



HM TREASURY



Infrastructure UK

# National Infrastructure Plan: update 2012

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December 2012





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# Executive summary

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The *National Infrastructure Plan 2011* set out a new approach to meeting the infrastructure needs of the UK economy. Ensuring the UK's infrastructure networks receive the investment they need is essential for the future growth and productivity of the UK economy.

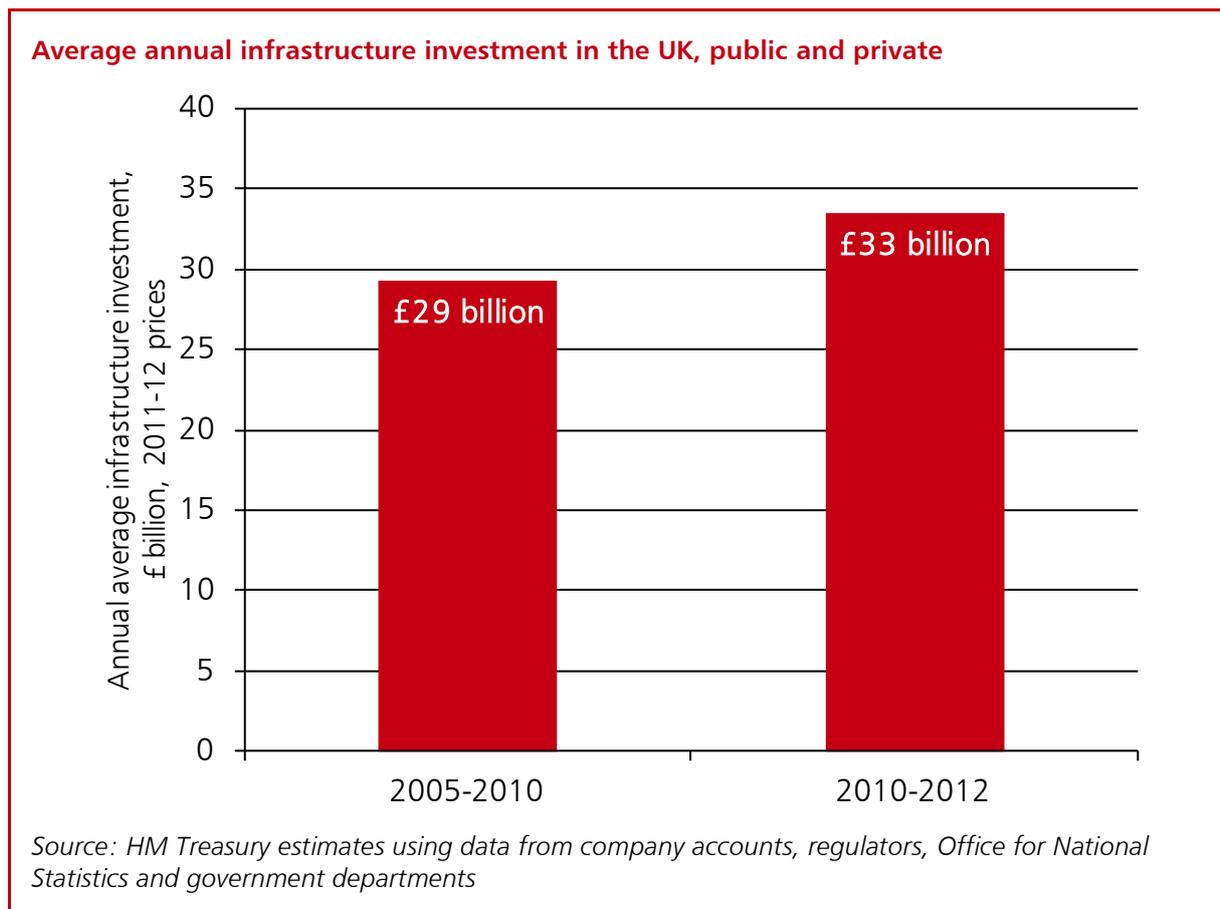
The *National Infrastructure Plan* has three elements:

- 1 effective planning for the medium term across all sectors;
- 2 mobilising financing and funding for infrastructure investment; and
- 3 the Government taking an active role in ensuring the infrastructure in the plan is delivered.

This update sets out the progress that has been made in delivering on this strategy.

## The UK's infrastructure performance

Analysis of infrastructure investment for this update indicates that average **annual infrastructure investment between 2010 and 2012 has increased to £33 billion per year from an average of £29 billion per year between 2005 and 2010**. This increase in investment is driven by increased investment in energy and transport.



The Government published with the 2011 plan a detailed pipeline of infrastructure investment. An **updated pipeline has been published alongside this delivery update. It identifies over 550 projects valued at around £310\* billion to 2015 and beyond.** This is an increase of over £45 billion in real terms over the forward infrastructure investment pipeline in 2011.

The infrastructure performance and cost indicators developed as part of the *National Infrastructure Plan* have been updated. Chapter 1 gives a summary of performance and costs between 2005 and 2011, and changes from indicators for 2010 published in the 2011 plan. The broad trends observed in the plan continue with performance improving over time. While costs continue to have increased, reflecting increased investment, they have generally improved in the most recent year for which there is data. The most notable improvement in performance is in broadband speeds where the rollout and take up of superfast broadband products has a significant effect on both performance and the cost to the consumer for a unit of bandwidth.

To meet the ambitions set out in the 2011 plan, the Government has:

- **published the Energy Bill in November 2012 to implement reform of the electricity market in from 2014.** These reforms will provide certainty to investors to bring forward up to £110 billion of investment in new energy infrastructure;
- **established the Green Investment Bank which became operational in October 2012,** funded with £3 billion to commit before April 2015, £180 million of which is already committed to waste and energy efficiency projects;
- **started main construction on four new major Highways Agency projects and completed seven existing projects** and is investing £217.5 million to tackle pinch points and local safety on the strategic road network;
- **committed to £9.4 billion of investment in the rail network between 2014 and 2019.** This will support economic growth and jobs, deliver a greener railway and one that is better for passengers and freight;
- **continued to invest in station improvements that will have improved over 300 stations by 2015** including the redevelopment of King's Cross and Birmingham New Street stations;
- set out measures in the **Aviation Policy Framework to ensure that the most effective use is made of existing aviation infrastructure;**
- **established the Airports Commission chaired by Sir Howard Davies** to examine the scale and timing of any requirement for additional capacity to maintain the UK's position as Europe's most important aviation hub, and to identify and evaluate how any need for additional capacity should be met in the short, medium and long term;
- established a **framework agreement for Local Authorities to use to deliver rural broadband** projects and secured state aid clearance to enable investment to proceed. Areas expected to have completed procurement by December are Herefordshire & Gloucestershire, Norfolk, Suffolk, Wiltshire and Devon & Somerset. Wales, North Yorkshire and Surrey are through procurement and into delivery.

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\* Following publication, an error with the formula used to account for future inflation resulted in the wrong deflators being used in some cases. This resulted in the estimates of the total value of the forward infrastructure investment pipeline being overstated. This has now been corrected.

Lancashire, Rutland and Cumbria have also signed contracts and are preparing for implementation;

- **announced the first ten 'super-connected' cities** that have been successful in securing a total of £100 million of funding to deliver ultrafast broadband and public wireless connectivity;
- published a **draft Water Bill to take forward water market reforms** that benefit customers and stimulate growth; and
- has **completed major flood risk infrastructure in Nottingham, Truro and Keswick** that are protecting over 16,000 homes.

**The Government's Gas Generation Strategy will set out its view of the expected role for gas in the coming years.** The Government expects up to 26GW of new gas capacity could be required by 2030 on current carbon budgets. If the fourth carbon budget is revised upwards and emissions reductions are more gradual, then up to 37GW of new plant could be required. Support available for low carbon electricity investment through the Levy Control Framework up to 2020 will be capped at £7.6 billion per year (real 2012 prices) in 2020-21 – more than triple the £2.35 billion available in 2012-13. This will allow generators from both renewables and gas to invest with confidence and provide protection for consumers.

## **Funding and financing infrastructure investment**

The *National Infrastructure Plan 2011* set out plans to attract major new private sector investment and in July the Government announced further support through UK Guarantees. Up to £40 billion in guarantees will be provided to ensure that priority projects in the infrastructure pipeline can raise the finance they need despite challenging credit market conditions. The scheme has received 75 enquiries from project sponsors to date, of which projects with a capital value of around £10 billion have been prequalified as eligible for consideration of a guarantee. The scheme is open until 31 December 2014.

**As one of the first projects to benefit from this scheme, the Government will provide a UK Guarantee to allow the Mayor of London to borrow £1 billion at a new preferential rate to support the Northern Line Extension to Battersea scheme,** subject to due diligence and the agreement of a binding Funding and Development Agreement with developers, the Mayor of London and partner authorities during 2013. The Northern Line extension to Battersea is key to the redevelopment of Battersea Power Station and the regeneration of an historic part of London. Government intervention has the potential to enable an £8 billion investment at the Battersea Power Station site, supporting the wider redevelopment planned for Vauxhall, Nine Elms and Battersea, which could create up to 16,000 new homes and up to 25,000 new jobs.

The Government, the National Association of Pension Funds (NAPF) and Pension Protection Fund (PPF) signed a memorandum of understanding to create the Pension Investment Platform (PIP) last year. NAPF and PPF announced in October that seven major UK pension funds have signed up to the PIP as Founding Investors and they expect to be in operation in the first half of next year. The Government has worked closely with NAPF and PPF to support the foundation of the PIP but it is fully independent of Government.

The Government has published full details of a new approach to public private partnerships, PF2. This continues to draw on private finance and expertise to deliver Government investment in public infrastructure and services, while addressing the past weaknesses of the Private Finance Initiative and responding to the recent changes in the economic context. PF2 is a new, faster

and more transparent approach to securing investment in public infrastructure. The Government will become a shareholder in future projects, to ensure a more collaborative approach to improving project performance and managing risk, and will share in the financial rewards alongside private sector shareholders.

### **Public investment in infrastructure**

At *Spending Review 2010*, the Government prioritised public capital investment in infrastructure. This was supplemented with decisions to fund additional projects at *Autumn Statement 2011* and *Budget 2012*. The *Autumn Statement 2012* extends the Government's commitment to invest in infrastructure with additional investment in key projects.

The Government is committed to ensuring that the road network is fit for the UK's future transport needs. The Government is **investing £1.5 billion to enhance and improve the road network and reduce congestion**. The Government will:

- **invest £378 million to upgrade key sections of the A1 (Lobley Hill and Leeming to Barton) in the North East** bringing the route from the M25 to Newcastle up to motorway standard;
- **expand capacity through building a new link between the A5 and M1 in the East of England and dualling the A30 Temple to Carblake in the South West, an investment of £157 million;**
- **tackle congestion with £150 million of investment for improvement works to J30 of the M25 starting in 2015; and £10 million funded from within the departments existing budget on improvements works at Junction 12 of the M40 in the West Midlands, starting in 2013;**
- **provide £270 million for priority national and local projects to remove bottlenecks and support development;**
- **invest an additional £333 million in the essential maintenance of national and local road networks** to renew, repair and extend the life of these roads;
- **invest £42 million to develop the pipeline of potential Highways Agency road schemes for investment** in the next Spending Review period; and
- **make a £42 million investment in the Sustainable Transport Fund in cycling infrastructure**, including cycling safety.

The Government is assessing the feasibility of new ownership and financing models for the strategic road network, and will report on progress by Budget 2013.

The Government will do more to protect homes and businesses from flooding and unlock sites for development. The Government will allocate an **additional £120 million over the Spending Review period to building new flood defences**. Half of this funding will be awarded to the strongest bids from growth-enabling schemes such as those being developed in Sheffield, Ipswich, Leeds, Exeter and Derby. The remainder will be used to accelerate planned schemes within the wider Environment Agency programme.

At Budget 2012, the Government committed to providing an additional £50 million to support a second wave of cities in the Government's Urban Broadband Fund and enable the UK to have the fastest and best connected communications networks in Europe. **The winning cities in the second wave are: Brighton and Hove, Cambridge, Coventry, Derby, Oxford, Portsmouth, Salford**

and York in England; Aberdeen and Perth in Scotland; Newport in Wales; and Derry/Londonderry in Northern Ireland.

## Supporting science and innovation infrastructure

The Government is investing to ensure the UK has the facilities to maintain and develop its world class research base. In October 2012, the Government announced a further £200 million in the UK Research Partnership Infrastructure Fund that was launched at *Budget 2012* with £100 million of public funding. Alongside private investment, the enlarged fund will secure over £1 billion of capital to further enhance the facilities for world class university research and build strategic partnerships between universities and the private sector across the UK, supporting long-term economic growth.

To build on these commitments and to support high quality research and the development of commercial applications of new research and technology, **the Government will invest £600 million in Research Council infrastructure and facilities for applied research and development (R&D)**. This investment will support the development of innovative technologies and strengthen the UK's competitive advantage in areas such as big data and energy efficient computing, synthetic biology and advanced materials. This extra £600 million of investment builds on previous decisions to increase capital investment in science and innovation made at fiscal events since SR10 totalling £925 million.

## Focusing on delivery

Having committed to investing in improving UK infrastructure, ensuring swift and efficient delivery is critical. In the *National Infrastructure Plan 2011*, the Government identified 40 priority infrastructure projects and programmes. A new Cabinet Committee of the Secretaries of State responsible for delivery infrastructure and chaired by the Chief Secretary to the Treasury has been established to lead the Government's focus on delivery. The Government is committed to removing barriers to the delivery of the infrastructure the country needs.

This update reports on progress in delivering both the 40 priority infrastructure projects and programmes, and against broader commitments made in the 2011 plan. Most commitments have been met, with small delays in a few cases. At the same time, the majority of priority projects and programmes are progressing well and are meeting their own delivery timetables. Specific progress has been made in delivering the priority projects and addressing any delivery issues that have emerged. This focus on delivery has:

- enabled main **construction to start on four new major Highways agency projects and seven existing projects to be completed**;
- ensured **continued progress with the development of High Speed Two** including confirming a decision to proceed;
- allowed **key local schemes to start construction** including the Rochdale bus and tram interchange, extensions to the metro systems in Birmingham and Nottingham and the White Rose Way road improvement in Doncaster;
- **secured EU state aid clearance for the Broadband Delivery UK procurement framework** enabling investment to proceed where procurement has completed;
- **granted development consent to five power station projects since March 2012** providing 1.5 gigawatts of capacity; and

- **brought forward a Growth and Infrastructure Bill** including measures to amend the special parliamentary procedures which apply to major infrastructure and help remove red tape which hinders superfast broadband being rolled out to local homes and businesses.

The Government is committed to ensuring that infrastructure investment is not subject to any unnecessary delays and that the Government finds the right balance in setting the timetable for projects between delivering them faster, addressing the risk of challenge and ensuring value for money.

It is the Government's ambition to reduce the time it takes to plan and deliver new roads by up to a half. **The Government will pilot a new delivery model for upgrades to the M1, M3, M6 and the A160/180 at Immingham.** It is the Government's intention that these pilots will help to speed up the delivery of major road schemes in the future.

## **Infrastructure UK**

**The Government will strengthen the mandate of Infrastructure UK and increase its commercial expertise to boost the delivery of growth enhancing infrastructure projects across Government.**

As part of this enhanced role, Infrastructure UK, together with an enhanced Major Projects Authority, will undertake a detailed assessment of Whitehall's ability to deliver infrastructure, building on their existing work. This assessment will be completed by Budget 2013. To ensure the assessment is as thorough as possible, it will be led by Paul Deighton as his first duty as Commercial Secretary to the Treasury, working closely with the Minister for the Cabinet Office and the Chief Secretary to the Treasury.

The Government is also determined to act to improve the environment for infrastructure investment more generally, taking the opportunities presented by significant investment in infrastructure while ensuring value for money in the construction of infrastructure. This includes:

- publishing in November 2012 a consultation on streamlining the list of planning consents which sit outside the Development Consent Order process, amending secondary legislation to update and streamline the list of prescribed consultees, and establishing new arrangements to improve coordination and communication between the Planning Inspectorate, applicants and other consenting bodies in order to make the overall consents process more efficient;
- consulting on updated guidance on conducting environmental impact assessments by Budget 2013, and will consult on raising screening thresholds set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 later in 2013.

## **Next steps**

A further update on the delivery of the priority infrastructure investments will be published in spring 2013. The next annual delivery update will be published in autumn 2013, including further updates to the infrastructure investment pipeline, investment progress and performance and cost indicators.

# 1

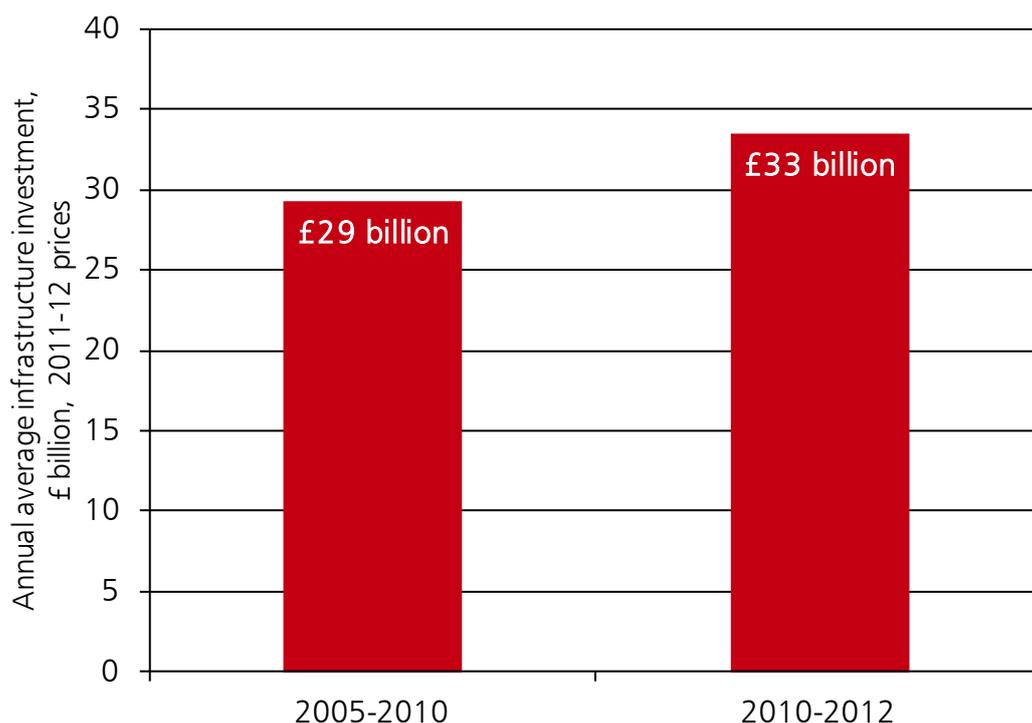
## Introduction: the UK's infrastructure performance

**1.1** Infrastructure networks form the backbone of a modern economy. Recognising their importance, the Government set out in the *National Infrastructure Plan 2011* a detailed analysis of the state of the UK's infrastructure and plans for both increased public investment in infrastructure and enhanced support for the delivery of public and private investment.

**1.2** This update sets out progress against the analysis and specific commitments made in the 2011 plan. Annex A provides an update on each of these commitments. Almost all commitments have been met. In some cases there have been brief delays, for example to enable users of guidance to inform revisions, while some actions were delivered earlier than expected. This chapter updates analysis of the UK's infrastructure performance.

