water</th><th>Waste</th><th colspan="2">Financing</th></tr>
<tr><td>Paid for by taxpayer</td><td></td><td></td><td>Most road and rail infrastructure</td><td>Most coastal flood defences</td><td>Municipal waste facilities</td><td>Conventional capital procurement</td><td>Upfront investment made by public capital</td></tr>
<tr><td>Paid for by taxpayer</td><td></td><td></td><td>Rolling stock, PPP roads, e.g. Mersey Gateway and M25</td><td></td><td>Municipal waste facilities</td><td>Public/private</td><td rowspan="3">Upfront investment made by private finance</td></tr>
<tr><td rowspan="2">Paid for by user</td><td>Electricity networks</td><td></td><td>Regulated airports</td><td>Most water and sewerage</td><td></td><td>Economically regulated private industry</td></tr>
<tr><td>Electricity generation</td><td>Cable networks, broadband, telecomms</td><td>Rail operators, other airports, rolling stock, most major ports</td><td></td><td>Commercial waste facilities</td><td>Other private industry</td></tr>
</table>

Finance

4.3 Finance can be provided either through public or private sources. The main sources of infrastructure finance in the UK are the government and the wider public sector, corporate finance and project finance. Project sponsors decide the most efficient financing approach for each planned investment in the pipeline.

4.4 The graph below splits the infrastructure sectors in the pipeline by how each sector is expected to be financed including investment after 2021.

Chart A: Sector investment from 2016/17[3] onwards, split by financing model[4,5]



	Social Infrastructure	Energy	Transport	Utilities	Communications	Flood	Waste
Public	£44 bn	£18 bn	£125 bn			£4 bn	
Public/Private	£6 bn	£12 bn	£7 bn		£2 bn		
Private		£177 bn	£6 bn	£75 bn	£13 bn		£1 bn

3 Data from National Infrastructure and Construction Pipeline – all pipeline data in this supplement is for investment from 2016/17 onwards and includes post-2020/21 investments.

4 This chart does not include Autumn Statement 2016 announcements where spending is not yet identified. As a result the new PF2 pipeline is not included in the social infrastructure bar, and post 2021 NPIF spending is also not included.

5 Flood defence is predominately publicly financed, but private businesses can contribute through Defra partnership funding.