### Delivering investment in UK infrastructure

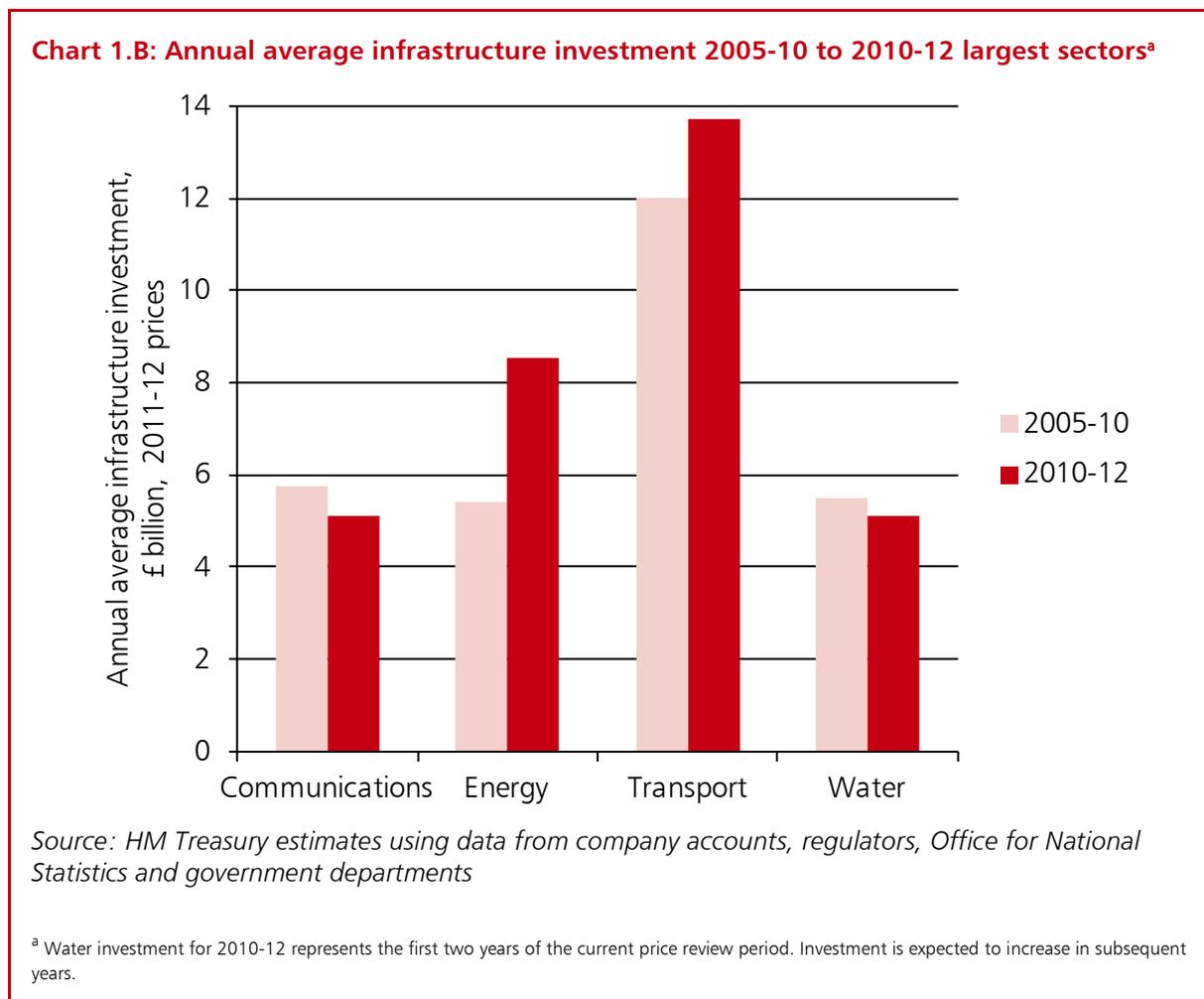
**Chart 1.A: Average annual infrastructure investment in the UK, public and private**



Source: HM Treasury estimates using data from company accounts, regulators, Office for National Statistics and government departments

**1.3** The Government has identified the level of investment in UK infrastructure increased significantly over that of recent years. **Treasury estimates indicate that average annual investment has increased from £29 billion per year over the period 2005 to 2010 to £33 billion per year between 2010 and 2012.** This is an increase of over 13 per cent (see Chart 1.A).

1.4 This increase in annual average infrastructure investment is driven by an increase in energy and transport investment. This is an average £3.1 billion per year for energy from £5.4 billion per year in 2005 to 2010 to £8.5 billion per year for 2011 to 2012. In transport, annual average investment over the same period has increased by £1.7 billion per year to £13.7 billion. Most other sectors have been relatively stable. Chart 1.B summarises the estimated changes for the four largest sectors. The Government expects investment to continue to increase over the next decade.



1.5 A significant pipeline of investment was published alongside the *National Infrastructure Plan 2011*. An updated pipeline is published alongside this update. **The Government estimates that around £310 billion of investment in infrastructure is planned from 2012 to 2015 and beyond. This is an increase of over £45 billion over pipeline estimates published in 2011.** This increase reflects both an increased number of projects and improved data coverage.

## The UK's infrastructure performance

1.6 In the *National Infrastructure Plan 2011*, the Government published for the first time measures of the performance and cost of the UK's infrastructure networks using hard data rather than opinion surveys. These indices have been updated in this delivery update, adding data published since November 2011 that enable the indices to be extended by a year to cover the period 2005 to 2011. The indices and sources are set out in detail in Annex D.

1.7 Table 1.A shows that the improvement in the performance of the UK's infrastructure since 2005 that was identified in the 2011 plan has been maintained. In most cases the level of performance improved or was stable over the latest period (2010 to 2011). Since 2005 costs to

users and taxpayers have increased, reflecting both increased investment and high demand for some types of infrastructure. Over the latest period costs have improved in six areas and were broadly stable in three others.

**Table 1.A: Summary of performance and cost trend analysis**

Sector	Evolution of performance		Evolution of cost	
	Since 2005	Change 2010 to 2011 <sup>a</sup>	Since 2005	Change 2010 to 2011 <sup>a</sup>
Major roads	↑	Stable	↑	Improved
Rail	↑	Improved	↓	Improved
Airports	↓	Stable	↑	Improved
Ports	↑	Stable	↑	Improved
Electricity	↑	Stable	↑	Stable
Gas	↑	Improved	↑	Stable
Communications	↑	Improved	↓	Improved
Water and sewerage <sup>b</sup>	↑	No 2011 data	↑	No 2011 data
Waste	↑	Stable	↑	Stable
Flood risk management	↑	Improved	↓	Improved

Source: HM Treasury analysis, see Annex D for details.  
<sup>a</sup> +/- five points is classified as stable  
<sup>b</sup> Data for water and sewerage are to 2010. Updated indices are not available due to significant changes in data collection by Ofwat

**1.8** The communications sector is of particular note. There has been a substantial improvement in performance, as new broadband services have been rolled out, and the relative cost of the services for the bandwidth they provide is significantly cheaper for end users.

**1.9** Despite improvements in overall performance, each sector faces a set of specific performance challenges. These challenges remain consistent with those identified in the 2011 plan.<sup>1</sup> The Government is taking a wide range of action to deal with these specific issues. The following chapters provide an overview of key progress in delivering both specific priority projects and programmes and wider reforms at the sector and cross-sector level.

<sup>1</sup> See Table 1.C on page 17 of the *National Infrastructure Plan 2011* for a detailed list.



# 2

## Priority programmes and projects

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**2.1** The *National Infrastructure Plan 2011* announced that the Government had identified 40 priority infrastructure projects and programmes. A new Cabinet sub-Committee chaired by the Chief Secretary to the Treasury has been established to drive forward the delivery of infrastructure.

**2.2** Overall the priority projects and programmes are continuing to progress in line with their stated timetables. Progress against of each of the priority projects and programmes since the Budget update in March 2012 is set out in Annex B. Figure 2.A below shows some of the key projects that have recently completed, those that have recently started construction and those expected to start construction soon. Key progress includes:

- **Electricity generation** – The Government **published the Energy Bill in November 2012 to implement reform of the electricity market in from 2014**. These reforms will provide certainty to investors to bring forward up to £110 billion of investment in new energy infrastructure;  
**The Government’s Gas Generation Strategy will set out its view of the expected role for gas in the coming years.** The Government expects up to 26GW of new gas capacity could required by 2030 on current carbon budgets. If the fourth carbon budget is revised upwards and emissions reductions are more gradual, then up to 37GW of new plant could be required. Support available for low carbon electricity investment through the Levy Control Framework up to 2020 will be capped at £7.6 billion per year (real 2012 prices) in 2020-21. This is a threefold increase from the £2.35 billion support provided in 2012-13 and confirms the Government’s commitment to continued expansion of investment in renewables and other low-carbon technologies such as carbon capture and storage. It also provides certainty to investors in gas generation and protection for consumers.
- **Gas production** – To maximise economic production from UK natural gas resources, the Government will also **establish an Office for Unconventional Gas. This will join up responsibilities across government, provide a single point of contact for investors and ensure a simplified and streamlined regulatory process.** The Government will also consult on the tax regime for gas;
- **Energy Intensive Industries** – The Government has announced an intention to exempt Energy Intensive Industries from the cost of Contracts for Difference under Electricity Market Reform (EMR), subject to state aid clearance and further consultation.
- **Energy consents** – The Government has granted development consent to five power station projects since March 2012 comprising two onshore wind farms, two offshore wind farms and an energy from waste facility providing 1.5 gigawatts of capacity;

- **New nuclear energy** – The Japanese technology firm Hitachi Ltd acquired Horizon Nuclear Power in November 2012 and plans to develop up to 7.8 gigawatts of new nuclear capacity in the UK at sites in Wylfa and Oldbury;
- **Roads** – The Government has started main construction of four new major Highways Agency projects and completed seven existing projects to improve capacity and reliability at a national level and has announced plans for improving the A14 in Cambridgeshire, which is one of the most seriously congested routes on the strategic road network;
- **Rail** – The Government has committed to £9.4 billion of investment in the rail network between 2014 and 2019, including an additional £4.2 billion over previous commitments. This will support economic growth and jobs, deliver a greener railway and one that is better for passengers and freight. This includes providing an investment in the region of £320 million for the Northern Hub which addresses rail capacity pinch points in and around Manchester and improves rail capacity and connectivity for the benefit of the whole of the North of England;
- **High Speed Two** – In January 2012, the Government announced its decision to proceed with a £32.7 billion national High Speed Rail network from London to Birmingham, continuing onto Manchester and Leeds. This will deliver the essential capacity and connectivity that cities and regions across the UK need to thrive, attract investment and secure their long-term economic prosperity;
- **Local transport** – The Government has continued to support and has committed to part-fund £1.7 billion of major schemes that are delivered at a local level. Local authorities have completed 19 schemes, with 24 under construction including the Rochdale Interchange, extensions to the metro systems in Birmingham and Nottingham, and the White Rose Way road improvement in Doncaster. A further 21 schemes are scheduled to start construction by August 2013;
- **London** – Transport for London (TfL) has completed investment of £6.5 billion in the Jubilee line upgrade and other key projects ahead of the summer, allowing London and the UK's transport networks to play a vital role during the 2012 Olympic and Paralympic Games. Investment continue to increase capacity on the Tube by 30 per cent overall. The Government has invested £58.7m towards the completion of the East London Line extension of the TfL London Overground rail network, delivering London's first orbital railway and linking 20 of London's 33 boroughs. The line will be open for business from Sunday 9 December 2012;
- **Airport operational freedoms** – The Airports Commission has been set up to identify and evaluate how to maintain the UK's position as Europe's most important aviation hub in the short-, medium- and long-term. In the interim, Heathrow is currently trialling operational measures to improve the punctuality and resilience of the airport. The Government will support making these measures permanent subject to successful completion of the trial and dependent on public consultation;
- **Rural broadband** – Following formal European Commission approval, on 20 November 2012, of the umbrella support scheme for rural broadband investment, implementation of local broadband projects is developing at demonstrable pace. The £530 million public investment in these projects will be at least matched by industry with an additional contribution from the European Regional Development Fund in some locations. Areas expected to have completed procurement by

December are Herefordshire & Gloucestershire, Norfolk, Suffolk, Wiltshire and Devon & Somerset. Wales, North Yorkshire and Surrey are through procurement and into delivery. Lancashire, Rutland and Cumbria have also signed contracts and are preparing for implementation. Government is working to prioritise projects with particular delivery challenges, such as Northumberland, which has been able to move into earlier than expected procurement, to commence on 10 December 2012, due to effective management by the local project team.

- **Flood and coastal erosion risk management** – The Government has completed major flood risk infrastructure in Nottingham, Truro and Keswick that are protecting over 16,000 homes; and
- **Thames Tideway Tunnel** – The Government has streamlined the planning process for major waste water projects such as the £4.1 billion Thames Tideway Tunnel by issuing the Waste Water National Policy Statement and amending the 2008 Planning Act to classify major sewers Nationally Significant Infrastructure Projects;

The Government also gained Royal assent to the Water Industry (Financial Assistance) Act 2012 to enable support to be given to water or sewerage projects like the Thames Tideway Tunnel and has announced that it is willing in principle to provide contingent financial support for exceptional project risks where this offers best value for money for customers and taxpayers and the private sector is unlikely to bear the risks at an acceptable cost;

Thames Water undertook formal publicity in July 2012 for their planned application for Development Consent for and plan to apply for the Development Consent Order early in 2013.

**2.3** In addition, the Government has secured state aid clearance for the Green Investment Bank (GIB). The GIB became operational in October 2012, funded with £3 billion to commit before April 2015, £180 million of which is already committed to waste and energy efficiency projects.

## **Public investment to support growth**

**2.4** The *Autumn Statement 2012* details further public investment in the UK's infrastructure to support growth, this is detailed below and is also shown on Figure 2.A.

### **Transport**

**2.5** The Government is committed to ensuring that the road network is fit for the UK's future transport needs. The Government is **investing £1.5 billion to enhance and improve the road network and reduce congestion**. The Government will:

- **invest £378 million to upgrade key sections of the A1 (Lobley Hill and Leeming to Barton) in the North East** bringing the route from the M25 to Newcastle up to motorway standard;
- **expand capacity through building a new link between the A5 and M1 in the East of England and dualling the A30 Temple to Carblake in the South West, an investment of £157 million;**
- **tackle congestion with £150 million of investment for improvement works to J30 of the M25 starting in 2015; and £10 million funded from within the departments existing budget on improvements works at Junction 12 of the M40 in the West Midlands, starting in 2013;**

- provide £270 million for priority national and local projects to remove bottlenecks and support development;
- invest an additional £333 million in the essential maintenance of national and local road networks to renew, repair and extend the life of these roads;
- invest £42 million to develop the pipeline of potential Highways Agency road schemes for investment in the next Spending Review period; and
- make a £42 million investment in the Sustainable Transport Fund in cycling infrastructure, including cycling safety.

2.6 The Government is assessing the feasibility of new ownership and financing models for the strategic road network, and will report on progress by Budget 2013.

### **Flood and coastal erosion risk management**

2.7 The Government will do more to protect homes and businesses from flooding and unlock sites for development. The Government will allocate an **additional £120 million over the Spending Review period to building new flood defences**. Half of this funding will be awarded to the strongest bids from growth-enabling schemes such as those being developed in Sheffield, Ipswich, Leeds, Exeter and Derby. The remainder will be used to accelerate planned schemes within the wider Environment Agency programme

### **Broadband**

2.8 At Budget 2012 the Government committed to providing an additional £50 million to support a second wave of cities in the Government's Urban Broadband Fund and enable the UK to have the fastest and best connected communications networks in Europe. **The winning cities in the second wave are: Brighton and Hove, Cambridge, Coventry, Derby, Oxford, Portsmouth, Salford and York in England; Aberdeen and Perth in Scotland; Newport in Wales; and Derry/Londonderry in Northern Ireland.**

### **Supporting science and innovation infrastructure**

2.9 The Government is investing to ensure the UK has the facilities to maintain and develop its world class research base. In October 2012, the Government announced a further £200 million in the UK Research Partnership Infrastructure Fund that was launched at Budget 2012 with £100 million of public funding. Alongside private investment, the enlarged fund will secure over £1 billion of capital to further enhance the facilities for world class university research and build strategic partnerships between universities and the private sector across the UK, supporting long-term economic growth.

2.10 To build on these commitments and to support high quality research and the development of commercial applications of new research and technology, **the Government will invest £600 million in Research Council infrastructure and facilities for applied research and development (R&D)**. This investment will support the development of innovative technologies and strengthen the UK's competitive advantage in areas such as big data and energy efficient computing, synthetic biology and advanced materials. This extra £600 million of investment builds on previous decisions to increase capital investment in science and innovation made at fiscal events since SR10 totalling £925 million.

**Figure 2.A: Infrastructure delivery progress around the UK and Autumn Statement 2012 capital announcements**

**NATIONAL PROGRAMMES**

- Five year Rail Investment Plan from 2014-19, supporting £9.4 billion of investment
- An additional £120 million for building new flood defences
- The Government has secured state aid clearance for the rollout of rural broadband and BT is continuing with its roll out of superfast broadband
- 4G spectrum auction beginning December 2012, some services have already been rolled out on existing spectrum
- Providing certainty for low carbon power generators by setting funding for the Levy Control Framework to 2020
- The UK Guarantees Scheme will provide up to £40 billion of guarantees nationally

**NORTHERN IRELAND**

- Rail, roads, local transport, water, flood and waste – devolved to the Northern Ireland Executive
- **New funding announced:** Additional capital allocation of £132 million
- **New funding announced:** Super-connected cities – Derry/Londonderry

**NORTH WEST**

- **Starting soon:** Blackburn Pennine Reach Rapid Bus Transport Scheme – 2013
- **Under construction:** Carrington power station – Gas (CCGT) Investment: financial close achieved, completed by 2016
- **New funding announced:** Super-connected cities – Salford

**SCOTLAND**

- Rail, roads, local transport, water, flood and waste – devolved to the Scottish Government
- **Under construction:** Whitelee Onshore Wind Farm – 217MW extension complete
- **New funding announced:** Additional capital allocation of £394 million
- **New funding announced:** Super-connected cities – Aberdeen and Perth

**NORTH EAST**

- **Completed:** Tees Multimodal Bio-Freight Terminal
- **Starting soon:** Sunderland Strategic Transport Corridor – 2013
- **New funding announced:** A1 Upgrade Works Lobley Hill (£64 million)

**YORKSHIRE AND THE HUMBER**

- **Completed:** East Coast Mainline York Holgate Junction Scheme – work **completed**, and planning approvals obtained for North Doncaster Chord
- **Starting soon:** Beverley Integrated Transport Scheme – work starts in 2013
- **New funding announced:** A160/180 Immingham dualling scheme
- **Under construction:** M62 J25-30 – due to **complete** in 2013
- **Under construction:** A6182 White Rose Way Improvement Works – due to **complete** 2013
- **New funding announced:** A1 Leeming to Barton – converting dual carriageway into 3 lanes (£314 million)
- **New funding announced:** Super-connected cities – York

**WEST MIDLANDS**

- **Starting soon:** Darlston Access Improvement Scheme to enhance road access to the area – 2013
- **Starting soon:** Worcester Integrated Transport Project – 2013
- **Under construction:** M6 J5-8 expected to **complete** in 2014
- **Under construction:** Midland Metro Birmingham Extension – expected to **complete** in 2015
- **New funding announced:** M6 J10A to 13 accelerated delivery pilot (part of £95 million scheme)
- **New funding announced:** M40 J12 works (£10 million)
- **New funding announced:** Super-connected cities – Coventry

**EAST MIDLANDS**

- **Starting soon:** Loughborough Road Improvements – work starts early 2013
- **Starting soon:** London Road bridge, Derby – work starts 2013
- **Under construction:** Nottingham Tram Extension – **opens** to public in 2014
- **Under construction:** A43 Corby Link – due to **complete** in 2014
- **New funding announced:** M1 J28 to 31 accelerated delivery pilot (part of £95 million scheme)
- **New funding announced:** Super-connected cities – Derby

**WALES**

- Roads, local transport, water, flood and waste – devolved to the Welsh Government
- Enhanced capital allowances have been made available at two additional sites within Welsh Enterprise Zones at Ebbw Vale and Haven Waterway
- **Starting soon:** Pen y Cymoedd onshore wind farm – development consent granted May 2012
- **New funding announced:** Additional capital allocation of £227 million
- **New funding announced:** Super-connected cities – Newport

**EAST OF ENGLAND**

- **Under construction:** East Coast Mainline Enhancements – Hitchin flyover
- **Starting soon:** A11 Fiveways to Thetford – 2013
- **Under construction:** M1 J10-13 Improvements
- **New funding announced:** A5-M1 new link road (£127 million)
- **New funding announced:** J30 M25 improvement works (£150 million)
- **New funding announced:** Super-connected cities – Cambridge

**SOUTH WEST**

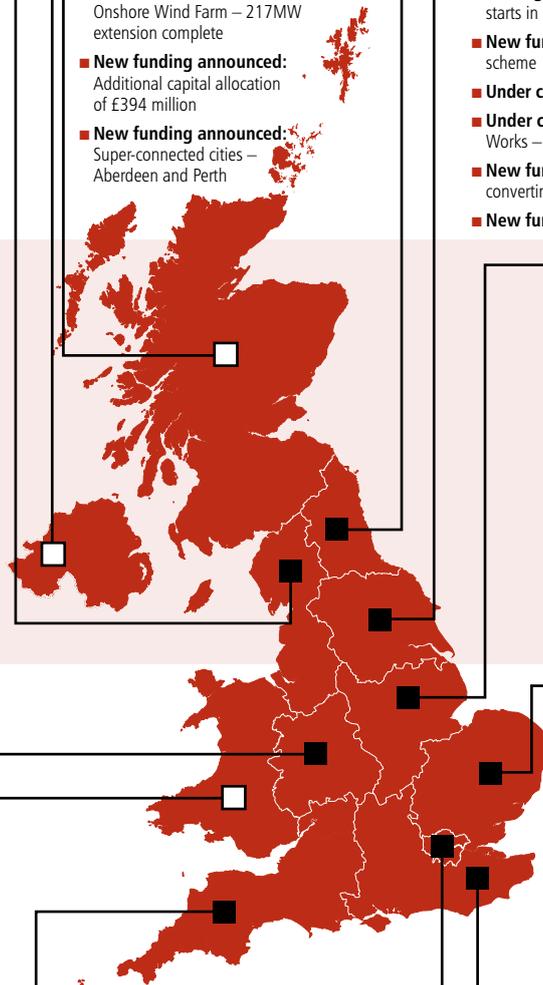
- **Starting soon:** Camborne Pool Redruth Infrastructure project – 2013
- **Under construction:** M4/M5 managed motorway scheme – due to **complete** in spring 2014
- **Under construction:** Kingskerswell Bypass – due to **complete** in 2015
- **New funding announced:** A30 Temple to Carblake dualling works (£30 million)

**LONDON**

- **Completed:** Thameslink – Blackfriars station upgrade now **reopened**
- **Completed:** Underground Investment – Jubilee, Victoria and Metropolitan line upgrades
- **Under construction:** Crossrail – 1,300m tunnelling from Royal Oak
- **New funding announced:** Northern Line Extension to Battersea – providing a UK Guarantee to support the £1 billion investment to extend the Northern Line

**SOUTH EAST**

- **Starting soon:** Bexhill-Hastings Link Road – 2013
- **Under construction:** A23 Handcross to Warringlid – due to **complete** in 2014
- **Under construction:** Reading Station Upgrade Programme – new high level western concourse and road bridges in position
- **New funding announced:** M3 J2 to 4A accelerated delivery pilot (part of £95 million scheme)
- **New funding announced:** Super-connected cities – Brighton & Hove, Oxford and Portsmouth





# 3

## Sectoral infrastructure plan updates

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**3.1** The *National Infrastructure Plan 2011* set out detailed plans and cost and performance indices for each infrastructure sector. This chapter updates on progress against key commitments in the sector plans. A detailed update against commitments made in the 2011 plan can be found at Annex B. The cost and performance indices have also been updated. Details of the updated indices are presented in Annex D.

### Transport

**3.2** To meet commitments in the *National Infrastructure Plan 2011*, the Government has:

- started main construction of four new major Highways Agency projects and completed seven existing projects to improve capacity and reliability at a national level, and has announced plans for improving the A14 in Cambridgeshire which is one of the most seriously congested routes on the strategic road network;
- invested £217.5 million to tackle congestion pinch points and safety at a local level on the strategic road network. By March 2015, this pinch point fund will have delivered a series of smaller schemes which will support economic growth at a local level by improving the reliability and safety of journeys;
- set out measures in the *Aviation Policy Framework* to ensure that the most effective use is made of existing aviation infrastructure. The Government has also ended the Cranford Agreement which will allow Heathrow to operate consistently whether there are easterly or westerly winds and the recent trial of operational freedoms at Heathrow further shows the Government's commitment to allowing airports to maximise existing infrastructure;
- announced its decision to proceed with a national High Speed Rail network from London to Birmingham, continuing onto Manchester and Leeds. This will deliver the essential capacity and connectivity that cities and regions across the UK need to thrive, attract investment and secure their long-term economic prosperity;
- continued to invest in station improvements. By the end of this Parliament, over 300 stations will have been improved, ranging from the new King's Cross and the new Birmingham New Street, to a wide range of to smaller scale improvements at local stations. These enhancements are not only boosting much needed capacity at these stations but are also reducing the hassle of getting around by making them more accessible to walkers, cyclists and disabled people; and
- continued to support the £30 million Plugged-in Places programme to encourage the establishment of plug-in vehicle recharging infrastructure across the UK. This will be completed by March 2013.

**3.3** Gatwick rail station has received £53 million jointly funded by Network Rail and the airport owner to upgrade the station. This includes enhancements to capacity through track and signalling improvements, refurbishment of the concourse area for passengers as well as

improvements to lifts and escalators to provide Access for All. Construction has now started and is planned to be completed by the end of 2013.

**3.4** In addition, investment to make the Tube more accessible means that 66 stations now have step-free access, and platform humps have been installed at many stations. The Government contributed £15m in 2012 towards cycle safety infrastructure in London to support Transport for London measures to reduce the rate of collisions and facilitate an increase in cycling in London.

**3.5** In addition, to build on this progress the Government will:

- publish a Door to Door Strategy to support a well-connected, smart and sustainable transport system that works for everyone. It will encourage people to make greener choices by enabling transport delivery agents to understand better the Government's vision for the door to door journey and introduce initiatives that will make it easier and more convenient to make the whole journey through sustainable means;
- Further improve integration between different modes of transport through:
  - ring fencing £200 million in the rail *High Level Output Specification* for the Strategic Freight Network to continue developing an efficient and sustainable logistics system which will underpin economic growth;
  - committing funding for a new rail line from the Great Western Main Line near Slough to Heathrow. Network Rail is shortly to commence feasibility studies to assess route options. The new line will provide significantly shorter journey times to Heathrow from the Thames Valley, the West of England and Wales by 2021; and
  - continuing to support the development and roll-out of integrated and smart ticketing schemes. For example, South East Flexible Ticketing is a £45 million programme that will enable operators to provide rail passengers in the South East of England with a range of smart, innovative ticket types that reflect the way people work and travel now.

**3.6** Improvements to existing infrastructure will not always be enough to meet the UK's future transport needs and it is vital to think about the long term when considering these needs. For example, the *Rail Reform Command Paper* that was published in March 2012 sets out proposals for making the railways more financially sustainable in the longer term so they can contribute to the country's economic growth and environmental goals.

**3.7** In September 2012, the Government asked Sir Howard Davies to chair an independent Airports Commission tasked with identifying and recommending to Government options for maintaining the UK's status as an international hub for aviation.

**3.8** The *National Policy Statement for Ports*, published in January 2012, sets a clear planning basis for future market-led investment in ports without the need for taxpayer support or central direction. And the Government will be publishing a Roads Strategy and overarching Transport Strategy in the near future.

## Energy

**3.9** The Government introduced the Energy Bill to Parliament on 29 November 2012 to implement reform of the electricity market from 2014. These reforms will provide certainty to investors to bring forward up to £110 billion investment in new infrastructure which will ensure security of supply and continue the shift to a diverse, low carbon power sector as cheaply as possible.

**3.10** The Energy Bill will introduce two mechanisms: Contracts for Difference and the powers to implement a Capacity Market that will help to attract the private sector investment needed to replace ageing energy infrastructure:

- Contracts for Difference are long-term contracts that provide stable revenues for investors in low carbon energy projects at a fixed level known as a strike price. These contracts will help developers secure the large upfront amounts of capital investment required for low carbon infrastructure such as nuclear power stations, offshore wind farms or carbon capture and storage plants;
- a Capacity Market will provide an insurance policy for the Government against future supply shortages, helping to ensure that consumers continue to receive reliable electricity supplies at an affordable cost. There is an increased risk to security of electricity supplies towards the end of the decade as a fifth of the existing capacity is set to close and more intermittent (wind) and inflexible (nuclear) generation will be built over time to replace it.

**3.11** As well as Electricity Market Reform, the Bill also makes provision:

- for a new Strategy and Policy Statement will set out the Government's strategic priorities for the energy sector in Great Britain; describe the roles and responsibilities of Government, Ofgem and other relevant bodies; and define policy outcomes that Government considers Ofgem to have a particularly important role in delivering such as growth and infrastructure;
- for the creation of the Office for Nuclear Regulation (ONR), a new independent statutory body to regulate the nuclear power industry. The ONR will build on its current strengths (as part of the Health and Safety Executive) as a world-class regulator and will be better placed to respond quickly and flexibly to current and future regulatory challenges, while retaining its focus on the protection of people and society from the hazards of nuclear generation;
- to allow for the sale of the Government Pipeline and Storage System (GPSS) a Ministry of Defence-held asset which supplies 40 per cent of aviation fuel in the UK to major commercial airports such as Heathrow and Gatwick as well as Royal Air Force and US airbases. Legislation is needed to create transferable rights of access to the land through which the pipeline runs, so that its future sale might be possible. This part of the Bill is led by the Ministry of Defence; and
- to facilitate the development of Offshore Transmission infrastructure.

**3.12** The Government's Gas Generation Strategy will set out its view of the expected role for gas in the coming years. Support available for low carbon electricity investment through the Levy Control Framework up to 2020-21 will be capped at £7.6 billion per year (real 2012 prices) in 2020-21. This is a threefold increase from the £2.35 billion support provided in 2012-13 and confirms the Government's commitment to continued expansion of investment in renewables

and other low-carbon technologies such as carbon capture and storage. It also provides certainty to investors in gas generation and protection for consumers.

**3.13** In addition, since the publication of the *National Infrastructure Plan 2011*, the Government has:

- secured state aid clearance for the Green Investment Bank (GIB). The GIB became operational in October 2012, funded with £3 billion to commit before April 2015, £180 million of which is already committed to waste and energy efficiency projects;
- published a strategic framework for low carbon heat in March 2012;
- launched a competition in April 2012 to identify carbon capture and storage projects to benefit from Government support;
- responded to the consultation on the *Renewables Obligation Banding Review* in July 2012;
- published in February 2012, through the Electricity Networks Strategy Group which the Department of Energy and Climate Change co-chairs with Ofgem, a report by the Electricity Transmission Owners identifying the potential transmission network reinforcements required to accommodate anticipated new generation to 2020;
- published statutory guidance on nuclear decommissioning and waste arrangements, and a pricing methodology for the disposal of higher activity waste in December 2011;
- set up the Offshore Wind Cost Reduction Taskforce, to help make this technology competitive and enhance deployment. The government aims to work with industry to drive a programme to reduce costs of offshore wind to £100/MWh by 2020;
- set out the *Bioenergy Strategy* in April 2012 as the framework for the development and use of sustainably produced biomass feedstocks in the UK from 2020-2050 for the heat, electricity and transport sectors; and
- are currently consulting on proposals for Renewable Heat Incentive (RHI) support of biogas combustion above 200 kWh, as well as a separate tariff to support biomass and bioliquid Combined Heat and Power (CHP). The government response is planned to be issued in early 2013 and will provide clarity on biogas, biomass, and bioliquid CHP support from the RHI.

**3.14** In addition, to build on this progress:

- Ofgem will announce final proposals for the next electricity and gas transmission and gas distribution price control periods by the end of 2012;
- the Office of Nuclear Regulation is expected to finalise the Generic Design Assessment for new reactor technologies by the end of 2012;
- launch the New Nuclear Supply Chain and Skills Action Plan in December 2012;
- the Government will announce which projects have been successful in securing support to develop carbon capture and storage technology in spring 2013; and
- the Government expects to announce the outcome of the planning process for the first new nuclear power station at Hinkley Point in spring 2013.

## Communications

**3.15** The UK's communications networks continue to see improvements in performance, taking into account speed, uptake and capacity of fixed telecoms, mobile and broadband services. Continued increases in broadband download speeds, improved availability of superfast broadband and the growing use of smartphones and tablets to access mobile data are to a large extent responsible. In addition, communications costs to consumers have continued to decrease,<sup>1</sup> despite the increase in household penetration of most telecoms technologies.<sup>2</sup>

**Table 3.A: Communications infrastructure performance 2011 to 2012**

	Performance in 2011	Performance in 2012
<b>Fixed Telephony</b>		
Coverage of fixed line telephony	100 per cent of premises	100 per cent of premises
<b>Fixed Broadband</b>		
Coverage of fixed broadband at 2 Mbps or more	86 per cent of existing connections	90 per cent of existing connections
Coverage of superfast broadband <sup>a</sup>	58 per cent of premises	65 per cent of premises
Average fixed broadband modem synch speed	7.5 Mbps	12.7 Mbps
<b>Mobile 2G (outdoor)</b>		
Premises served by all operators	97 per cent of premises	94 per cent of premises <sup>b</sup>
Premises not served by any operator	Less than 0.1 per cent of premises	0.3 per cent of premises
Geographic area coverage by all operators	66 per cent of land area	59 per cent of land area
Geographic area not served by any operator	6 per cent of land area	13 per cent of land area
<b>Mobile 3G (outdoor)</b>		
Premises served by all operators	73 per cent of premises	77 per cent of premises
Premises not served by any operator	1 per cent of premises	1 per cent of premises
Geographic area coverage by all operators	13 per cent of land area	20 per cent of land area
Geographic area not served by any operator	30 per cent of land area	24 per cent of land area
<i>Source: Infrastructure Report, Ofcom, November 2012</i>		
<sup>a</sup> Ofcom has changed its definition of superfast broadband from 24Mbps in 2011 to 30Mbps in 2012. However, Ofcom note that "due to the very small proportion of VDSL lines that operate between 24Mbps and 30Mbps (approximately 3%) the difference in reported superfast broadband take-up if the 24Mbps definition was adopted here would be very small.		
<sup>b</sup> The reduced 2G coverage and higher number of premises not covered reflect an increase in the signal Ofcom require to confirm coverage. At the level applied in 2011 (-92dBm) coverage is actually slightly improved.		

**3.16** In its first *Communications Infrastructure Report* in November 2011, Ofcom defined a number of key metrics to provide simple proxies for the state of the UK communications networks and services. In November 2012, Ofcom published an updated report, highlighting the rapid changes over the last twelve months in areas like superfast broadband and the rising use

<sup>1</sup> *Communications Market Report*, Ofcom, July 2012 (Fig 5.52)

<sup>2</sup> *Communications Market Report*, Ofcom, July 2012 (Fig 5.55)

of mobile internet. Table 3.A presents a summary of the key metrics on communications infrastructure, plus a comparison with the infrastructure dashboard from November 2011<sup>3</sup>: Of particular note is the increase in average fixed broadband speeds to 12.7 Mbps reflecting increased availability and use of superfast broadband services.

**3.17** Since the publication of the *National Infrastructure Plan 2011*, the Government has:

- worked with Ofcom to secure industry agreement to allow the auction of spectrum that will enable 4G mobile services to proceed;
- established a framework agreement for Local Authorities to use to deliver rural broadband projects, and achieved EU state aid approval for projects that meet the relevant criteria;
- announced the first ten 'super-connected' cities that have been successful in their bids for funding to deliver ultrafast broadband and public wireless connectivity;
- announced measures to remove barriers to broadband infrastructure delivery by reducing the cost of deployment and increasing certainty for communications providers rolling out new networks; and
- completed the UK digital TV switchover.

**3.18** In addition, to build on this progress the Government will:

- ensure procurement of the remaining rural broadband projects is complete by summer 2013;
- improve rural mobile coverage, with the first mast live by the end of 2013; and
- support Ofcom and successful bidders in the deployment of 4G mobile infrastructure.

## Environmental systems

### Water and sewerage

**3.19** *Water for Life*, the Water White Paper, was published in December 2011 and sets out Government's vision for future water management. This includes a resilient and sustainable water industry, which continues to attract long term investment and is innovative and efficient, so as to help meet future demands, protect the environment and benefit customers.

**3.20** Following publication of the White Paper, the Government published a draft Water Bill in July 2012, which is currently going through pre-legislative scrutiny. The draft Water Bill takes forward the market reform elements of the White Paper, which will not only benefit customers and stimulate growth, but will also contribute towards the future resilience of the water supply and the environment. Progress has also been made over the last year on delivery of White Paper commitments on water efficiency, leakage, improving water quality and tackling unsustainable abstraction.

**3.21** Leakage in 2011-12 was at its lowest level since privatisation for the industry as a whole. A major challenge in this period was the drought that began in spring 2011 and lasted until summer 2012 and required the imposition of Temporary Use Bans across much of southern and

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<sup>3</sup> *Infrastructure Report*, Ofcom, November 2012

central England. The drought was relieved by the wettest summer for about a hundred years and water resources are now normal for the time of year in most areas.

**3.22** Companies have started to develop the next round of *Water Resource Management Plans*. Where there is a supply deficit, they will be expected to demonstrate that they have considered demand management and options for trading or haring water, including interconnection across company boundaries, before considering new water resources. These plans will be published for consultation during 2013 and should be completed by April 2014.

**3.23** In recognition of the difficulties that some less well off households can face in paying water and sewerage bills, the Government has issued guidance on water company social tariffs which will enable all water companies to reduce the bills of those who would otherwise struggle to pay them in full. The Water Industry (Financial Assistance) Act 2012 has enabled delivery of the commitment to reduce bills for all household customers of South West Water by £50 per year from April 2013.

**3.24** The first cycle of the *River Basin Management Plans* for England is being implemented, to improve the quality of water bodies and to secure the economic and social benefits associated with this. This is underpinned by a major programme of around 13,000 individual investigations conducted by the Environment Agency into the various reasons for failure of water bodies to meet quality standards. This unique 'environmental census' is now almost complete and will be finished at the end of March 2013. Defra's investment of £92 million in over 430 local partnership projects is improving 16,000 km of rivers and 2,500 sq km of lakes and groundwaters to achieve better quality water bodies.

**3.25** Since the UK committed to delivering the Water Framework Directive through a catchment approach in March 2011, 66 pilot catchments have now been established which aim to engage local stakeholders to consider the pressures and agree simple catchment plans to address the priorities identified. The pilot catchments are evaluated on a quarterly basis and we have been sharing the findings and lessons with the wider water sector. The full evaluation at the end of the pilot phase in December 2012 will inform decisions on the approach for wider adoption in the spring of 2013 to support the second cycle of *River Basin Management Plans* from 2015

**3.26** In addition, since the publication of the National Infrastructure Plan 2011, the Government has:

- gained Parliamentary approval for the *Waste Water National Policy Statement*;
- gained Royal Assent to the Water Industry (Financial Assistance) Act 2012 to enable support to be given to water or sewerage projects like the Thames Tideway Tunnel if required; and
- amended Section 14 of the 2008 Planning Act to classify major sewers as Nationally Significant Infrastructure Projects enabling them to undergo a more streamlined planning process.

## **Flood and coastal erosion risk management**

**3.27** There has been extensive flooding in England and Wales in 2012 following one of the driest periods on record that ended in March 2012. Investment in flood defences is estimated to have protected more than 54,000 homes since 21 November 2012. This has included recently completed schemes such as that in Ashbourne in Derbyshire. Over 106,000 properties have been sent a flood warning.

**3.28** Since the publication of the *National Infrastructure Plan 2011*, the Government:

- is on course to spend over £2 billion through the Environment Agency in England managing flood and coastal risks over the current spending review period. The Environment Agency has created an efficiency programme to secure savings from its flood and coastal risk management capital programme. At the end of March 2012 the Environment Agency had exceeded its 3.75 per cent efficiency saving target and is on target to achieve 15 per cent savings by the end of the spending review period;
- has established a new partnership funding model. A total of 31 schemes in 2012-13 have secured £21 million of funding from external contributions. The Environment Agency expects to increase this to in excess of £60 million in 2013-14; and
- the first UK Climate Change Risk Assessment (CCRA) was published in January 2012.<sup>4</sup>

**3.29** The National Infrastructure Plan 2011 set out three specific challenges for flood and coastal erosion risk management by 2015:

- *145,000 households in England are better protected against flood and coastal erosion risk over the spending review period.* The latest figures show that the Environment Agency is on target to deliver this number. By September 2012 more than 59,000 households had received a higher level of protection thanks to the Government's capital investment in flood and coastal erosion risk management projects. The economic value of this investment is greater than £17 billion in terms of damage avoided alone. Accounting for wider economic benefits could increase this by a factor of 2 to 3. Major infrastructure, such as roads and railway lines, more than 74,000 hectare of farmland and more than 5,500 commercial properties all received a markedly improved standard of defence thanks for capital projects completing during 2011-12;
- *97 per cent of defence assets in high consequence flood systems are at, or above, target condition.* The latest figures up to August 2012 show that over 98 per cent of Environment Agency defence assets, and 97 per cent of third party assets, in high consequence systems are at or above the target condition. These figures do not include some of the effects of the summer floods. The Environment Agency operates a risk-based approach to asset inspection and maintenance and expects the asset conditions in high consequence systems to be at or above these levels at the end of the year;
- *66 per cent of households and businesses in the highest risk areas are signed up to receive the Floodline Warnings Direct service.* The Environment Agency is on track to achieve this target and has signed up 60 per cent, equivalent to 1.1 million people, already. Flood warning services are a key part of flood risk management, helping to reduce damage and harm to people, property, businesses and infrastructure. The primary method of sending flood warnings is through a system called Floodline Warnings Direct (FWD). FWD is a free service which sends flood warnings via an automated service to people by phone (landline or mobile), text, email or fax. Flood warnings and other information is also available through the Environment Agency's website, by downloading commercial apps and through

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<sup>4</sup> <http://www.defra.gov.uk/environment/climate/government/risk-assessment/>

social media. The Environment Agency introduced a new warning service for flooding from groundwater in November 2011 and this was used for the first time in 2012.