6 Social Infrastructure includes investment in housing and regeneration.

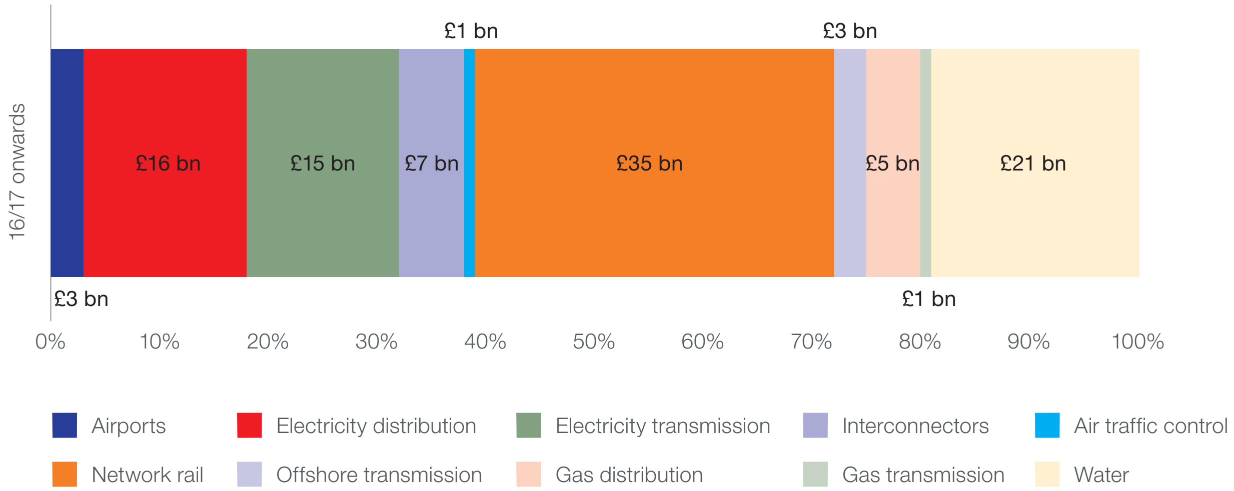
Public sector finance

4.5 The government and the wider public sector play a significant role in financing infrastructure and in several areas the public sector finances almost all infrastructure investment. Finance comes from central government departments, local authorities or arm's length delivery bodies. Public spending makes up the majority of investment in roads, rail, flood and social infrastructure in the pipeline, and plays a significant role in science and research.

Corporate finance

4.6 In the sectors dominated by private finance, most new investment will be raised through corporate finance onto company balance sheets. This is particularly the case in regulated sectors, including water and energy networks. The regulated sectors make up just over 20% of the total pipeline with planned investments of over £100 billion.

Chart B: Total planned investment in the regulated sectors, including beyond 2020-21[7]



4.7 The UK has pioneered the use of independent economic regulation for infrastructure utilities. This world-class system has already attracted significant private investment, particularly from institutional investors, with regulated firms having an enterprise value of over £150 billion.

4.8 Each regulatory framework is tailored to protect customers, reward efficiency and innovation, and to maintain investor confidence. This maximises the ability of regulated firms to access debt and equity markets competitively, bringing down the cost of capital to the benefit of consumers. The government and regulators continue to take action to ensure regulated infrastructure sectors remain attractive investments.

4.9 Non-regulated companies, including airports, ports and integrated energy companies also raise new investment onto their balance sheets.

Project finance

4.10 Where an individual project does not fall into an existing company portfolio, project finance offers an alternative method of raising capital. Investments are made directly into a project-specific company, with the risk and return dependent on the performance of that single infrastructure asset.

7 Data from National Infrastructure and Construction Pipeline.

4.11 Energy generation is the pipeline sector with the widest scope for new build (greenfield) project finance, and there are also opportunities across multiple sectors to deliver projects via PF2.

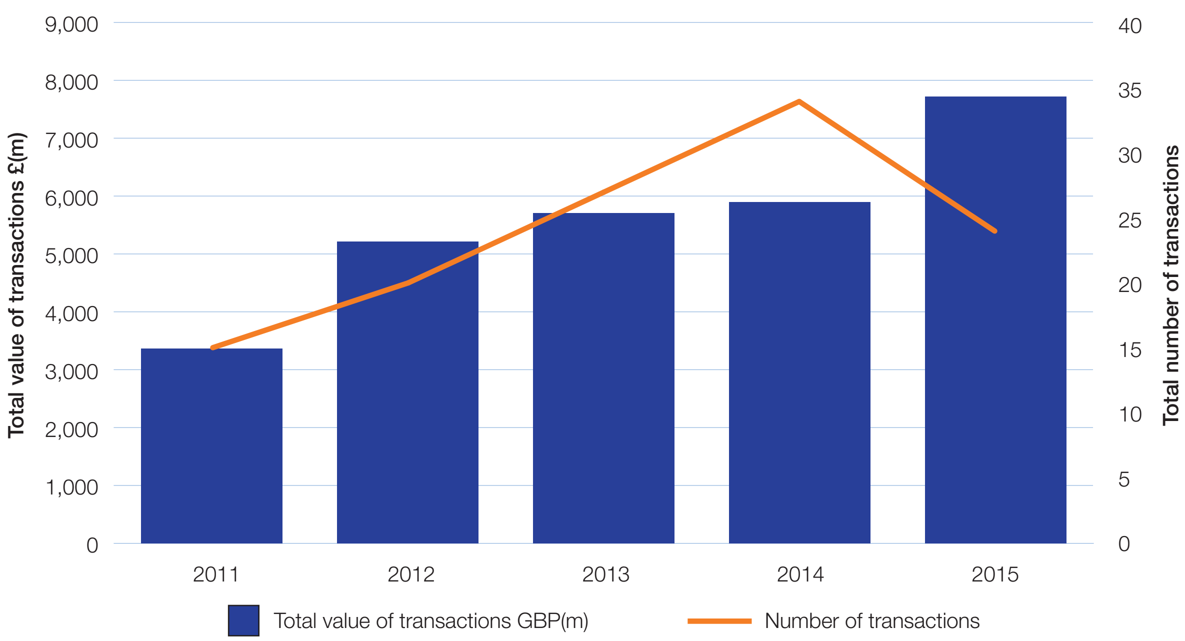
4.12 There is an active secondary market for operational (brownfield) assets through the refinancing of existing infrastructure, originally financed either on balance sheet or through project finance. These investment opportunities do not appear in the National Infrastructure and Construction Pipeline.