## Waste

**3.30** The Government wants England to move towards a 'zero waste economy' in which material resources are re-used, recycled or recovered, wherever possible, and only disposed of as the option of last resort. This means reducing the amount of waste that is produced and ensuring that all material resources are fully valued – financially and environmentally – both during their productive life and at 'end-of-life' as waste.

**3.31** This will help deliver a healthier natural environment and reduced impacts on climate change, but also improve the competitiveness of UK businesses through better resource efficiency and innovation.

**3.32** Since the publication of the *National Infrastructure Plan 2011*, the Government has:

- approved four more Local Authority projects which are expected to receive a total of £649m Waste Infrastructure Grant over the 25 year life of their contracts. After this approval the Authorities signed contracts with private sector suppliers to build and run waste treatment plants that divert biodegradable municipal waste from landfill; and
- increased the landfill tax standard rate to £64 per tonne in 2012-13 and committed to increasing it by £8 per annum until at least 2014-15.

**3.33** As part of the Anaerobic Digestion Action Plan, the Waste and Resources Action Programme (WRAP) is operating a loan fund to provide debt finance to help stimulate investment in additional infrastructure to support this method of recovering energy from waste to put to productive uses. The fund was set up to help prevent 300,000 tonnes of food waste from going to landfill annually. The Green Investment Bank also supports anaerobic digestion.

**3.34** In addition, to build on this progress the Government will:

- bring forward the Hazardous Waste National Policy Statement in 2013; and
- publish a National Waste Management Plan in 2013.

## Intellectual capital

**3.35** Since the publication of the *National Infrastructure Plan 2011* the Research Councils have been delivering investments from the original Spending Review allocation to the Large Facilities Capital Fund, including:

- £100 million in the Diamond Light Source Phase II, for the design, procurement, construction and commissioning of 10 further state-of-the-art beamlines; and
- £75 million in the ELIXIR infrastructure for biomolecular data storage and processing, and an industry-led clinical translation suite.

**3.36** The Research Councils are delivering investments of £295 million of capital investment announced between the Spending Review and the publication of the *National Infrastructure Plan*, including:

- £10 million to develop the Daresbury Science and Innovation Campus, £26 million to develop the Norwich Research Park, and £44 million to develop the Babraham

Research Campus. These act as major magnets of internationally mobile R&D investment, for example Element Six have recently announced £20 million investment in a global synthetic diamond innovation centre at the Harwell National Science & Innovation Campus;

- £145 million in e-infrastructure and High Performance Computing; and
- £50 million to develop a Graphene Global Research and Technology Hub to commercialise graphene, subject to business case. It will act as a catalyst to spawn new businesses, attract global companies and translate the value of scientific discovery into wealth and job creation for the UK.

**3.37** The Government has announced a further £620 million additional capital investment since the publication of the *National Infrastructure Plan* in science and innovation, including:

- £200 million in science and innovation infrastructure, including the Institute of Animal Health campus, large-scale demonstrators, and high-performance computing infrastructure;
- £300 million for UK universities to stimulate private and charity investment in strategic research partnerships, through the UK Research Partnership Investment Fund; and
- £120 million for space, through UK contribution to the European Space Agency.

**3.38** The UK Research Partnership Investment Fund has so far awarded £220 million from the Fund to 14 projects in round one announced in October/November 2012. These illustrate how Government is attracting investments from business and medical charities into the nation's infrastructure for science and research, including:

- £60 million partnership (£20 million from RPIF) between the University of Birmingham and Rolls-Royce towards a world-leading research centre for high temperature metallurgy and associated processes for components including turbine blades;
- £138 million partnership (£35 million from RPIF) of the University of Oxford and a consortium including Synergy Health, Cancer Research UK, Roche Diagnostics, GE Healthcare and the Oxford University Hospitals NHS Trust, to establish a new world-leading centre for targeted cancer research; and
- £92 million partnership (£15 million from RPIF) between the University of Warwick, Jaguar Land Rover (JLR) and Tata Motors European Technical Centre (TMETC) for a new "National Automotive Innovation Campus".

**3.39** A network of seven Catapult technology and innovation centres is currently being implemented by the Technology Strategy Board. The Government is investing over £200 million in the creation of the network. These centres will provide companies with access to specialist knowledge and equipment to support them to develop and commercialise new technologies. The technology areas in which these will be created have been identified and announced: High Value Manufacturing; Cell Therapy; Offshore Renewable Energy; Satellite Applications; the Connected Digital Economy; Transport Systems; and Future Cities.

**3.40** The High Value Manufacturing Catapult is now fully operational, based across facilities in six locations: Coventry, Bristol, Sheffield, Wilton and Sedgefield, Glasgow and Manchester. The remaining centres will become operational during 2012 and 2013. The locations of three centres have been announced:

- Cell Therapy in London;
- Offshore Renewable Energy in Glasgow/Blythe; and
- Satellite Applications in Harwell, Oxfordshire.

**3.41** The locations of the remaining centres will be announced in 2013.

**3.42** In November 2012, the Chancellor announced the publication of the Research Councils UK Strategic Framework for Capital Investment, which provides a framework for future capital investment in science and research, illustrating how the Government is driving forward the infrastructure agenda for science and research. A further £600 million capital investment in science and innovation infrastructure was announced at *Autumn Statement 2012*.



# 4

## Wider infrastructure progress

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### Addressing opportunities and risks across sectors

#### Interdependencies

**4.1** Increasingly national infrastructure networks depend on each other to operate. For example, communications networks rely on power from the electricity network to operate and the electricity network relies on the communications network for control. Such interdependencies can introduce risks to infrastructure systems of the failure of individual assets having wide ranging effects across multiple infrastructure sectors. There are also opportunities such as enabling co-location and shared use of land assets. Understanding and actively managing the interdependencies across infrastructure sectors allows both the risks to be managed and minimised, and the opportunities to be identified and acted on.

#### Development of an Interdependency Planning and Management Framework

**4.2** In the *National Infrastructure Plan 2011*, the Government committed to carrying out a small number of pilot projects examining existing infrastructure projects among the Top 40 to understand how best to capture additional value through the appropriate management of interdependencies and to share any early lessons learnt with project teams. In June 2012, the Government initiated a research programme led by the University of Bristol and University College London to develop an Interdependency Planning and Management Framework that will be compatible with *Green Book* processes to ensure that interdependencies in infrastructure projects can be properly identified, valued and taken advantage of at the very inception of major infrastructure investments.

**4.3** The research project has delivered its interim report with a prototype Interdependencies Management Framework which is now being tested against existing infrastructure projects such as High Speed 2, the Lower Thames Crossing, the Battersea Northern Line Extension and improvements to the A14. Early lessons learned are being shared with the teams leading these projects and specific interdependency opportunities being explored. The final Interdependency Planning and Management Framework will be delivered in spring 2013.

**4.4** The Government supports potential commercial initiatives involving infrastructure providers, including Network Rail, which could facilitate the sharing of existing mobile communications infrastructure with UK Mobile Network Operators. In addition, the Government intends to include powers in the High Speed 2 Hybrid Bill to provide the capacity for a fixed communications network to be provided alongside the railway in the future, maximising the potential value for public investment.

## Other Interdependencies work

**4.5** In November 2011 the Royal Academy of Engineering, with Engineering the Future produced a set of 'infrastructure policy timelines'. These were published in December 2011<sup>1</sup> and Engineering the Future is updating these timelines and analysing the interdependencies between policies. They will publish their final report in 2013.

**4.6** Infrastructure UK has been involved in the development of Defra-led work on the infrastructure theme of the National Adaptation Programme to ensure that infrastructure interdependencies are fully recognised in the adaptation of national infrastructure assets to take into account the effects of climate such as increased average temperatures and increased risks of severe weather events.

**4.7** The Engineering and Physical Sciences Research Council and the Economic and Social Research Council have invited and received bids for £7 million funding for two interdisciplinary centres exploring innovative business models around infrastructure interdependencies. The results are likely to be announced early in 2013.

**4.8** In the National Infrastructure Plan 2011, the Joint Regulators Group was tasked with examining the regulatory issues surrounding shared works, shared facilities and revenue sharing. Their final output is expected early in 2013.

## Financing and funding the planned investment

**4.9** The availability of long-term bank lending has continued to contract as banks rebuild balance sheets, respond to new capital requirements and lose their historical appetite for large mismatches between short-term liabilities and long-term assets. This presents challenges in some infrastructure sectors, while others are less affected.

**4.10** Companies operating in sectors under regulated price regimes – water, gas and electricity transmission and distribution – are likely to continue to be able to obtain long-term financing through the bond markets supported by the stability of the UK's regulatory regime.

**4.11** Nationally important privately financed transport projects will be supported by the UK Guarantees Scheme. National rail infrastructure will continue to be financed through Network Rail; although the UK Guarantees Scheme will support the critical rail rolling stock programmes needed to maintain a twenty-first century rail service. The Government has already announced that the Crossrail rolling stock project is eligible for the scheme.

**4.12** In the power generation sector, vertically integrated utilities will, however, need to maintain the ratings necessary to be able to finance themselves through the capital markets, which may require them to refinance existing investments or use structured finance solutions for new investments. The Government is facilitating this through several means. For renewable energy, investors will have greater price certainty through the proposals being taken forward in the Energy Bill and will be eligible for financing through the Green Investment Bank. The UK Guarantees Scheme, described below, is also available to support a wide range of new energy generation facilities.

**4.13** In response to the financing challenges, the Government continues to develop innovative solutions and to work with the private sector to attract new investors to infrastructure:

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<sup>1</sup> [http://www.raeng.org.uk/societygov/policy/responses/pdf/Infrastructure\\_Timelines.pdf](http://www.raeng.org.uk/societygov/policy/responses/pdf/Infrastructure_Timelines.pdf)

## Improving public procurement of infrastructure

**4.14** The Government has published full details of a new approach to public private partnerships, PF2. This will enable access to the capital markets and provide deleveraged capital structures, facilitated by public sector co-investment, combined with better risk allocation and the removal of certain operational risks are expected to allow access institutional investor capital. This continues to draw on private finance and expertise to deliver Government investment in public infrastructure and services, whilst addressing the past weaknesses of Private Finance Initiative and responding to the recent changes in the economic context. PF2 will also continue to encourage alternative financing sources including loan, guarantee and credit support products provided by commercial banks, the European Investment Bank and other financial institutions.

### UK Guarantees Scheme

**4.15** The *National Infrastructure Plan 2011* set out plans to attract major new private sector investment and in July the Government announced further support through UK Guarantees. Up to £40 billion in guarantees will be provided to ensure that priority projects in the infrastructure pipeline can raise the finance they need despite challenging credit market conditions. The scheme has received 75 enquiries from project sponsors to date, of which projects with a capital value of around £10 billion have been prequalified as eligible for consideration of a guarantee. The scheme is open until 31 December 2014.

**4.16** **As one of the first projects to benefit from this scheme, the Government will provide a UK Guarantee to allow the Mayor of London to borrow £1 billion at a new preferential rate to support the Northern Line Extension to Battersea scheme**, subject to due diligence and the agreement of a binding Funding and Development Agreement with developers, the Mayor of London and partner authorities during 2013. The Northern Line extension to Battersea is key to the redevelopment of Battersea Power Station and the regeneration of an historic part of London. Government intervention has the potential to enable an £8 billion investment at the Battersea Power Station site, supporting the wider redevelopment planned for Vauxhall, Nine Elms and Battersea, which could create up to 16,000 new homes and up to 25,000 new jobs.

### Pension Investment Platform

**4.17** The Government, the National Association of Pension Funds (NAPF) and Pension Protection Fund (PPF) signed a memorandum of understanding to create the Pension Investment Platform (PIP) last year. NAPF and PPF announced in October that seven major UK pension funds have signed up to the PIP as Founding Investors and they expect to be in operation in the first half of next year. The Government has worked closely with NAPF and PPF to support the foundation of the PIP but it is fully independent of Government.

### Insurance Funds

**4.18** The Government agreed to establish the Insurers' Infrastructure Investment Forum last year to provide members of the Association of British Insurers (ABI) with a dedicated line of communication with the Government's infrastructure policy and delivery teams. The Forum aims to explore ways to maximise opportunities for insurance fund managers to invest in debt instruments that finance UK infrastructure. Membership includes: Aberdeen, Allianz, Aviva, Legal & General, Prudential M&G, MetLife, Standard Life, and Scottish Widows.

**4.19** Several of these funds are either already involved or are establishing the capacity to lend to projects directly, in addition to participating in public bond issues. Infrastructure UK will

continue to work with them to develop this nascent capacity and contribute to the development of renewed capacity for long-term project finance debt.

## **Inward Investment**

**4.20** Infrastructure UK continues to support UK Trade & Investment's Strategic Relations Team initiatives with overseas institutional investors. Chinese sovereign wealth funds have begun to make sizeable strategic investments in the UK (China Investment Corporation in Thames Water and Heathrow Airport; State Administration of Foreign Exchange in Veolia Water UK) and interest from the Middle East continues to be strong (Abu Dhabi Investment Authority in Thames Water; Qatar Holding in Heathrow Airport).

## **Green Investment Bank**

**4.21** The Government has secured state aid clearance for the Green Investment Bank (GIB). The GIB became operational in October 2012, funded with £3 billion to commit before April 2015, £180 million of which is already committed to waste and energy efficiency projects.

## **Securing efficient delivery of infrastructure**

### **Strengthening Infrastructure UK**

**4.22** **The Government will strengthen the mandate of Infrastructure UK and increase its commercial expertise to boost the delivery of growth enhancing infrastructure projects across Government.** As part of this enhanced role, Infrastructure UK, together with an enhanced Major Projects Authority, will undertake a detailed assessment of Whitehall's ability to deliver infrastructure, building on their existing work. This assessment will be completed by Budget 2013. To ensure the assessment is as thorough as possible, it will be led by Paul Deighton as his first duty as Commercial Secretary to the Treasury, working closely with the Minister for the Cabinet Office and the Chief Secretary to the Treasury.

### **Improving the planning and consenting regime**

**4.23** The streamlined major infrastructure planning system has now resulted in three decisions being taken and four more are expected before the end of March 2013. The Government has reformed the major infrastructure planning system to improve accountability through Secretaries of State making final decisions on applications.

**4.24** The Government has also:

- implemented major reforms to the key consenting and advisory agencies involved in planning applications to give certainty to developers, including ensuring they adhere to a 13 week maximum timescale for most non-planning consents and are improving their performance in dealing with planning applications; and
- consulted on options to speed up planning appeals – and for a new fast-track procedure for some small commercial appeals. The Planning Inspectorate is also prioritising all major economic and housing related appeals, to ensure applicants receive a response in the quickest possible time.

**4.25** To ensure the major infrastructure planning regime focuses on the most important schemes, the Government is reviewing the thresholds for some of the existing categories in the regime. It has introduced legislation through the Growth and Infrastructure Bill to bring new categories of commercial and business development into the regime. The Bill will make it possible for such schemes, where they are of sufficient significance, to be considered and

determined at a national level. Government is currently consulting on the detail of the types of development which will be included in this new category of development.

**4.26** The Government published a consultation on streamlining the list of planning consents which sit outside the Development Consent Order process in November 2012, amending secondary legislation to update and streamline the list of prescribed consultees, and establishing new arrangements to improve coordination and communication between the Planning Inspectorate, applicants and other consenting bodies in order to make the overall consents process more efficient

**4.27** Through the Growth and Infrastructure Bill that is currently before Parliament, the Government is:

- unlocking thousands of new jobs and billions of new investment in energy projects helping keep the country's lights on by allowing existing consents to be varied and releasing £160 million in new gas infrastructure;
- helping remove red tape which hinders superfast broadband being rolled out to local homes and businesses, especially in rural Britain facing a 'digital divide';
- cutting back the volume of paperwork which applicants have to submit with a planning application, which go over and above what is reasonably needed to properly inform decisions about the proposed development;
- stopping misuse of town and village green applications to undermine planned development, whilst protecting its use to safeguard cherished community spaces and ensure the protection of genuine town and village greens;
- implementing the recommendations from the Penfold review to remove other overlapping development consent regimes, where multiple permissions from different government agencies are required on top of planning permission;
- amending the special parliamentary procedures which apply to major infrastructure to ensure they are fit for purpose; and
- legislating to allow applications to be decided by the Planning Inspectorate, if the local authority has a track record of consistently poor performance in the speed or quality of its decisions.

**4.28** The Government will consult on updated guidance on conducting environmental impact assessments by Budget 2013, and will consult on raising screening thresholds set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 later in 2013.

### **Improving the UK's construction performance in infrastructure**

**4.29** The Government published the *Infrastructure Cost Review* in 2010. It identified that between £15 billion and £20 billion per annum is being spent in the UK directly on infrastructure construction and the opportunity to make efficiency savings of at least 15 per cent by 2015, worth £2 billion to £3 billion per annum.

**4.30** The first annual report on progress was published in April 2012 setting out evidence from the first year of the implementation programme that changes are beginning to take hold and are leading to cost savings. The annual report gave examples of good practice, consistent with the recommendations of the *Cost Review*. The examples described represent aggregate efficiencies of up to £1.5 billion across public and private sector infrastructure projects and programmes.

**4.31** The first year of the implementation programme focused on enabling work to identify and remove potential barriers to efficient delivery. Key achievements included:

- launching the *Infrastructure Charter*, with industry support, as a basis for setting out the behaviours required to improve collaboration and reduce costs;
- publication of the first economic infrastructure pipeline and the consolidated list of the Government's funded construction pipeline - both have been updated again alongside this *National Infrastructure Plan* update and are described later in this Chapter, alongside a number of related *Cost Review* programme measures, for example addressing cyclicalities across sectors and improving supply chain skills and capability;
- publication in July 2012 of the Industry Standards Group report *Specifying Successful Standards*, which set out measures for the simplification of procurement specifications and the removal of unnecessary technical standards - the group, led by Terry Hill (Chair of the Arup Board of Trustees), is now working with Infrastructure UK to implement the report recommendations;
- piloting the *Infrastructure Procurement Route Map* on the Thames Estuary flood defence programme and retrospectively on Crossrail. The route map builds on improvements to procurement that have already been made by the Government, such as the mandatory application of LEAN procurement procedures. It aims to help public and private sector infrastructure providers understand the delivery environment they have and then create the one they need for more effective delivery. The route map and supporting tools will be published early in 2013;
- the development and application of new approaches to the management of risk and contingency for infrastructure projects – to be published as an annex to the *Green Book* in early 2013; and
- establishing a Memorandum of Understanding between public and private sector infrastructure clients and facilitation of a forum to pool benchmarking data and share knowledge and commercial intelligence.

**4.32** A key measure of success is the application of *Cost Review* principles to reduce delivery costs on the UK's priority infrastructure projects and programmes. The *Cost Review* programme is enabling client organisations and contractors to identify ways to drive down costs of many of the top 40 infrastructure projects, including the roads capital programme, London Underground's station upgrade programme, High Speed 2, Crossrail and the Thames Tideway Tunnel. For example on High Speed 2, in addition to the £800 million budget savings identified through the initial *Cost Review* benchmarking in 2010, the *Cost Review* team are now supporting the High Speed 2 Efficiency Challenge Programme which is seeking to reduce the construction costs of the project by a targeted £1.5 billion.