The infrastructure market

5.1 The government promotes an effective and efficient market environment to support the private investment that is central to delivering the pipeline.

5.2 The UK is an attractive destination for investors. Nabarro LLP's 2016 Infrastructure Index[8] continues to rank the UK as the number one country for infrastructure investors, noting the ease of doing business, a stable investment environment, innovative financing arrangements and a strong regulatory system. The UK is also a top 10 country for competitiveness in the latest World Economic Forum's Global Competiveness Rankings, and is in the top 10 for infrastructure specifically.[9]

Chart C: Value and number of project finance transactions closed for economic infrastructure in UK, 2011-2015[10]



8 Nabarro Infrastructure Index 2016 – http://www.nabarro.com/infrastructure-index-bridging-the-gap/report/

9 World Economic Forum Global Competitiveness Index – http://reports.weforum.org/global-competitiveness-index/

10 InfraDeals database.

5.3 Chart C shows the attractiveness of the UK market, reflected in the number and value of project finance deals closed in the past five years. Separate analysis by the European PPP Expertise Centre (EPEC) suggests this trend has continued into 2016, with 20 transactions completed in the first half of the year, the highest in Europe.[11]

Sources of private finance

5.4 The attractiveness of the UK's investment environment to a diverse array of investors has helped to maintain its competitiveness. There is considerable liquidity available for well-structured infrastructure projects and strong domestic and international appetite for investing in both debt and equity.

5.5 Banks play an important role and provide the majority of project finance in the UK. According to InfraDeals, in 2015 banks provided loans to around 80% of project finance deals, lending £7 billion.

5.6 Infrastructure funds offer a deep source of long-term finance, with options across both debt and equity. They represent an opportunity to invest in infrastructure indirectly, without having to undertake the resource-intensive due diligence work on individual projects. There is a wide range of infrastructure funds to match investors' individual investment preferences. Preqin data shows that infrastructure funds with the ability to invest in the UK were able to raise approximately $20 billion in 2016.[12]

5.7 Institutional Investors (insurance companies and pension funds) manage significant amounts of capital. They typically seek infrastructure assets offering long-term stable returns that match their liabilities. Their exposure is via infrastructure funds, bonds, regulated assets, and increasingly by financing projects directly. A number of institutional investors have developed dedicated infrastructure teams to achieve this. UK pension funds have also been gradually increasing their allocation of assets under management to infrastructure. 22% of defined benefit pension schemes now have some exposure to infrastructure assets with on average 2.1% of assets under management allocated to infrastructure, up from 1.4% in 2013.[13]

5.8 Strategic investors such as project developers and the supply chain, have an interest in equity ownership. We expect strategic investors to continue to be significant providers of equity capital.

5.9 The market is constantly innovating to accommodate the risk and maturity appetite of different investors. Banks and institutional investors are increasingly collaborating to develop competitive financing solutions.