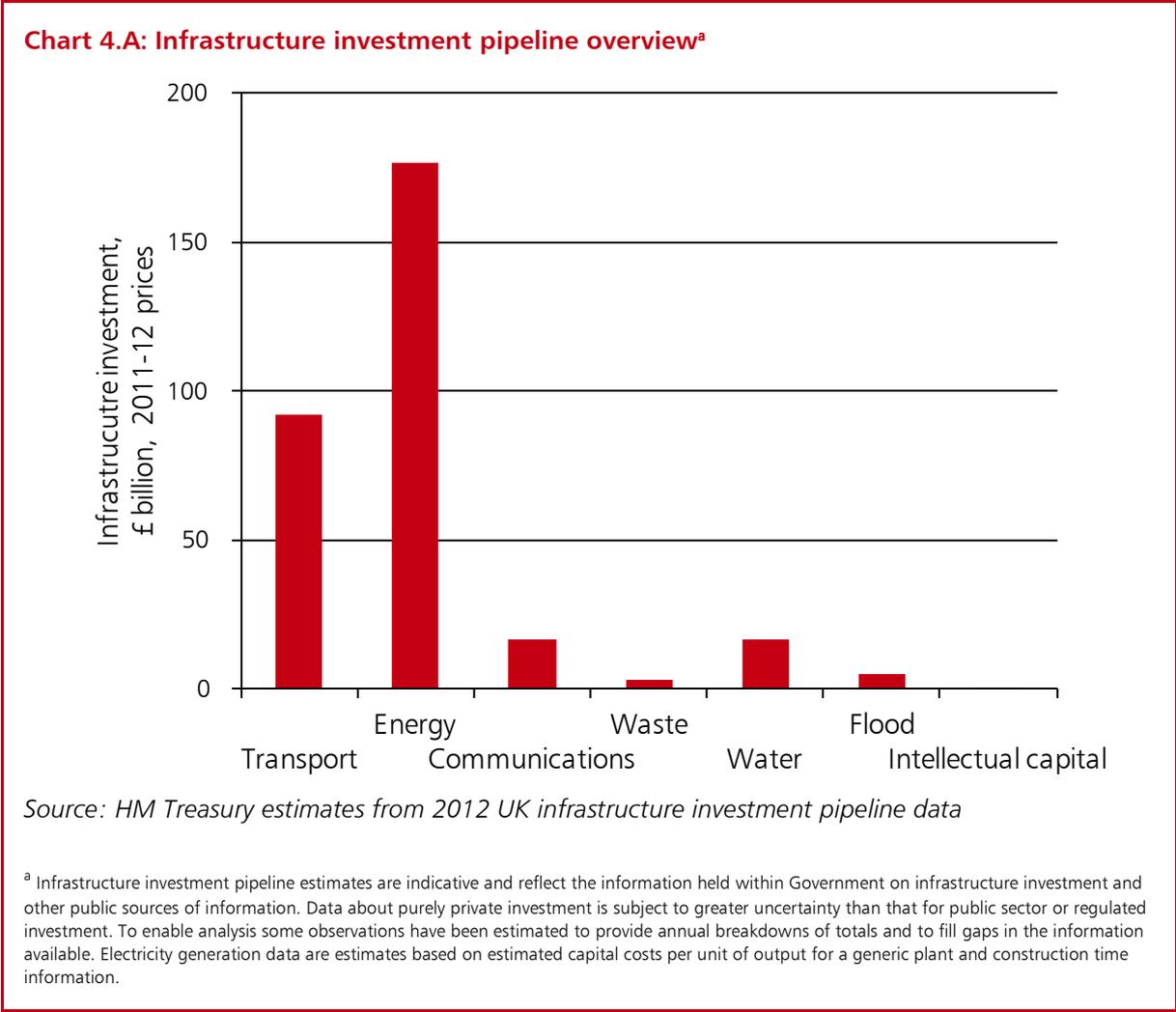
**4.33** The focus going forward is to continue to develop the enabling mechanisms and to put into practice the principles of the *Cost Review* more widely across clients and through the industry supply chain. The objective, by the time of the next annual report in spring 2013, is to have put in place the enabling mechanisms to achieve cost efficiencies across the infrastructure sector, to have shown how these can be applied in practice in the context of the Government's priority projects and programmes, and demonstrate a change in the behaviours of clients, contractors and other stakeholders to support collaboration and reduce costs.

4.34 Further details on the *Infrastructure Cost Review* programme and 2012-13 objectives can be found on the HM Treasury website.<sup>2</sup>

**Infrastructure investment pipeline**

4.35 Alongside the *National Infrastructure Plan 2011*, the Government published, for the first time, a detailed infrastructure investment pipeline together with a wider pipeline for government construction. This is not a list of the infrastructure that is needed. Instead it sets out public information projects and programmes that are planned. The Government committed to update the infrastructure pipeline annually and the construction pipeline every six months. An updated infrastructure investment pipeline has been published alongside this delivery update.

4.36 This updated infrastructure investment pipeline includes over 550 projects and programmes, worth around £310 billion to 2015 and beyond. This is an increase of over 50 projects and programmes over the 2011 pipeline and represents an increase of over £45 billion over that first pipeline. This increase reflects the inclusion of the second phase of High Speed 2, information on nuclear decommissioning investment, and updated information on energy projects. Chart 4.A summarises the pipeline by sector.



4.37 Most of the investment is contained within major programmes – for example highways, rail, nuclear and offshore wind, broadband – but there are also individual projects within sectors

<sup>2</sup> [http://www.hm-treasury.gov.uk/iuk\\_cost\\_review\\_index.htm](http://www.hm-treasury.gov.uk/iuk_cost_review_index.htm)

that stand out because of their size, complexity or importance to the UK economy. Over 85 per cent of the expected investment will be either privately or partially privately funded, and the remainder will be publicly funded.

**4.38** The Government is now working with an external industry partner, at no cost to the taxpayer, to develop the scope and utility to industry of the published pipeline data. The next publication of the construction pipeline (spring 2013) will be undertaken in conjunction with the industry partner, using an adaptation of their own online system, and will continue to be made freely available.

**4.39** Having improved the visibility of the pipeline the Government has also sought to mitigate the impact of pipeline uncertainty and cyclicity across infrastructure sectors. In July 2012 the Government published the conclusions of a joint study with Ofwat and the water industry. This report set out a series of recommendations to address the significant impacts of cyclicity – an unintended consequence of the price review process that creates volatility across the sector within each five year period. These recommendations are now being considered by industry and the regulator alongside the current price review process.

**4.40** The Government's has also committed to utilise the visibility of the pipeline and improved strategic dialogue with industry to identify areas in which there are capability gaps in the supply chain that need to be addressed to meet future demand and to remove barriers to growth. In April 2012, the Government published in conjunction with industry a pilot capability analysis focusing on the demand for tunnelling. The Government is now working with industry and infrastructure clients to establish a shared apprentice scheme to invest in skills and capability in this sector to meet future pipeline demand.

**4.41** Building on this pilot the Government is undertaking a series of similar reviews in other sectors including nuclear, offshore wind, rail and roads, to be published between winter 2012 and spring 2013. In parallel the Government is working with industry to put in place a mechanism that enables regular and systematic analysis of the infrastructure and construction pipeline. This will enable infrastructure clients and industry to identify capacity and capability constraints and develop suitable investment programmes, to help build more sustainable supply chains and inform the Government's wider industrial policy.

# A

# Progress against National Infrastructure Plan 2011

**Table A.1: Summary of National Infrastructure Plan 2011 Actions**

Action	Lead	Due Date	Status update
Have developed proposals with local partners for improvements to the A14 road and the other local transport networks.	Department for Transport	Spring 2012	Shortlist of options announced March 2012. Preferred package announced July 2012 to be part funded by tolling. Delivery of short term programme of small schemes is underway.
Build more flexibility into the new major infrastructure planning process, particularly in the pre-application phase as part of a light touch review of the process responding to feedback from users of the regime.	Department for Communities and Local Government	Summer 2012	Consultation closed July 2012. New guidance on pre-application process to be published in December 2012. Remaining guidance will be published in early 2013.
Consider further investment in the Northern Hub.	Department for Transport	July 2012	The Government committed to provide further funding for the Northern hub in July 2012.
Agree how the impact of wind energy projects in the Wash on birdlife should be assessed.	Department of Energy and Climate Change	Summer 2012	Complete. Two projects consented July 2012.
Update on further progress delivering the priority programmes and projects.	HM Treasury	2012	Update published at Budget 2012 in March and in this delivery update.
Invest £530 million of funding to extend superfast broadband coverage.	Department for Culture, Media and Sport	Up to 2015	Ongoing. Following state aid clearance in November 2012, all rural broadband procurements expected to be complete by summer 2013.
3500 MHz–3580 MHz 3410 MHz–3480 MHz, to be released.	Ministry of Defence	2015-16	Ongoing.

Action	Lead	Due Date	Status update
Free up 160MHz from 2.3 GHz-2.4 GHz and 3.4 GHz-3.6 GHz bands.	Ministry of Defence	End of 2016	Ongoing.
Support Ofcom in ensuring that the 4G spectrum auction commences in time in order for the 4G spectrum to be used as it becomes available in 2013.	Ofcom	Auction to commence by the end of 2012.	Agreement reached with industry to enable services to go live using auctioned spectrum in the first half of 2013.
Invest up to £150 million to improve the coverage and quality of mobile services for consumers who are currently affected by reception 'notspots', with the aim of extending coverage to 99 per cent of the UK population.	Department for Culture, Media and Sport	Procurement of new mobile infrastructure to begin by spring 2012 and businesses and consumers will start to benefit from early 2013 onwards	Procurement underway; targeted contract in March 2013.
Support Ofwat and the water industry in implementing a £22 billion programme of investment.	Ofwat	2010-2015	Ongoing.
Address a range of minimum producer responsibility targets covering packaging, Waste Electronic and Electrical Equipment, End of Life Vehicles and batteries.	Department for Environment, Food and Rural Affairs and Department for Business, Innovation and Skills	Range extends from 2012-2016	Ongoing.
Develop a comprehensive Waste Prevention Programme.	Department for Environment, Food and Rural Affairs	End of 2013	Ongoing.

Action	Lead	Due Date	Status update
Complete stage two of testing the use of operational freedoms to improve the resilience of Heathrow.	Department for Transport	September 2012	May 2012, extension to the end date for the second phase of the trial from September 2012 to March 2013 was announced with the inclusion of additional measures, including rerouting aircraft from their normal departure routes to increase the departure rate to reduce delay and improve punctuality. The Government will support making these measures permanent subject to successful completion of the trial and dependent on public consultation.
Introduce a new economic regulatory regime for airports	Department for Transport	End of 2013	Reforms to the economic regulation of airports are set out in the Civil Aviation Bill currently in Parliament.
Implement a new specification for up to eight managed motorway schemes in the Department for Transport/Highways Agency investment programme.	Department for Transport	2015	First scheme to benefit from the new specification for managed motorways will be M1 J32-35a, north of Sheffield, starting construction 2012-13. Up to nine more schemes using the new specification are expected to start construction by March 2015.
Work with the Office of Rail Regulation to ensure that the industry delivers the efficiencies already specified for the Control Period 4 regulatory period (2009 to 2014) and set clear requirements for the next regulatory period, Control Period 5 (2014 to 2019), in next summer's High Level Output Specification (HLOS)	Department for Transport	Summer 2012	HLOS published July 2012 accompanied by revised instructions and guidance for the Office of Rail Regulation (ORR). The Government is working with the ORR as part of the periodic review 2013 process.

Action	Lead	Due Date	Status update
Secretary of State for Transport will announce the Government's decisions on the proposed strategy for a national high speed rail network and, if appropriate, the preferred route from London to the West Midlands.	Department for Transport	End of 2011	Announced in January 2012.
Support Ofgem in revising the regulatory regime for electricity interconnection.	Ofgem	Ofgem decision by end of 2011	Published December 2011.
Produce updated estimates of the potential contribution of shale gas and other unconventional resources to indigenous gas supplies the resource.	Department of Energy and Climate Change	March 2012	Updated report published December 2011.
Put in place the legislative framework for future energy generation.	Department of Energy and Climate Change	2014	Energy Bill published November 2012.
Set out further details on the Contract for Difference Feed-in Tariff.	Department of Energy and Climate Change	Early 2012	Published December 2011.
Introduce a Carbon Price Floor.	Department of Energy and Climate Change	2013	Ongoing.
Publish a process for enabling final investment decisions for new generation projects to progress to timetable wherever possible.	Department of Energy and Climate Change	Around the turn of the year	Published December 2011.
Complete the roll out of Smart Meters	Department of Energy and Climate Change	2019	Ongoing.
Increase the climate change levy discount on electricity for Climate Change Agreement participants available to 90 per cent	Department of Energy and Climate Change	April 2013	Ongoing.

Action	Lead	Due Date	Status update
Put in place the legislative and policy framework for nuclear decommissioning and waste, including the publication of statutory guidance and finalising the pricing mechanism for the disposal of higher activity waste.	Department of Energy and Climate Change	December 2011	Guidance published December 2011.
Institute an independent Office of Nuclear Regulation in statute.	Department of Energy and Climate Change	2013	The Energy Bill which will include legislation to establish the ONR as a statutory body was introduced into Parliament in November 2012.
Bring forward proposals for reform of the community benefit regime to provide greater certainty for all parties.	Department of Energy and Climate Change	2012	<i>Onshore wind:</i> Call for Evidence on community engagement and benefits closed on 15 November, and will report in early 2013. <i>New nuclear:</i> s106 agreements have now been agreed in anticipation of an announcement on community benefits before the end of 2012.
Introducing new banding for the Renewables Obligation.	Department of Energy and Climate Change	2013	Ongoing.
Launch the Renewable Heat incentive for industrial and commercial deployment.	Department of Energy and Climate Change	December 2011	Open for applications November 2011.
Drive down the cost of offshore wind to £100 per megawatt hour, in partnership with industry.	Department of Energy and Climate Change	2020	Ongoing.
Invest up to £50million in innovation in offshore wind and marine energy and in reducing technology costs	Department of Energy and Climate Change	Over the next four years	Ongoing.
Invest up to £60million to develop offshore wind manufacturing facilities at UK ports.	Department of Energy and Climate Change	Over the next four years	Ongoing.

Action	Lead	Due Date	Status update
Led by the Joint Regulators Group, regulators in relevant sectors will ensure regulatory frameworks do not discourage shared works, shared facilities or revenue sharing and will support mechanisms for this where consistent with regulators' statutory duties.	Joint Regulators Group	A report on progress will be made by the end of 2012	Consultations with stakeholders issued by relevant regulators, November 2012.
Run a two-year design competition for climate resilient infrastructure which will inform the National Adaptation Programme.	Department for Environment, Food and Rural Affairs	2012-2014	Launched by Technology Strategy Board, July 2012. Three projects awarded funding in autumn 2012.
The Green Investment Bank ready to make co-investments with the private sector in projects.	Department for Business, Innovation and Skills	April 2012	Fund managers appointed April 2012, first investment made with private sector co-investors in September 2012.
Provide, the first £775 million of the £3 billion pledged for the Green Investment Bank over the next three years.	Department for Business, Innovation and Skills	Beginning of next fiscal year (by April 2013)	Ongoing. £180 million is already committed to waste and energy efficiency projects.
Simplify a number of heritage, highways and environmental non-planning consents, with some scrapped altogether.	Department for Business, Innovation and Skills	Begin early 2012	Legislation has been included in the Enterprise and Regulatory Reform Bill to simplify the heritage consents system. Further measures relating to stopping up orders, towns and villages greens, rights of way and energy consents have been included in the Growth and Infrastructure Bill.
Make it easier to apply for consents. This will include providing information and links on key non-planning development consents.	Department for Communities and Local Government	April 2012	Action completed early May 2012 – Planning Portal expanded to include information and links to a range of non planning consents.

Action	Lead	Due Date	Status update
Ensure that there is a more effective mechanism for applicants obtaining an award of costs, if there is an appeal against a refusal of planning permission, where a statutory consultee failed to provide sufficient evidence.	Department for Communities and Local Government	Summer 2012	The Government consulted during summer 2012 on proposals to amend the award of costs policy and will bring forward an amendment to the award of costs circular in December 2012.
Bring forward proposals to improve the performance of the key statutory consultees in responding to planning applications, including the key statutory bodies bringing forward an improvement plan.	Department for Business, Innovation and Skills and Department for Communities and Local Government	Spring 2012	All five key statutory consultees published draft improvement plans in spring 2012. Final improvement plans have been published for Environment Agency, Natural England and English Heritage.
London Underground aim to reduce the number of pages in their in-house standards from 12,400 to 400	Transport for London	March 2012	Completed April 2012.
Implement improvements identified in the review of secondary legislation and guidance for the new major infrastructure regime.	Department for Communities and Local Government	Early Summer 2012	Guidance on pre-application process to be published in December 2012. Remaining guidance notes to be published in early 2013.
Conduct a formal review of the new major infrastructure regime.	Department for Communities and Local Government	From April 2014	Planned.
Bring forward measures for implementation to speed up the planning appeals procedure.	Department for Communities and Local Government	Summer 2012	Consultation paper on proposals for an improved planning appeals process published on 1 November 2012.
Implement LEAN sourcing principles.	HM Government	January 2012	Mandatory from January 2012.
Progress report on extending the reduction of in-house standards that apply to infrastructure projects.	HM Treasury	2012	Completed April 2012.
Reach agreement with Chiltern Railway on how old tunnels can be brought back into use.	Department for Transport	January 2012	Transport & Works Act Order for enhancements between Oxford & Bicester (including the Wolvercot Tunnel) made October 2012.

Action	Lead	Due Date	Status update
Interim reactor design acceptances will be issued by the Office for Nuclear Regulation.	Department of Energy and Climate Change	End 2011	Issued December 2011.
New long-term contracts will be available for low-carbon electricity generation.	Department of Energy and Climate Change	2014	Ongoing.
Broadband Delivery framework in place for local authorities to run mini-competitions for Local Broadband Projects.	Department of Energy and Climate Change	Spring 2012	Framework in place March 2012.

**Table A.2: 2011-12 Infrastructure Policy Calendar**

Policy Document	Lead Department	Due date	Status update
Final proposals to increase the liquidity of wholesale electricity markets.	Department of Energy and Climate Change	December 2011	Ofgem proposals February 2012.
Respond to Dr Mike Weightman's final report on lessons learned at Fukushima.	Department of Energy and Climate Change	December 2011	Completed December 2011.
Water White Paper.	Department for Environment, Food and Rural Affairs	December 2011	Issued December 2011.
Launch a call for evidence to consider new models for using the private sector in the delivery of public assets.	HM Treasury	December 2011	Issued December 2011.
National Networks National Policy Statement.	Department for Transport	End of 2012	To be prepared after the current review of the status and future of the strategic road network is completed.
Response to consultation on High Speed Rail.	Department for Transport	End of 2011	Announced in January 2012.
Ofcom will launch a further consultation on the 4G mobile auction and rollout.	Ofcom	Late 2011/Early 2012	Launched January 2012.
Produce final proposals for an Electricity Market Reform capacity mechanism.	Department of Energy and Climate Change	Around the turn of the year	Published December 2011.
Publish an Electricity Market Reform technical update.	Department of Energy and Climate Change	Around the turn of the year	Published December 2011.

<b>Policy Document</b>	<b>Lead Department</b>	<b>Due date</b>	<b>Status update</b>
Set out the institutional framework to deliver the electricity market reforms.	Department of Energy and Climate Change	Around the turn of the year	Published December 2011.
Waste Water National Policy Statement.	Department for Environment, Food and Rural Affairs	January 2012	Approved by Parliament in March 2012.
Publish the first UK Climate Change Risk Assessment.	Department for Environment, Food and Rural Affairs	January 2012	Published January 2012.
Consultation on extending the Government's regional fifth freedoms policy to Gatwick, Stansted and Luton.	Department for Transport	Early 2012	Proposal included in the draft Aviation Policy Framework (APF) published in July, with comments invited by the end of October. Government currently considering the responses received, with a view to finalising the framework by spring 2013.
Publish a Bioenergy Strategy.	Department of Energy and Climate Change	Early 2012	Published April 2012.
Set out how the Government will work with Local Authorities and other stakeholders to address barriers to district heating.	Department of Energy and Climate Change	Early 2012	Published March 2012.
Green Paper setting out options for a regulatory framework to support the communications sector.	Department for Culture, Media and Sport	Early 2012	Following discussions with stakeholders, it was decided that the issues that needed addressing would be best managed through a series of seminars and discussion papers rather than through a Green Paper. These were held over the summer. It is our intention to set out policies for the sector in a White Paper to be published in early 2013.
Respond to the Alan Cook Review.	Department for Transport	Early 2012	Response published May 2012.
Publish a Rail Command Paper setting out the means to deliver the efficiencies identified in Sir Roy McNulty's rail value for money report.	Department for Transport	Early 2012	Published March 2012.

<b>Policy Document</b>	<b>Lead Department</b>	<b>Due date</b>	<b>Status update</b>
Consultation on Sustainable Framework for UK Aviation.	Department for Transport	March 2012	Consultation closed October 2012. Over 500 responses received.
Consultation on the case for higher packaging recovery targets for some key materials.	Department for Environment, Food and Rural Affairs	In time to allow for a final decision at Budget 2012	Consultation published December 2011.
Consultation on updated guidance to help businesses understand what they must do to comply with the Habitats Directive.	Department for Environment, Food and Rural Affairs	Before Budget 2012	Review published March 2012.
The Government has asked Ofgem to produce a study considering the need for further incentives beyond those considered in the Gas Security Significant Code Review.	Ofgem	Spring 2012	Final decision July 2012.
Publish final proposals for providing financial support for renewable technologies through the Renewables Obligation scheme.	Department of Energy and Climate Change	Spring 2012	Banding Review consultation response July 2012.
Ofgem to publish their development of retail electricity market reforms.	Ofgem	Spring 2012	Update published May 2012.
High Level Output Specification (HLOS)	Department for Transport	July 2012	Published July 2012.
Publish the Government's first electricity systems policy document.	Department of Energy and Climate Change	Summer 2012	Published August 2012.
Ofcom to publish the data for the 'best in Europe' scorecard.	Ofcom	Summer 2012	Still awaiting 2012 scorecard; wider Ofcom data published in its November 2012 Infrastructure Report.
Hazardous Waste National Policy Statement.	Department for Environment, Food and Rural Affairs	Summer 2012	Expected spring 2013.
Publish a toolkit aimed at improving Government's approach to infrastructure procurement and management of supply chains.	HM Treasury	Summer 2012	Expected December 2012.