11 EPEC – http://www.eib.org/epec/resources/publications/epec_market_update_2016_h1_en

12 Preqin database.

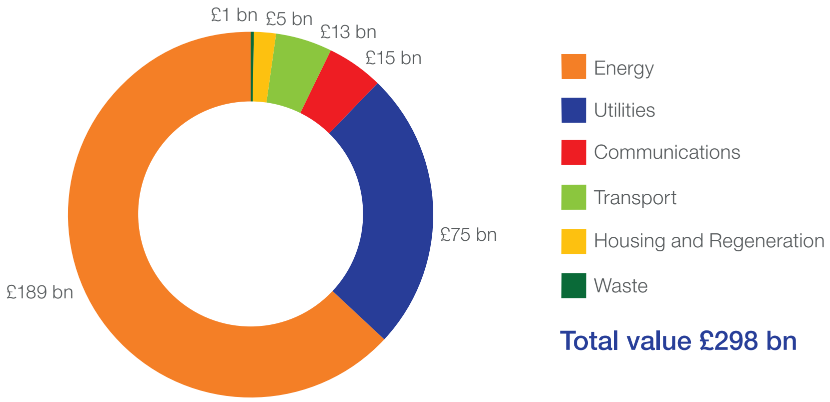
13 PLSA annual survey 2015 – http://www.plsa.co.uk/PolicyandResearch/Research/Annual-Survey.aspx

Sector investment opportunities

6.1 The range of investment opportunities varies by sector and investor appetite differs across sectors. Chart D provides an analysis of the sectors of the pipeline that will be privately financed through both project and corporate finance (excluding social infrastructure).

6.2 These numbers include investment that will be made after the end of the parliament in 2020-21.

Chart D: Total private sector investment by sector; 2016/17 and beyond[14]



6.3 The largest sector in the pipeline is energy, which is worth £189 billion, and is a competitive market using a mix of project and corporate finance. The pipeline estimates the total amount of generation expected but individual projects bid to be allocated support through the contract for difference and capacity market auctions. Project sponsors have advanced proposals for projects across a range of technologies at varying stages of development.

6.4 The next biggest sector with £75 billion of planned investment is regulated utilities, which includes electricity and gas transmission and distribution.

6.5 The communications sector of the pipeline is also largely financed by the private sector. There is £15 billion of planned capital expenditure including substantial investment in superfast broadband rollout.

14 Data from National Infrastructure and Construction Pipeline -This does not include investment in new airport capacity.

Government support

7.1 Funding and finance across different sectors require varying types of government support. The government understands the importance of stability and confidence and has taken a range of policy actions to ensure that projects can access finance, and to maintain an attractive environment for investors.

7.2 The IPA engages regularly with sponsors, banks and investors, to inform policy development and design interventions.

UK Guarantees Scheme

7.3 The UK Guarantees Scheme (UKGS) was launched in 2012 to support private investment in UK infrastructure projects. The scheme provides Treasury backing to private sector infrastructure bonds and loans, by issuing guarantees to investors to reduce their risk in return for a commercial fee.

7.4 UKGS can issue up to £40 billion worth of guarantees. To date the scheme has issued £1.8 billion worth of guarantees supporting £4 billion of capital investment in UK infrastructure across 9 projects. Three guarantees have been approved in 2016, highlighting the continued demand for the scheme.

UK Guarantees Scheme at a glance

Scale	Track record	Term	Sectors guaranteed	Debt instruments
Up to £40 billion available	• Issued 9 guarantees for projects with capital value of £4 bn • Supported 24 projects to close worth £32 bn	2 to 40 years	• Transport • Energy • Housing • Education	• Listed bonds • Bank loans • Private placements

7.5 The scheme has helped over 50 institutional investors gain exposure to infrastructure assets. UKGS has also supported another 24 pre-qualified projects to reach close by providing advice, support or commitment without ultimately providing a guarantee. This support has provided borrowers and sponsors with the confidence to raise finance with the knowledge that UKGS was available if needed.

7.6 The aim of UKGS is to support projects where finance gaps arise, without crowding out commercial finance. The IPA manages the scheme on behalf of HM Treasury through a team of experienced infrastructure finance specialists. The scheme is offered on a commercial basis and the guarantee fee is determined by the risks and structure of the underlying project.

7.7 UKGS is available across a wide range of sectors including:

- water, electricity, gas, telecommunications, sewerage or other services,
- railway facilities (including rolling stock), roads or other transport facilities,
- health or educational facilities,
- court or prison facilities, and
- housing

7.8 To be eligible for a guarantee, projects should be ready to start construction, have committed equity, present an acceptable risk to the taxpayer and be dependent on receiving a guarantee to go ahead. If a project meets these criteria it will need to go through the process set out below.