<b>Policy Document</b>	<b>Lead Department</b>	<b>Due date</b>	<b>Status update</b>
Launch the Green Deal framework.	Department of Energy and Climate Change	October 2012	Launched October 2012.
Ofgem to publish a further report to the September 2011 'Connect and Manage' report.	Ofgem	Autumn 2012	Published November 2012.
Publish a strategy for decarbonising heat.	Department of Energy and Climate Change	2012	Published March 2012.
Consult on restricting wood waste to landfill and review the case for restricting other wastes to landfill, including textiles and biodegradable waste.	Department for Environment, Food and Rural Affairs	2012	Issued July 2012, closed September 2012.
Consult with industry and publish recommendations on reviewing Government requirements for construction bonds.	HM Treasury	2012	In progress, expected early 2013.
Update the Treasury Green Book Guidance to provide clarity around the need for optimism bias in budgeting for projects and programmes.	HM Treasury	2012	In progress, expected early 2013.
Final Sustainable Aviation Policy.	Department for Transport	March 2013	Consultation closed October 2012. Response planned for early/mid 2013.
Next edition of the Office of Low Emission Vehicles Plug-in Vehicle Infrastructure strategy.	Department of Energy and Climate Change & Department for Transport	Early 2013	Ongoing.
National Waste Management Plan.	Department for Environment, Food and Rural Affairs	Spring 2013	Ongoing.
Publish a Strategic Policy Statement for the energy regulator, Ofgem.	Department of Energy and Climate Change	2013	Ongoing.



# B

## Priority infrastructure investment delivery summary

Project/Programme	Progress and future milestones
<b>Highways Agency programme in construction – pre-2010 Spending Review</b>	<ul style="list-style-type: none"> <li>7 of the 8 schemes which were in construction at the Spending Review are now complete, with the 8<sup>th</sup> (M1 J10-13) partly open and remaining on track to be fully open by spring 2013</li> </ul>
<b>Highways Agency managed motorways programme – Spending Review projects</b>	<ul style="list-style-type: none"> <li>Two managed motorway schemes started construction in Financial Year 2011-12 (M62 J25-30 and M4 J19-20/M5 J15-17)</li> <li>Construction started on M6 J5-J8 Managed Motorway</li> <li>Advance works commenced on M25 J5-7 managed motorway</li> <li>The Highways Agency expects to start construction of the other managed motorway schemes as follows (subject to the outcome of any statutory processes):               <ul style="list-style-type: none"> <li>M1 J32-35a in the fourth quarter of FY 2012-13</li> <li>FY 2013-14: M1 J28-31, M25 J5-6/7, M25 J23-27 (accelerated in Autumn Statement 2011)</li> <li>FY 2014-15: M1 J39-42 (accelerated in Autumn Statement 2011), M60 J8-12, M60 J15-12, M62 J18-20</li> </ul> </li> </ul>
<b>Highways Agency trunk road improvements programme – 2010 Spending Review projects</b>	<ul style="list-style-type: none"> <li>The A23 Handcross to Warninglid trunk road improvement scheme started on site as planned in 2011-12</li> <li>Construction budget agreed on A11 Fiveways to Thetford with advance works underway and main works due to commence in January 2013</li> <li>The Highways Agency expects to start construction of the A556 Knutsford to Bowdon improvement in FY 2014-15 (subject to the outcome of statutory processes)</li> </ul>

Project/Programme	Progress and future milestones
<b>Highways Agency – Autumn Statement 2011 package</b>	<ul style="list-style-type: none"> <li>• The Highways Agency expects to start construction of the schemes as follows (subject to the outcome of statutory processes): <ul style="list-style-type: none"> <li>• A453 widening scheme in the fourth quarter of FY 2012-13</li> <li>• FY 2013-14: M25 J23-27 managed motorway scheme, M1 J19/M6 improvement scheme, A14 Kettering Bypass widening scheme, A45/A46 Tollbar End improvement scheme, M3 J2-4a managed motorway scheme</li> <li>• FY 2014-15: M1 J39-42 managed motorway scheme, M6 J10a-13 managed motorway scheme</li> </ul> </li> </ul>
<b>Alternative approaches to resolving issues along the A14 corridor</b>	<ul style="list-style-type: none"> <li>• Delivery of the £20million package on the ground is underway, and the majority of the most visible improvements will be in place by the end of 2013</li> <li>• On 18 July the Secretary of State announced long term proposals for the A14 corridor including approximately 20 miles of new and enhanced road to improve the A14 in Cambridgeshire, to be part funded by tolling</li> <li>• A small scheme for the A14 funded as part of the programme to address pinch-points on the strategic road network was announced on 8 October 2012. This scheme is to be delivered by March 2015 will reduce congestion on the Cambridge Northern Bypass. This constitutes early delivery of one component of the long term proposals</li> </ul>
<b>New Lower Thames crossing</b>	<ul style="list-style-type: none"> <li>• The Government has appointed consultants to analyse the options and is also drawing on local knowledge to assist in refreshing the evidence base and preparing for public consultation in 2013</li> </ul>
<b>Mersey Gateway Bridge</b>	<ul style="list-style-type: none"> <li>• Halton Borough Council started procurement process October 2011 and three shortlisted bidders were announced in February 2012. Competitive Dialogue started in March 2012</li> </ul>

Project/Programme	Progress and future milestones
<b>Local transport projects – funded at or before Spending Review 2010</b>	<ul style="list-style-type: none"> <li>• 18 schemes completed and open including Selly Oak New Road and Sittingbourne Northern Relief Road</li> <li>• 9 schemes still under construction including Wolverhampton Interchange and A13/A130 Sadlers Farm Junction</li> <li>• Heysham to M6 link road planning decision expected spring 2013</li> </ul>
<b>Local authority major transport schemes – development pool projects</b>	<ul style="list-style-type: none"> <li>• Announced status of all schemes.</li> <li>• 13 schemes have reached final approval stage and are under construction including the Evesham Abbey Bridge and Viaduct scheme</li> </ul>
<b>Crossrail</b>	<ul style="list-style-type: none"> <li>• Tunnelling commenced from Royal Oak (West London) with 1,300m tunnelling completed</li> <li>• Tunnelling from Canning Town area (Limmo Peninsula) due to commence before end of year</li> <li>• Station works well underway at most central London sites including Bond Street, Paddington, Tottenham Court Road, Liverpool Street, Whitechapel</li> <li>• Canary Wharf station box complete.</li> <li>• £2 billion package of works agreed with Network Rail to upgrade existing networks east and west of the new Central Tunnels, with work now commenced</li> <li>• Bids were received for the Rolling Stock &amp; Depot contract on the 29 October and CRL will now evaluate the bids before announcing a shortlist in spring 2013</li> </ul>
<b>Thameslink</b>	<ul style="list-style-type: none"> <li>• Limited 12 carriage train operation on the Bedford to Brighton route as planned</li> <li>• Continuing progress to conclude outstanding commercial, technical and funding issues with Siemens and Cross London Trains (XLT) for the rolling stock</li> <li>• Farringdon and Blackfriars stations functionally complete</li> <li>• Planning consent granted for London Bridge redevelopment</li> </ul>

Project/Programme	Progress and future milestones
<b>Rail infrastructure and rolling stock enhancement</b>	<ul style="list-style-type: none"> <li>• Ongoing Network Rail investment programme on wider network and investment in rolling stock progressing</li> <li>• The Government committed to £9.4billion of investment in the rail network in the High Level Output Specification (HLOS). This will support economic growth and jobs, deliver a greener railway and one that is better for passengers and freight</li> <li>• Scottish Caledonian Sleeper Service refurbishment: Scottish Government are taking the refurbishment forward having committed £80 million to the programme, bringing the total investment to £130 million (not final). The Caledonian Sleeper franchise specification – including the SG’s requirements for renewed and/or refurbished rolling stock – will be published in early 2013. Upgrades to the network infrastructure were included in the Scottish ministers’ High Level Output Specification (HLOS) published in June 2012 for delivery over the period 2014-2019</li> </ul>
<b>East Coast Main Line</b>	<ul style="list-style-type: none"> <li>• Finsbury Park to Alexandra Palace improvements – physical works started on new platforms; track work and associated infrastructure</li> <li>• Hitchin flyover – all piers, steelwork and embankment works complete</li> <li>• Peterborough station enhancements – work started on new platforms and track works. Nene sidings 12 car capability delivered early</li> <li>• GN/GE Joint Line capacity enhancements – steady progress on track renewals work and bridge reconstruction</li> <li>• York Holgate Junction – scheme delivered in December 2011</li> <li>• North Doncaster Chord – development consent approved</li> </ul>
<b>Great Western Electrification</b>	<ul style="list-style-type: none"> <li>• Long lead time delivery items ordered by NR – delivery train and National Grid connections</li> <li>• Advanced bridge reconstruction works Thames Valley and wider route locations</li> <li>• Scope enhancements at Bristol, Oxford, Swansea, Cardiff Valleys confirmed July 2012 and delivery being integrated with main GW project</li> </ul>

Project/Programme	Progress and future milestones
<b>Kings Cross Station improvements</b>	<p>The majority of the work was completed in March 2012 – in time to handle Olympics:</p> <ul style="list-style-type: none"> <li>• New platform ‘zero’ opened to traffic</li> <li>• Platform renewal works completed</li> <li>• Main train shed roof renewal works completed</li> <li>• New Western Concourse opened (March 2012)</li> <li>• Shared Service Yard commissioned</li> </ul> <p>Work started on final work package – Southern Square (September 2012)</p>
<b>Reading upgrade programme</b>	<ul style="list-style-type: none"> <li>• Commissioning of additional platform for Waterloo/Gatwick Services</li> <li>• Good progress being made on new depot ready for mid 2013 opening</li> <li>• New platforms on northern side under construction</li> <li>• New high level western concourse in position and being fitted out</li> <li>• New road bridges slid into position</li> </ul>
<b>High Speed Two</b>	<ul style="list-style-type: none"> <li>• The consultation on Property and Compensation for those most affected by the route was launched in October 2012</li> <li>• Work is continuing to carry out environmental impact surveys along the line of route</li> <li>• Refinements to the route design are being considered following engagement with communities, Network Rail, TfL and other stakeholders</li> <li>• The announcement on Phase 2 – north of Birmingham – initial preferred route and station options is being worked up and is due to be made in December 2012</li> </ul>
<b>Northern rail connectivity (Liverpool-Newcastle including Northern Hub)</b>	<ul style="list-style-type: none"> <li>• Electrification of NW routes underway including bridge works, steel work and foundations</li> <li>• Ordsall Curve being discussed with local planning authorities</li> <li>• Design works progressing for Transpennine electrification</li> </ul>

Project/Programme	Progress and future milestones
<b>Intercity Express Programme</b>	<ul style="list-style-type: none"> <li>• In May 2011 Hitachi hosted an Open Day in Newton Aycliffe to explore business and supply chain opportunities this will generate. More than 1000 companies attended, including companies based in the North East and some international FTSE100 firms</li> <li>• In early 2012 planning permission was granted for all Great Western depots: North Pole (in west London), Stoke Gifford (Bristol) and Swansea</li> <li>• On 24 July 2012 the Department signed a £4.5billion contract with Agility Trains (a consortium made up of Hitachi and John Laing) to build and maintain 596 IEP trains, and maintenance depots</li> <li>• Contract award to Agility Trains marks Financial Close for the Great Western element of IEP, and Commercial Close for East Coast</li> <li>• Financial Close moves IEP from its procurement phase into the detailed design phase</li> <li>• In September 2012 Hitachi let its first contract with local supplier</li> </ul>
<b>London Underground investment programme</b>	<ul style="list-style-type: none"> <li>• <b>Jubilee line upgrade</b> completed March 2012 – new signalling and 33% more capacity (a train every two minutes at peak times). The increased capacity played a vital role during the 2012 Games (the line serves Stratford)</li> <li>• <b>Victoria line upgrade</b> – a full fleet of new trains, track and signalling implemented April 2012, delivery a 10.23% increase in capacity during peak time</li> <li>• <b>Metropolitan line</b> – roll-out of a full-fleet (58) of new walk through air-conditioned trains completed September 2012</li> </ul>
<b>Northern Line Extension to Battersea</b>	<ul style="list-style-type: none"> <li>• Following a competitive bidding process, SP Setia and Sime Derby completed their purchase of the BPS site on 5 September for £400m.</li> <li>• As one of the first projects to benefit from this scheme, the Government will provide a UK Guarantee to allow the Mayor of London to borrow £1 billion at new preferential rates to support the Northern Line Extension to Battersea scheme</li> </ul>

Project/Programme	Progress and future milestones
<b>Gatwick capital investment programme</b>	<ul style="list-style-type: none"> <li>• Investment programme ongoing</li> <li>• Over two thirds of investment programme is complete, due to end by March 2014</li> <li>• New entrance to South Terminal and extension to North Terminal now in use</li> <li>• Over 200 projects in progress or planned before completion</li> </ul>
<b>Heathrow capital investment programme</b>	<ul style="list-style-type: none"> <li>• Investment programme ongoing</li> <li>• Construction continuing on new Terminal 2, due to open in 2014</li> <li>• Continuing refurbishment work in Terminal 4</li> </ul>
<b>Ports – container terminal projects</b>	<ul style="list-style-type: none"> <li>• Discussions at very advanced stage on London Gateway phase 2 s.278 inland transport obligations</li> <li>• RGF available to Sefton DC/Peel Ports for Mersey dredge, subject to due diligence and state aid clearance</li> <li>• Principal Southampton marine consents given by MMO</li> </ul>
<b>Ports – renewable energy projects</b>	<ul style="list-style-type: none"> <li>• Detailed processes continuing for proposed Siemens investment at Hull</li> <li>• Areva has signed MoU (November 2012) for a development in Eastern Scotland</li> </ul>
<b>Growing Places Fund</b>	<ul style="list-style-type: none"> <li>• Over 170 projects have now been allocated funding, with many more expected by the end of the year. Local Enterprise Partnerships report that the GPF has unlocked over £1 billion of private sector funding</li> </ul>
<b>Regional Growth Fund (RGF)</b>	<ul style="list-style-type: none"> <li>• £2.4 billion allocated</li> <li>• The three rounds already held are expected to create or safeguard over 500,000 jobs and lever in over £6 of private sector investment for every £1 of RGF</li> </ul>

Project/Programme	Progress and future milestones
<b>Electricity generation – new nuclear investment</b>	<p>Industry had set out its plans to develop approximately 16GW of new nuclear power in the UK by 2025 which is broken down as follows:</p> <ul style="list-style-type: none"> <li>• NNB Genco, a consortium of EDF and Centrica intends to build four new EPR reactors (amounting to 6.4GW) at Hinkley Point and Sizewell.</li> <li>• Planning consent decision for Hinkley Point C expected spring 2013</li> <li>• NuGeneration, a consortium of GDF SUEZ and Iberdrola has set out plans to build up to 3.6GW of new nuclear capacity at Sellafield</li> <li>• Japanese technology firm Hitachi Ltd has acquired (November 2012) Horizon Nuclear Power, and plans to develop up to 7.8GW of new nuclear capacity in the UK at sites in Wylfa and Oldbury</li> </ul> <p>Generic Design Assessment for new reactors expected to be complete by end 2012 New Nuclear Supply Chain and Skills Action Plan will be published in December 2012</p>
<b>Carbon Capture and Storage investment</b>	<ul style="list-style-type: none"> <li>• CCS Competition launched April 2012</li> <li>• Projects to be supported will be announced in spring 2013</li> </ul>
<b>Electricity generation – gas investment (CCGT)</b>	<ul style="list-style-type: none"> <li>• ESBI announced on the 28 September 2012 that they had reached financial close on Carrington gas power station, scheduled to be commissioned by 2016</li> <li>• As of November 2012, DECC is currently considering two CCGT applications (2.15 GW)</li> </ul>
<b>Electricity generation – biomass investment</b>	<ul style="list-style-type: none"> <li>• The UK's first coal to biomass conversion opened this year at Tilbury, and a second is soon to follow at Ironbridge</li> <li>• The Planning Inspectorate is currently examining a biomass generating station application (Port Blythe, 100 MW) and is expecting to submit a recommendation to DECC in May 2013</li> </ul>

Project/Programme	Progress and future milestones
<p><b>Electricity generation – wind energy investment</b></p>	<ul style="list-style-type: none"> <li>• New Renewables Obligation bands in force from April 2013</li> <li>• DECC is currently considering six (666 MW) onshore applications which have been or are due to go to public inquiry</li> <li>• DECC is currently considering a recommendation from The Planning Inspectorate and is due to announce a decision by end-February 2013 (Kentish Flats extension, offshore wind farm). The Planning Inspectorate is also considering two offshore wind farm proposals and will submit recommendations to DECC in May 2013 (Gallopier), and July 2013 (Triton Knoll). Total generating capacity 1.75 GW</li> </ul> <p>Resolving interference with civilian radar:</p> <ul style="list-style-type: none"> <li>• Proposal to roll-out upgrades to civilian en-route radars to be considered by NATS by March 2013</li> <li>• Deployment of upgrades to NATS civil radars by October 2013</li> </ul> <p>Resolving interference with military air traffic control radar</p> <ul style="list-style-type: none"> <li>• User Requirements for Military Air Traffic Control radar published in December 2012</li> <li>• Demonstration Programme in summer 2013</li> </ul>

Project/Programme	Progress and future milestones
<b>Electricity and gas transmission and distribution investment</b>	<ul style="list-style-type: none"> <li>• <b>Electricity:</b> Onshore, the three Transmission Owners (TOs) have sought Ofgem funding approval for the 2013-21 price control. Ofgem has approved up to £6.1 billion for the two Scottish TOs. It will finalise funding proposals for TO in England &amp; Wales (National Grid) in Dec 2012 and make its decision in Feb 2013. Its initial proposal was up to £11.6 billion. Price control commences April 2013</li> <li>• <b>Electricity:</b> Ofgem published its proposed approach to the 2015-21 distribution price control in Sept 2012. It expects to publish the structure for the price control in Feb 2013. Distribution network operators are expected to submit business plans to Ofgem in July 2013</li> <li>• <b>Gas:</b> final proposals for the next price control period, 'RIIO' which will run for 2013-2021, will be announced in December 2012. Ofgem have announced preliminary investment figures of £5.5 billion for the national transmission system, and £13 billion for the gas distribution networks</li> </ul>
<b>Smart meters</b>	<ul style="list-style-type: none"> <li>• Data and Communications Company Licence and service contract awards expected mid 2013</li> <li>• Go-live of data and communications services expected by end of 2014</li> </ul>
<b>4G mobile auction and rollout</b>	<ul style="list-style-type: none"> <li>• First commercial 4G service using existing spectrum launched October 2012</li> <li>• Applications from prospective bidders to Ofcom due December 2012 with the principal stage of the auction taking place in January 2013</li> <li>• Licences are expected to be awarded February/March 2013</li> <li>• New services expected to go live from May/June 2013</li> </ul>
<b>Rural mobile coverage</b>	<ul style="list-style-type: none"> <li>• Contract expected to be awarded spring 2013</li> <li>• First mast expected to be activated by end 2013</li> </ul>

Project/Programme	Progress and future milestones
<b>Fixed broadband investment – private and public</b>	<ul style="list-style-type: none"> <li>• Private investment in superfast broadband ongoing with Ofcom reporting that 65 per cent of premises are now covered</li> <li>• State aid clearance for Broadband Delivery UK framework and start of implementation of projects which have completed procurement in November 2012</li> <li>• All project contracts are expected to be in place by summer 2013</li> </ul>
<b>Urban broadband fund – Super connected cities</b>	<ul style="list-style-type: none"> <li>• Planning and state aid clearance processes are underway</li> <li>• The winning cities in the second wave are: Aberdeen, Brighton and Hove, Cambridge, Coventry, Derby, Derry/Londonderry, Newport, Oxford, Perth, Portsmouth, Salford and York</li> </ul>
<b>Thames Tideway Tunnel</b>	<ul style="list-style-type: none"> <li>• Waste Water National Policy Statement approved by Parliament in March 2012</li> <li>• Water Industry (Financial Assistance) Act 2012 received Royal Assent in May 2012</li> <li>• Section 14 Order amending the 2008 Planning Act in June 2012</li> </ul>
<b>Flood and coastal erosion risk management programme (including Thames Estuary 2100)</b>	<p>Significant flood risk infrastructure projects delivered</p> <ul style="list-style-type: none"> <li>• Nottingham: £51m scheme opened in September, 2012 that reduces the risk of flooding to 16,000 homes and businesses</li> <li>• Truro: £3m scheme opened in September, 2012 that reduces the risk of flooding to 210 homes and businesses</li> <li>• Keswick: £6m scheme opened in October 2012 that reduces the risk of flooding to 180 homes and businesses</li> </ul> <p>The Environment Agency is looking for the most cost-effective way to implement the recommendations in the Thames Estuary 2100 Plan, starting with the first 10 years and is developing an outline business case for approval in 2013</p>





# Infrastructure investment pipeline data

**C.1** With the *National Infrastructure Plan 2011*, the Government published, for the first time, infrastructure investment pipeline data. This data has been updated alongside this delivery update and has been published on the HM Treasury website.<sup>1</sup> This data covers over 550 projects and programmes across the public and private sectors.

**C.2** The infrastructure investment pipeline estimates are indicative and reflect the information held within Government on infrastructure investment combined with other public sources of information. Data about purely private investment is subject to greater uncertainty than that for public sector or regulated investment. To enable analysis, some observations have been estimated to provide annual breakdowns of totals and to fill gaps in the information available. The pipeline data is not comprehensive but reflects the best information available to Government. It is not a statement of need. Projects under £50 million are, in general, not included in order to focus on significant investment. In addition very limited data on local infrastructure projects that are not funded directly by central Government is available.

**C.3** Public funding for projects beyond 2015 is, in general, not confirmed. Economically regulated investment in energy and water networks is also not generally confirmed beyond currently determined regulatory periods. The pipeline data are designed to provide a sense of the scale of investment that is expected but should not be taken as a commitment in each and every case.

**Table C.1: Overview of infrastructure investment pipeline data**

Sector	Number of projects/programmes	Number of projects/programmes with cost data	Infrastructure investment (£ million, 2011-12 prices)
Transport	106	91	92,301
Energy	338	113	176,484
Communications	11	11	16,447
Waste	35	28	3,142
Water	32	32	16,447
Flood	38	38	4,945
Intellectual capital	16	16	186
Total	576	329	309,922

*Source: HM Treasury estimates from UK infrastructure investment pipeline data*

**C.4** The data on the Treasury website has been released in spreadsheet format and includes information on project/programme name, location, ownership, funding and costs.

**C.5** The infrastructure investment pipeline data will be refreshed annually.

<sup>1</sup> [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)

## Electricity generation data and cost estimates

**C.6** There is a particularly long pipeline for electricity generation. Not all projects that are proposed will be built and the decision on which projects are taken forward will ultimately be for the market to decide and will be demand led. This means that the pipeline information for electricity generation is particularly uncertain. National Grid data are included on projects that have agreements to connect to the grid in place. Market intelligence suggests that up to 50 per cent of these projects will not be taken forward. This is because, for example, the demand for power does not warrant the particular project being built or the economics of a particular project are not favourable or there are problems with obtaining planning consents. Cost estimates are, therefore, provided as HM Treasury estimates by fuel type that allow for the expected proportion of projects that should proceed. These use the National Grid Transmission Entry Capacity data combined with estimated capital costs per unit of output for a generic plant, high level construction time estimates and estimates drawn from market intelligence on the proportion of projects that will proceed.

**C.7** Project timings represent the earliest possible date for connection to the grid. In reality investment is likely to take place over a longer timeframe, reflecting the complexity of major infrastructure projects, market demand and developer's commercial considerations.

**C.8** These estimates are indicative and designed to provide a sense of the potential scale of investment. The Government's statement of the investment that is needed in terms of generating capacity is set out in the energy *National Policy Statements* that inform the major infrastructure planning system

## Public sector construction pipeline

**C.9** The Government has also published, on the Treasury and Cabinet Office websites, detailed pipeline information for public sector construction that is funded. Where this overlaps with the infrastructure investment pipeline consistent estimates have been used.

**C.10** The Cabinet Office will be updating this pipeline information on a six-monthly basis.

# D

## Updated infrastructure performance and cost indices

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**D.1** The *National Infrastructure Plan 2011* set out performance and cost indices for each infrastructure sector. This annex updates the analysis carried out for the 2011 plan.

### Constructing the indices

**D.2** For each sector, a performance and a cost index has been constructed. The performance indices are each based on an array of several dimension indices, which describe broad characteristics of performance. The dimension indices are constructed from quantitative indicators which describe particular elements of the performance of a sector.

**D.3** The calculation of a performance index followed three steps:

- **Indicators:** Each individual performance indicator was first expressed as an index with the value for 2005 used as a base. 2005 was used as the base year because consistent time series across the sectors are only available as far back as that year. By using indices, the information conveyed by the indicators was expressed in relative terms, thus eliminating the effect of using different units for each indicator. All indices were constructed so that a growth in the index shows an improvement in performance. That is, for those indicators where a lower value indicates a better outcome (e.g. road fatalities), the index was calculated so that a fall in the value of the indicator (e.g. fewer road fatalities) is shown by an increase in the value of the index;
- **Dimension indices:** The indicator indices were then used to derive dimension indices. When several indicators existed for a given dimension, an arithmetic unweighted average was calculated to derive the value of the dimension index; and
- **Performance index:** Once all dimension indices for a given sector had been calculated, an arithmetic unweighted average of these indices was used to derive the performance index for this sector.

**D.4** The construction of the cost indices follows a simplified version of this method, as there are no cost dimensions. Costs figures were first expressed in real terms (updated in this update to either 2011 or 2010-11 prices depending on whether the underlying data was in calendar or financial year basis) before deriving an index. Cost indices have been built in such a way so that a growth in the index indicates higher costs.

**D.5** As a general rule, annual data in the form 200x-200x+1 was ascribed to the year 200x+1.

### Caveats on interpretation

**D.6** Although every care was taken in developing a meaningful set of performance and cost indicators and updating them this type of exercise is not without its challenges:

- **Aggregation and explicit weightings:** in order to summarise all the information contained in the different indicators, composite indicators can use different aggregation formulas (e.g. arithmetic average, geometric average) which can make an explicit use of weightings in order to reflect the relative importance of the

different components. In the absence of any reliable data to determine the relative importance of the different dimensions used in the analysis for this plan, information was aggregated using simple, unweighted averages.

- **Implicit weightings:** even when no explicit weightings are used, the actual choice of indicators and dimensions will have an impact on the composite indicator. This plan uses a consistent set of dimensions across all 10 sectors, which is designed to reflect all major dimensions of performance. In total, data have been used from 67 performance indicators and 20 cost indicators. It is possible, however, that more data will become available in the future and it will be necessary to weigh the benefits of incorporating this new data against the benefits of maintaining comparable time series data.
- **Robustness:** a particular indicator can have a big influence on the composite indicator when only a limited number of indicators are available. In these situations, a single indicator showing a dramatic evolution can mask the underlying evolution of other indicators showing a less spectacular evolution. This issue has been dealt with by attempting to incorporate a wide array of relevant indicator for each dimension.
- **The choice of base year:** the analysis in this plan shows the evolution of performance in relation to performance at a given point in the past. Therefore, the choice of the base year is important. The historical availability of data differs for different indicators, so there is a trade-off between obtaining long data series and keeping a reasonable amount of indicators to minimise the problems highlighted above. In addition, it should be noted that indices showing the evolution of an indicator over time can be very sensitive to the underlying indicator having a very low initial base. As noted above, 2005 is the earliest year for which consistent time series data were available across the sectors.

## Detailed data and sources

D.7 The following tables show, for each sector, the detailed results for each indicator as well as the sources used.

### Major roads

**Table D.1: Major roads performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Major roads performance index	100	99	100	105	109	114	112
Capacity, access and availability	100	100	100	100	100	100	99
Motorway density (inhabitants)	100	100	100	99	99	99	97
Motorway density (area)	100	101	101	101	102	102	102
Motorway density (vehicles)	100	100	98	98	98	99	99
Asset or capacity utilisation	100	99	98	99	100	101	100
Service quality and reliability	100	93	92	105	104	104	104
Asset condition	100	101	101	101	102	103	103
Carbon emissions	100	99	96	99	103	103	103
Safety	100	103	112	129	145	172	165

**Table D.2: Major roads cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Major roads cost index	100	110	130	123	133	159	129

**Table D.3: Major roads performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Motorway density (lane-km per million inhabitants)	<b>Motorway length:</b> Highways Agency data <b>Population data:</b> Office for National Statistics (ONS), <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	Geographical coverage: England
	Motorway density (lane-km per km <sup>2</sup> )	<b>Motorway length:</b> Highways Agency data <b>Surface area:</b> ONS, UK Standard Area Measurements (SAM), <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	Geographical coverage: England
	Motorway density (lane-km per million licensed vehicles)	<b>Motorway length:</b> Highways Agency data <b>Licensed vehicles:</b> Department for Transport, table VEH0102 <a href="http://assets.dft.gov.uk/statistics/tables/veh0104.xls">http://assets.dft.gov.uk/statistics/tables/veh0104.xls</a> , (series "England")	Geographical coverage: England
Asset or capacity utilisation	Average capacity utilisation of motorways (percentage of capacity)	<b>Traffic on motorways:</b> Department for Transport table TRA0203 tab B, (series "motorways") <a href="http://assets.dft.gov.uk/statistics/tables/tra0203.xls">http://assets.dft.gov.uk/statistics/tables/tra0203.xls</a> (series "England", "motorways") <b>Motorway length:</b> Highways Agency data <b>Capacity per lane:</b> 2000 vehicles/hour, default modelling assumption used by Department for Transport and the Highways Agency	Geographical coverage: England
Service quality and reliability	Average vehicle delay on the slowest 10 per cent of journeys on the Strategic Road Network (minutes per mile)	<b>Average delay:</b> Department for Transport Table CGN0101, <a href="http://webarchive.nationalarchives.gov.uk/tna/20110613150132/http://www.dft.gov.uk/pgr/statistics/datatablespublications/roads/congestion/previous/cgn0101.xls">http://webarchive.nationalarchives.gov.uk/tna/20110613150132/http://www.dft.gov.uk/pgr/statistics/datatablespublications/roads/congestion/previous/cgn0101.xls</a>	Geographical coverage: Great Britain Figures were re-baselined between 2007 and 2008
Asset condition	Motorways and HA managed trunk road condition (Percentage of Lane 1 not exceeding investigatory level)	<b>Road condition:</b> Department for Transport table RDC0201, <a href="http://www.dft.gov.uk/statistics/tables/rdc0201/">http://www.dft.gov.uk/statistics/tables/rdc0201/</a>	Geographical coverage: England Weighted average by road length

Dimension	Indicator	Sources	Observations
Carbon emissions	Greenhouse gas emissions by road vehicles (g of CO <sub>2</sub> e per vehicle-km)	<p><b>Greenhouse gas emissions by road vehicles:</b> European Environment Agency (EEA), <a href="http://www.eea.europa.eu/data-and-maps/data/national-emissions-reported-to-the-unfccc-and-to-the-eu-greenhouse-gas-monitoring-mechanism-6(series%20Road%20Transportation)">http://www.eea.europa.eu/data-and-maps/data/national-emissions-reported-to-the-unfccc-and-to-the-eu-greenhouse-gas-monitoring-mechanism-6(series "Road Transportation")</a>  <a href="https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls">https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls</a></p> <p><b>Traffic on all roads:</b> Department for Transport table TRA0202 tab B (series "all roads"), <a href="https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls">https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls</a></p>	<p><b>Geographical coverage for emissions:</b> United Kingdom</p> <p><b>Geographical coverage for traffic:</b> Great Britain</p> <p><b>Time coverage:</b> 2005-2010. 2011 value assumed equal to 2010 – previous data updated.</p>
Safety	Fatalities on all roads (fatalities per billion vehicle-km)	<p><b>Fatalities:</b> Department for Transport Table RAS45003 (series "killed"), <a href="http://assets.dft.gov.uk/statistics/tables/ras45003.xls">http://assets.dft.gov.uk/statistics/tables/ras45003.xls</a></p>	<p><b>Geographical coverage:</b> Great Britain</p>

**Table D.4: Major roads cost sources**

Sector	Indicator	Sources	Observations
Roads	Investment and maintenance expenditure on major roads (pence per vehicle-km)	<p><b>Public sector expenditure on national roads:</b> PESA: <a href="http://www.hm-treasury.gov.uk/pepub_pesa12.htm">http://www.hm-treasury.gov.uk/pepub_pesa12.htm</a></p> <p><b>Traffic on major roads:</b> Department for Transport table TRA0202 tab B (series "all major roads"), <a href="https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls">https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10427/tra0202.xls</a></p>	<p><b>Geographical coverage:</b> Great Britain</p> <p><b>Price base:</b> 2010-11 prices</p>

## Rail

**Table D.5: Passenger rail performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Rail performance index</b>	100	100	105	108	119	119	125
<b>Capacity, access and availability</b>	100	102	102	99	105	112	118
Train frequency	100	102	102	99	105	112	118
<b>Asset or capacity utilisation</b>	100	84	97	96	131	96	90
Percentage of passengers in excess of capacity -total	100	84	97	96	131	96	90
<b>Service quality and reliability</b>	100	103	105	108	108	109	109
Public Performance Measure	100	103	105	108	108	109	109
<b>Asset condition</b>	100	104	100	106	115	136	164
Infrastructure failures	100	104	100	106	115	136	164
<b>Safety</b>	100	109	120	130	132	143	146
Reported casualties excluding suicides	100	109	120	130	132	143	146

**Table D.6: Passenger rail cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Rail cost index</b>	100	108	121	105	103	97	85

### D.8 Notes:

- the composition of the performance index might in future be revised to take into account the performance indicators adopted as part of the next High Level Output Specification process;
- all data is in financial years, running April to March, except for the UIC data which is in calendar years (as explained above, data for the 2004-05 calendar year will be recorded as 2005 data); and
- the assessment presented in this document is not meant to supersede or interfere with the Office of Rail Regulation's (ORR) role as the safety and economic regulator for Britain's railways nor is it meant to provide any additional targets for the sector.

**Table D.7: Passenger rail performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Train frequency (thousand passenger train-km per route-km)	<b>Passenger train –km:</b> UIC, Railisa online database, <a href="http://www.uic.org/spip.php?article1352">http://www.uic.org/spip.php?article1352</a> <b>Route-km:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a>	<b>Geographical coverage:</b> Great Britain
Asset or capacity utilisation	Percentage of passengers in excess of capacity - total (percentage)	<b>PiXC:</b> Rail passenger numbers and crowding statistics, Department for Transport, <a href="https://www.gov.uk/government/publications/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2011">https://www.gov.uk/government/publications/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2011</a>	<b>Geographical coverage:</b> London and South East Operators only. This is a measure of crowding
Service quality and reliability	Public Performance Measure (index – Maximum = 100)	<b>PPM:</b> ORR – can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a>	<b>Geographical coverage:</b> Great Britain
Asset condition	Infrastructure failures (Infrastructure asset failures per train-km)	<b>Infrastructure failures:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a> <b>Passenger train –km:</b> International Union of Railways (UIC), Railisa online database, <a href="http://www.uic.org/spip.php?article1352">http://www.uic.org/spip.php?article1352</a>	<b>Geographical coverage:</b> Great Britain
Safety	Reported casualties excluding suicides (fatalities per billion passenger-km)	<b>Reported casualties:</b> Rail Safety and Standards Board, Safety Performance Reports, <a href="http://www.rssb.co.uk/SPR/REPORTS/Pages/default.aspx">http://www.rssb.co.uk/SPR/REPORTS/Pages/default.aspx</a> <b>Franchised passenger-km:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a>	<b>Geographical coverage:</b> Great Britain Reported casualties include fatalities, major injuries, minor injuries and shock trauma. Previous data updated.

**Table D.8: Rail cost sources**

Sector	Indicator	Sources	Observations
Rail	Annual cost of franchised passenger services (pence per passenger-km)	<b>Franchised passenger revenue:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a> <b>Total government support including PTE grants:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a> <b>Franchised passenger-km:</b> ORR. Can be found on the ORR National Rail Trends Portal, <a href="http://dataportal.orr.gov.uk">http://dataportal.orr.gov.uk</a>	<b>Geographical coverage:</b> Great Britain <b>Price base:</b> 2010-11 prices

## Airports

**Table D.9: Airports performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Airports performance index</b>	100	101	102	102	102	97	97
<b>Capacity, access and availability</b>	100	99	99	98	97	97	95
Capacity per capita (movements)	100	99	99	98	97	97	95
Capacity per capita (terminals)	100	99	99	98	97	97	95
<b>Service quality and reliability</b>	100	102	105	105	106	98	98
Average delay per flight at main UK airports	100	90	88	93	128	90	85
International destinations served by UK airports (weekly)	100	106	109	108	104	104	105
International destinations served by London airports (daily)	100	103	105	105	99	97	96
Long-haul destinations served by London airports (daily)	100	108	118	113	108	108	108
Number of international passenger flight departures – all UK airports	100	103	106	105	96	92	96
Number of international passenger flight departures – London airports	100	103	107	106	100	95	100

**Table D.10: Airports cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Airport cost index</b>	100	106	109	120	163	174	164

**D.9** The assessment presented in this document is not meant to supersede or interfere with the Civil Aviation Authority's (CAA) role as the UK's specialist aviation regulator nor is it meant to provide any additional targets for the sector.

**D.10** To address the performance issues that the Government has identified, the Government has established the Airports Commission has been set up to identify and evaluate how to maintain the UK's position as Europe's most important aviation hub in the short-, medium- and long-term. In the interim, Heathrow is currently trialling operational measures to improve the punctuality and resilience of the airport. The Government will support making these measures permanent subject to successful completion of the trial and dependent on public consultation

**Table D.11: Airports performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Capacity per capita (Thousand Air Transport Movements (ATM) per million inhabitants)	<b>Capacity:</b> Department for Transport UK aviation forecasts, 2011, table 2.6 <a href="http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf">http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf</a> <b>Population data:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> maximum capacity data assumed constant for period 2005-10
	Capacity per capita (Terminal passengers capacity per capita)	<b>Capacity:</b> Department for Transport UK aviation forecasts, 2011, table 2.6 <a href="http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf">http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf</a> <b>Population data:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> maximum capacity data assumed constant for period 2005-10
Service quality and reliability	Average delay per flight at main UK airports (minutes per flight)	<b>Delays:</b> Civil Aviation Authority, UK punctuality statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;pageid=12&amp;sglid=12">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;pageid=12&amp;sglid=12</a>	<b>Geographical coverage:</b> main UK airports
	International destinations served by UK airports (weekly) (number)	<b>Destinations served:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> main UK airports
	International destinations served by London airports (daily) (number)	<b>Destinations served:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> London airports
	Long-haul destinations served by London airports (daily) (number)	<b>Destinations served:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> London airports
	Number of international passenger flight departures – all UK airports (number)	<b>Departures:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> main UK airports

Dimension	Indicator	Sources	Observations
	Number of international passenger flight departures – London airports (number)	<b>Departures:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> London airports

**Table D.12: Airports cost sources**

Sector	Indicator	Sources	Observations
Airports	Average charges per terminal passenger at regulated airports (£/terminal passenger)	<b>Net revenue from airport charges:</b> regulated accounts. For Heathrow and Stansted: <a href="http://www.baa.com/investor-centre/regulation/regulatory-accounts">http://www.baa.com/investor-centre/regulation/regulatory-accounts</a> , and for Gatwick post 2011: <a href="http://www.gatwickairport.com/regulation/regulatory-performance/">http://www.gatwickairport.com/regulation/regulatory-performance/</a> <b>Terminal passengers:</b> Civil Aviation Authority, UK airports statistics portal, <a href="http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3">http://www.caa.co.uk/default.aspx?catid=80&amp;pagetype=88&amp;sglid=3</a>	<b>Geographical coverage:</b> Price regulated airports: Heathrow, Gatwick, Stansted <b>Price base:</b> 2010-11 prices Average is weighted by the number of terminal passengers at each airport

## Container ports

**Table D.13: Container ports performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Ports performance index	100	99	98	103	115	112	112
Capacity, access and availability	100	100	99	99	99	98	97
Asset or capacity utilisation	100	96	87	88	104	93	96
Service quality and reliability	100	101	109	123	143	145	144
Lead time to import	100	100	122	148	180	180	179
Liner shipping connectivity index	100	102	96	98	107	110	110