7.9 The Chancellor's Autumn Statement confirmed the government's commitment to UKGS as a tool for supporting investment in UK infrastructure and extended the scheme to at least 2026 to reassure the market of its continued availability. There is also a commitment to explore construction-only guarantees, a variant on the current UKGS product, which could help more institutional investors to invest in infrastructure. IPA will be engaging with the market to consider views.

UK Guarantees Scheme Case Studies

Case Study: Speyside Renewable Energy

In August 2014 the government provided a £48 million guarantee to investors in bonds issued by Speyside Renewable Energy, a biomass combined heat and power project located in Moray, Scotland. The total value of the project was £74 million, with equity invested by John Laing Investments Ltd and the Green Investment Bank, and Estover Energy Ltd acting as developer and project manager. The biomass power station started generating electricity in the summer of 2016 and will supply low carbon electricity to power more than 20,000 homes.

Case Study: Countesswells

In April 2016 the government provided an £86 million UK Guarantee to the Countesswells housing development in Aberdeen. The Countesswells development will comprise over 3,000 homes, of which 750 will be affordable homes, alongside which the development will also deliver all of the utilities and social infrastructure required to support such a large scale community development.

The development will be phased over 15 years and the program is expected to deliver its first completed homes in early 2017, with around 100 units forecast to be built before the end of 2017.

Case Study: Mersey Gateway Bridge

The government provided a £257 million guarantee of long-term bonds issued as part of the financing of the Mersey Gateway Bridge project. The guarantee covers half of the senior debt for the project and is a critical aspect of the £605 million financing. The project represented the first listed bond for an infrastructure project to come to market since the onset of the financial crisis. At the time it was the only deal structure combining bank loans and wrapped listed bonds since 2003.

The scheme consists of the design, build, finance, and operation of a new 1km long cable-stayed dual-three lane tolled bridge across the River Mersey and associated changes to 9.5km of approach roads.

David Whitehurst, Director, Speyside Renewable Energy Partnerships Ltd.

“Working with the UK Guarantees Scheme on our Speyside project enabled us to unlock private finance for our next £138m biomass project without the need for a guarantee.”

John Slater, Group Managing Director, Homes, Stewart Milne Group

“We are delighted that through HM Treasury, we have been successful in securing a guarantee to support the delivery of Countesswells. It is a critical project for Aberdeen over the next 15 years, delivering much needed homes and community facilities that in turn will complement Aberdeen’s economic growth.”

Private Finance 2

7.10 Private Finance 2 (PF2) is the government's preferred model for public private partnerships and, where used effectively, PF2 can deliver projects on time, within budget, and assets that are maintained to a set standard throughout their life. 46 schools in The Priority Schools Building Programme (PSBP) are being successfully delivered via PF2 and the £340 million PF2 Midland Metropolitan Hospital is currently on schedule to be opened to patients in 2018.

7.11 The government will develop a new pipeline of projects that are suitable for delivery through PF2. A list of projects to make up the initial pipeline, covering both economic and social infrastructure, will be set out in early 2017.

Other interventions

7.12 In addition to extending UKGS and announcing a new PF2 pipeline, the Chancellor announced at Autumn Statement 2016 that the government will be committing £400 million to a new Digital Infrastructure Investment Fund (DIIF). The government's investment will be at least matched by private sector investors on the same terms, and aims to increase access to commercial finance for independent ultrafast broadband / fibre network developers.

7.13 At the 2015 Autumn Statement, the government announced a call for proposals from local government pension scheme (LGPS) administering authorities to bring their assets together into a small number of pools to deliver efficiencies and develop their capacity and capability to be major infrastructure investors. Final proposals have been received and the government will complete discussions with all pools shortly, with the aim of ensuring that the pools are operational by the deadline of April 2018. The stated ambition of the pools for infrastructure investment is in the range 5-10% of assets over the long term which would represent an increase of around £10 billion across the LGPS from current allocations.

7.14 This built on previous government actions to support further institutional investment in infrastructure through advising on the creation of the Pensions Infrastructure Platform (PiP) and the Insurers' Infrastructure Investment Forum. These were established to help support UK pension funds and insurers respectively to invest in infrastructure.

7.15 Since its launch in 2012, the Green Investment Bank (GIB) has established itself as a leading investor in the UK's green economy and has committed £2.8 billion directly into 83 green infrastructure projects and funds, mobilising over £8 billion of private capital. GIB has established its own Offshore Wind Fund, which has raised over £800 million of financing, including £200 million of seed investment from GIB itself, and invested in five operational wind farms, making it the largest renewable fund in the UK. The government announced it would be seeking to sell the GIB in March 2016 and the sale process is on-going. A privately owned GIB will get the market to work on climate change while reducing the burden on taxpayers.

7.16 The European Investment Bank (EIB) continues to be a source of debt finance for infrastructure projects in the UK with EIB lending to the UK increasing in 2015. UK projects have also secured finance through the EU's "Investment Plan for Europe" which uses a €21 billon guarantee fund to enable the EIB to lend to an increased range of projects.

7.17 The UK is a member of the EIB as an EU Member State. In a statement on 28 June 2016 the EU Heads of State and the government said that while the UK remains a Member State it retains all the rights and obligations that membership brings. The EIB published a statement on 24 June 2016 confirming that: "At present the UK shareholding in the EIB remains and the EIB's engagement in the UK is unchanged."

7.19 The EIB has continued to approve and sign financing deals with UK projects since the referendum, with over £2 billion of EIB financing approved and over £400 million of deals signed for UK projects since 23 June. Notable projects approved since the referendum include a £750 million loan to National Grid to upgrade and expand gas distribution networks and a £400 million loan to Anglian Water to finance improvements to water supply and wastewater collection

7.19 In addition to these interventions supporting financing of projects, the government has taken steps to ensure that the funding streams needed to bring forward new projects exist. Legally binding Contracts for Difference (CfDs) are driving investment in low-carbon energy generation by giving greater certainty and stability of revenues to electricity generators by reducing exposure to volatile wholesale prices. The first CfD competitive auction successfully completed in March 2015 and, on 9 November 2016, the government set out details for the second CfD auction round for less established renewables technologies. The government also reaffirmed its commitment to auctioning up to £730 million of annual support on renewable electricity projects over this parliament.

7.20 The government is also supporting investment in UK electricity generation via the Capacity Market, which provides payment for reliable sources of capacity, alongside their electricity revenues, to ensure that energy is delivered when needed. It works by offering capacity providers a steady, predictable revenue stream on which they can base their future investments. The next set of auctions will be held this winter.

7.21 In addition to these policy interventions the government recognises the value in being flexible when needed, and has developed bespoke support packages for nationally significant projects where required, as for the Thames Tideway Tunnel.

Case Study: Thames Tideway Tunnel

The £4.2 billion Thames Tideway Tunnel (TTT) project was made attractive to a wide pool of investors, to ensure value for money for customers. The project was structured as a hybrid between project financing and utility financing, with a custom-made regulatory framework providing revenues from the start of construction, and a bespoke Government Support Package (GSP) was structured to cover high impact, low probability risks. The GSP includes contingent equity, debt and insurance support in specific circumstances. This has allowed the TTT project to successfully raise around £1.3 billion of equity, a £1 billion revolving loan facility, a £700 million EIB loan and £450 million index-linked forward purchase bonds.

Alistair Ray,
Director, Bazalgette Tunnel Limited, and Partner, Dalmore Capital.

"The bespoke regulatory framework and Government Support Package helped with the creation of an appropriate level of risk transfer to the private sector. This enabled us and our fellow shareholders to make a highly competitive bid for the TTT project."

7.22 The government is committed to delivering the infrastructure that the UK needs to build a more productive economy that works for all. Having the right funding and finance models in place is key to delivering this infrastructure.

7.23 Combined with maintaining a competitive market, these policies will ensure that good projects are able to access finance, and enable the delivery of improved national infrastructure, which will be central to delivering growth.