**Table D.14: Container ports cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Ports cost index	100	147	129	147	160	141	133
Cost to export	100	133	117	135	159	142	134
Cost to import	100	160	141	158	161	140	132

Table D.15: Ports performance sources

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Deep-water container capacity per capita (Twenty Foot Equivalent (TEU) per 1000 inhabitants)	<b>Capacity:</b> <ul style="list-style-type: none"> <li>Drewry Maritime Research, Global Container Terminal Operators 2011</li> <li>MDS Transmodal, Update of UK port demand forecasts to 2030</li> <li>Historic container traffic figures obtained from Department for Transport</li> </ul> <b>Population:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> United Kingdom Maximum value of those three sources was used to determine port capacity
Asset or capacity utilisation	Deep-water container capacity utilisation (Percentage of capacity)	<b>Container traffic:</b> Department for Transport table PORTO202 <a href="https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10024/port0202.xls">https://assets.digital.cabinet-office.gov.uk/government/uploads/system/uploads/attachment_data/file/10024/port0202.xls</a>	<b>Geographical coverage:</b> United Kingdom Container traffic converted to TEU using Department for Transport conversion factors detailed here <a href="http://assets.DepartmentforTransport.gov.uk/statistics/series/ports/portstattechnote.pdf">http://assets.DepartmentforTransport.gov.uk/statistics/series/ports/portstattechnote.pdf</a> using closest available port matches to deep water container terminals listed
Service quality and reliability	Lead time to import (days from port of discharge to arrival at the consignee)	<b>Lead time to import:</b> World Bank's Logistics Performance Index, <a href="http://data.worldbank.org/indicator/LP.IMP.DURS.MD">http://data.worldbank.org/indicator/LP.IMP.DURS.MD</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2006 data is used for base year (2005), 2010 data is used for 2011, data is interpolated for other years.
	Liner shipping connectivity index (Index)	<b>Liner shipping connectivity index:</b> see Maritime indicators on the UNCTAD's database <a href="http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=92">http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=92</a>	<b>Geographical coverage:</b> United Kingdom

**Table D.16: Ports cost sources**

Sector	Indicator	Sources	Observations
Ports	Cost to import (£/TEU)	Cost to import: World Bank's databank, <a href="http://data.worldbank.org/indicator/IC.IMP.COST.CD">http://data.worldbank.org/indicator/IC.IMP.COST.CD</a>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Price base:</b> 2011</p> <p>Prices were expressed in GBP using average annual exchange rates (as published by the Bank of England)</p> <p><b>Note:</b> this cost indicator covers port handling fees but also includes some non-infrastructure elements, such as costs for documents, administrative fees, customs broker fees and inland transport. Does not include tariffs or trade taxes</p>
	Cost to export (£/TEU)	Cost to export: World Bank's databank, <a href="http://data.worldbank.org/indicator/IC.EXP.COST.CD">http://data.worldbank.org/indicator/IC.EXP.COST.CD</a>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Price base:</b> 2011</p> <p>Prices were expressed in GBP using average annual exchange rates (as published by the Bank of England)</p> <p><b>Note:</b> this cost indicator covers port handling fees but also includes some non-infrastructure elements, such as costs for documents, administrative fees, customs broker fees and inland transport. Does not include tariffs or trade taxes</p>

**Table D.17: Electricity performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Electricity performance index</b>	<b>100</b>	<b>102</b>	<b>98</b>	<b>101</b>	<b>104</b>	<b>107</b>	<b>106</b>
<b>Capacity, access and availability</b>	<b>100</b>	<b>100</b>	<b>99</b>	<b>101</b>	<b>103</b>	<b>109</b>	<b>106</b>
Generating capacity per capita	100	101	101	102	103	109	105
Generating capacity per economic unit of output	100	99	97	99	104	109	107
<b>Asset or capacity utilisation</b>	<b>100</b>	<b>106</b>	<b>103</b>	<b>107</b>	<b>108</b>	<b>114</b>	<b>119</b>
<b>Service quality and reliability</b>	<b>100</b>	<b>110</b>	<b>96</b>	<b>104</b>	<b>108</b>	<b>108</b>	<b>108</b>
Unplanned interruptions per 100 customers	100	105	89	102	108	109	109
Unplanned minutes lost per customer	100	136	94	115	125	125	125
Transmission system availability	100	100	100	100	99	100	99
Reliability of supply of the transmission system	100	100	100	100	100	100	100
<b>Asset condition</b>	<b>100</b>	<b>100</b>	<b>97</b>	<b>98</b>	<b>92</b>	<b>97</b>	<b>90</b>
<b>Carbon emissions</b>	<b>100</b>	<b>95</b>	<b>96</b>	<b>98</b>	<b>107</b>	<b>107</b>	<b>107</b>

**Table D.18: Electricity cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Electricity cost index</b>	<b>100</b>	<b>119</b>	<b>119</b>	<b>129</b>	<b>138</b>	<b>130</b>	<b>129</b>
Domestic electricity prices	100	114	114	128	134	124	127
Industrial electricity prices	100	129	126	149	163	141	137
Distribution tariffs	100	103	103	103	103	104	104
Transmission tariffs	100	130	134	134	154	152	149

**D.11** The assessment presented in this document is not meant to supersede or interfere with Ofgem’s role as regulator of the gas and electricity sector nor is it meant to provide any additional targets for the sector.<sup>1</sup>

**D.12** The cost indices do not reflect action the Government is taking to reduce costs to households such as including through the Green Deal and other measures to improve energy efficiency.

<sup>1</sup> OFGEM is the regulator of the UK gas and electricity markets, ensuring a well functioning and competitive market framework. National Grid has two main responsibilities. It’s primary role is to ensure that there is adequate and reliable network capacity to meet anticipated transportation requirements and secondly, its role is that of the system operator of the transmission networks, for the residual balancing activity in both gas and electricity.

**Table D.19: Electricity performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Generating capacity per capita (MW per capita)	<b>Generating capacity:</b> Department of Energy and Climate Change DUKES Table 5.7, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls">http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls</a> <b>Population data:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> United Kingdom
	Generating capacity per economic unit of output (MW per billion USD)	<b>Generating capacity:</b> Department of Energy and Climate Change DUKES Table 5.7, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls">http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls</a> <b>GDP measure:</b> OECD, Gross domestic product (expenditure approach), constant prices, constant PPP extractable here: <a href="http://stats.oecd.org/index.aspx?queryid=556">http://stats.oecd.org/index.aspx?queryid=556</a>	<b>Geographical coverage:</b> United Kingdom
Asset or capacity utilisation	Peak load as a percentage of generating capacity (percentage)	<b>Simultaneous maximum load met:</b> Department of Energy and Climate Change DUKES Table 5.10, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_10.xls">http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_10.xls</a> <b>Generating capacity:</b> Department of Energy and Climate Change DUKES Table 5.7, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls">http://www.decc.gov.uk/assets/decc/statistics/source/electricity/dukes5_7.xls</a>	<b>Geographical coverage:</b> United Kingdom
Service quality and reliability	Unplanned interruptions per 100 customers (Interruptions per 100 customers)	<b>Customer Interruptions</b> data obtained from the Office for Gas and Electricity Markets (Ofgem) <a href="http://www.ofgem.gov.uk/Networks/ElecDist/QualofServ/QoSIncent/Pages/QoSIncent.aspx">http://www.ofgem.gov.uk/Networks/ElecDist/QualofServ/QoSIncent/Pages/QoSIncent.aspx</a>	<b>Geographical coverage:</b> Great Britain 2010 figures rolled forward to 2011 as updated data are yet to be published
	Unplanned minutes lost per customer (supply minutes lost per customer)	<b>Customer Minutes Lost</b> data obtained from the Office for Gas and Electricity Markets (Ofgem) <a href="http://www.ofgem.gov.uk/Networks/ElecDist/QualofServ/QoSIncent/Pages/QoSIncent.aspx">http://www.ofgem.gov.uk/Networks/ElecDist/QualofServ/QoSIncent/Pages/QoSIncent.aspx</a>	<b>Geographical coverage:</b> Great Britain <b>Time coverage:</b> 2005-2009. 2010 value assumed equal to 2009 value 2010 figures rolled forward to 2011 as updated data are yet to be published
	Transmission system availability (percentage)	<b>Transmission system availability:</b> data obtained from the annual Transmission Performance Reports published by National Grid, <a href="http://www.nationalgrid.com/uk/Electricity/Info/performance/">http://www.nationalgrid.com/uk/Electricity/Info/performance/</a>	<b>Geographical coverage:</b> Great Britain

Dimension	Indicator	Sources	Observations
Asset condition	Reliability of supply of the transmission system (percentage)	<b>Reliability of supply of the transmission system:</b> data obtained from the annual Transmission Performance Reports published by National Grid, <a href="http://www.nationalgrid.com/uk/Electricity/Info/performance/">http://www.nationalgrid.com/uk/Electricity/Info/performance/</a>	<b>Geographical coverage:</b> Great Britain
	Transmission and distribution losses as a percentage of total electricity supplied (percentage)	<b>Transmission and distribution losses:</b> Department of Energy and Climate Change DUKES Table 5.1, <a href="http://www.decc.gov.uk/media/viewfile.ashx?filepath=statistics/source/electricity/dukes5_1.xls&amp;filetype=4&amp;minwidth=true">http://www.decc.gov.uk/media/viewfile.ashx?filepath=statistics/source/electricity/dukes5_1.xls&amp;filetype=4&amp;minwidth=true</a> <b>Total electricity supplied:</b> Department of Energy and Climate Change DUKES Table 5.1, <a href="http://www.decc.gov.uk/media/viewfile.ashx?filepath=statistics/source/electricity/dukes5_1.xls&amp;filetype=4&amp;minwidth=true">http://www.decc.gov.uk/media/viewfile.ashx?filepath=statistics/source/electricity/dukes5_1.xls&amp;filetype=4&amp;minwidth=true</a>	<b>Geographical coverage:</b> United Kingdom
Carbon emissions	Carbon intensity of electricity generation (tonnes of CO <sub>2</sub> e per kWh)	<b>Carbon emissions from electricity generation:</b> Figures provided by Department for Energy and Climate Change, <a href="http://www.decc.gov.uk/publications/basket.aspx?filetype=4&amp;filepath=11%2fstats%2fclimate-change%2f4818-2011-provisional-data-tables.xls&amp;minwidth=true#basket">http://www.decc.gov.uk/publications/basket.aspx?filetype=4&amp;filepath=11%2fstats%2fclimate-change%2f4818-2011-provisional-data-tables.xls&amp;minwidth=true#basket</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011.

**Table D.20: Electricity cost sources**

Sector	Indicator	Sources	Observations
Electricity	<b>Domestic electricity prices</b> (pence/kWh)	<b>Domestic electricity prices:</b> Department of Energy and Climate Change, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep551.xls">http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep551.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Price base:</b> 2011, previous entries updated.
	<b>Industrial electricity prices</b> (pence/kWh)	<b>Industrial electricity prices:</b> Department of Energy and Climate Change, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep531.xls">http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep531.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Price base:</b> 2011, previous entries updated
	<b>Transmission tariffs</b>	<b>Transmission revenue:</b> <ul style="list-style-type: none"> <li>National Grid Electricity Transmission regulatory accounts <a href="http://www.nationalgrid.com/corporate/Investor+Relations/Reports/">http://www.nationalgrid.com/corporate/Investor+Relations/Reports/</a></li> <li>ScottishPower electricity transmission regulatory accounts: <a href="http://www.scottishpower.com/AccountsInfo.htm">http://www.scottishpower.com/AccountsInfo.htm</a></li> <li>Scottish and Southern electricity transmission regulatory accounts: <a href="http://www.ssepd.co.uk/Library/FinancialInformation/">http://www.ssepd.co.uk/Library/FinancialInformation/</a></li> </ul> <b>Transmission network length:</b> data provided by Ofgem	<b>Geographical coverage:</b> Great Britain <b>Price base:</b> 2010-11
	<b>Distribution tariffs</b>	<b>Distribution revenue:</b> regulatory accounts of the DNOs <b>Distribution network length:</b> data provided by Ofgem	<b>Geographical coverage:</b> Great Britain <b>Price base:</b> 2010-11

**Table D.21: Gas performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Gas performance index	100	105	128	142	142	156	172
<b>Capacity, access and availability</b>	<b>100</b>	<b>138</b>	<b>235</b>	<b>286</b>	<b>295</b>	<b>343</b>	<b>409</b>
Gas import capacity	100	163	358	462	472	576	704
Gas storage capacity	100	112	113	109	119	110	114
<b>Asset or capacity utilisation</b>	<b>100</b>	<b>100</b>	<b>113</b>	<b>130</b>	<b>119</b>	<b>128</b>	<b>125</b>
Average import capacity utilisation	100	111	143	155	139	139	143
Peak import capacity utilisation	100	92	104	161	139	120	135
Existing UK gas stocks as a percentage of capacity	100	92	108	99	94	142	114
UK gas supply cover	100	104	98	105	104	110	106
<b>Service quality and reliability</b>	<b>100</b>	<b>81</b>	<b>62</b>	<b>54</b>	<b>54</b>	<b>56</b>	<b>56</b>
<b>Asset condition</b>	<b>100</b>	<b>99</b>	<b>99</b>	<b>100</b>	<b>99</b>	<b>99</b>	<b>99</b>

**Table D.22: Gas cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Gas cost index</b>	<b>100</b>	<b>116</b>	<b>95</b>	<b>120</b>	<b>122</b>	<b>122</b>	<b>125</b>
Domestic gas prices	100	128	87	132	150	138	146
Industrial gas prices	100	123	94	132	114	103	122
Distribution tariffs	100	96	93	107	112	117	113
Transmission tariffs	100	117	107	107	112	130	119

**D.13** The assessment presented in this document is not meant to supersede or interfere with Ofgem’s role as regulator of the gas and electricity sector nor is it meant to provide any additional targets for the sector.<sup>1</sup>

**D.14** The cost indices do not reflect action the Government is taking to reduce costs to households such as including through the Green Deal and other measures to improve energy efficiency.

<sup>1</sup> OFGEM is the regulator of the UK gas and electricity markets, ensuring a well functioning and competitive market framework. National Grid has two main responsibilities. It’s primary role is to ensure that there is adequate and reliable network capacity to meet anticipated transportation requirements and secondly, its role is that of the system operator of the transmission networks, for the residual balancing activity in both gas and electricity.

**Table D.23: Gas performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Gas import capacity (as a percentage of total gas supplies)	<b>Import capacity:</b> National Grid 2011 Ten year statement Table 3.3B, <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf</a> <b>Total gas supplies:</b> National Grid 2011 Ten year statement Figure 3.3E, <a href="http://www.nationalgrid.com/uk/Gas/TYS/current/TYS2009.htm">http://www.nationalgrid.com/uk/Gas/TYS/current/TYS2009.htm</a>	<b>Geographical coverage:</b> United Kingdom
	Gas storage capacity (as a percentage of total gas supplies)	<b>Storage capacity:</b> National Grid 2011 Ten year statement Table 3.3D <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf</a> <b>Total gas supplies:</b> National Grid 2011 Ten year statement Figure 3.3E, <a href="http://www.nationalgrid.com/uk/Gas/TYS/current/TYS2009.htm">http://www.nationalgrid.com/uk/Gas/TYS/current/TYS2009.htm</a>	<b>Geographical coverage:</b> United Kingdom
Asset or capacity utilisation	Average import capacity utilisation (percentage)	<b>Imports:</b> National Grid 2011 Ten year statement Table 3.3E <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf</a>	<b>Geographical coverage:</b> United Kingdom
	Peak import capacity utilisation (percentage)	<b>Peak imports:</b> National Grid 2011 Ten year statement Table 3.3B, <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50703/GasTenYearStatement2011.pdf</a>	<b>Geographical coverage:</b> United Kingdom Peak import capacity is calculated by dividing the annual import capacity by 365 to find a daily import capacity
	Existing UK gas stocks as a percentage of capacity (percentage)	<b>Stocks:</b> Department of Energy and Climate Change DUKES Table 4.3, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls">http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls</a>	<b>Geographical coverage:</b> United Kingdom Capacity figures converted from billion cubic metres to GWh assuming 11.02 kWh per cubic metre
	UK gas supply cover (percentage)	<b>Peak demand:</b> National Grid 2011 Ten year statement Figure 3.3F <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50864/GTYS2011charts.xls">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50864/GTYS2011charts.xls</a> <b>Peak supply:</b> National Grid 2011 Ten year statement Figure 3.3F <a href="http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50864/GTYS2011charts.xls">http://www.nationalgrid.com/NR/rdonlyres/E60C7955-5495-4A8A-8E80-8BB4002F602F/50864/GTYS2011charts.xls</a>	<b>Geographical coverage:</b> United Kingdom Calculated as peak supply / peak demand
Service quality and reliability	Gas supply interruptions (interruptions per 10,000 customers)	<b>Supply interruptions:</b> data obtained from Ofgem <a href="http://www.ofgem.gov.uk/Networks/GasDistr/QoS/Pages/QoS.aspx">http://www.ofgem.gov.uk/Networks/GasDistr/QoS/Pages/QoS.aspx</a>	<b>Geographical coverage:</b> Great Britain 2010 figures rolled forward to 2011 as updated data are yet to be published

Dimension	Indicator	Sources	Observations
Asset condition	Gas distribution leakage (as a percentage of gas input in the distribution network)	<p><b>Leakage:</b> Department of Energy and Climate Change DUKES Table 4.3, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls">http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls</a></p> <p><b>Gas output from the national transmission system:</b> Department of Energy and Climate Change DUKES Table 4.3, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls">http://www.decc.gov.uk/assets/decc/statistics/source/gas/dukes4_3.xls</a></p>	<p><b>Geographical coverage:</b> United Kingdom</p> <p>Gas output from the national transmission system equals gas input into the distribution network</p>

**Table D.24: Gas cost sources**

Sector	Indicator	Sources	Observations
Gas	Domestic gas prices (pence / kWh)	<b>Domestic gas prices:</b> Department of Energy and Climate Change, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep591.xls">http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep591.xls</a>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Price base:</b> 2011 – previous numbers revised and rebased.</p>
	Industrial gas prices (pence / kWh)	<b>Industrial gas prices:</b> Department of Energy and Climate Change, <a href="http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep571.xls">http://www.decc.gov.uk/assets/decc/statistics/source/prices/qep571.xls</a>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Price base:</b> 2011</p>
	Transmission tariffs	<p><b>Transmission revenue:</b> National Grid Gas Transmission regulatory accounts <a href="http://www.nationalgrid.com/corporate/Investor+Relations/Reports/">http://www.nationalgrid.com/corporate/Investor+Relations/Reports/</a></p> <p><b>Transmission network length:</b> data provided by Ofgem</p>	<p><b>Geographical coverage:</b> Great Britain</p> <p><b>Price base:</b> 2011</p>
	Distribution tariffs	<p><b>Distribution revenue:</b> regulatory accounts of the gas distribution networks</p> <p><b>Distribution network length:</b> data provided by Ofgem</p>	<p><b>Geographical coverage:</b> Great Britain</p> <p><b>Price base:</b> 2011</p>

**Table D.25: Communications performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Communications performance index	100	243	251	305	343	421	582
<b>Capacity, access and availability</b>	<b>100</b>	<b>115</b>	<b>130</b>	<b>144</b>	<b>156</b>	<b>170</b>	<b>182</b>
Communications paths	100	115	120	125	129	130	129
Mobile subscriptions	100	105	110	113	118	119	119
Broadband penetration rate – households	100	100	118	132	155	162	169
Broadband penetration rate – businesses	100	118	119	133	135	135	143
Broadband subscriptions	100	132	157	173	181	187	204
Secure servers	100	118	156	187	221	289	327
<b>Service quality and reliability</b>	<b>100</b>	<b>372</b>	<b>372</b>	<b>465</b>	<b>530</b>	<b>672</b>	<b>982</b>

**Table D.26: Communications cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Communications cost index	100	68	63	56	55	59	53
Fixed telephony cost	100	96	94	88	110	135	125
Mobile telephony cost	100	79	69	56	44	34	31
Broadband cost	100	28	25	24	9	9	2

**D.15** The assessment presented in this document is not meant to supersede or interfere with the Ofcom’s role as regulator and competition authority for the UK communications industries nor is it meant to provide any additional targets for the sector.

**D.16** Broadband cost data are related to the bandwidth received for the package price. In 2011 this reflects superfast broadband packages and as a result the cost per unit of bandwidth has fallen dramatically. It should be noted that the total package cost for such services is actually higher than for non-superfast services due to the significant increase in capacity the new services offer. The next iteration of the cost indices will look at using Ofcom data on costs that reflect package costs.

**Table D.27: Communications performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	<b>Communications paths</b> (total communication paths per 100 inhabitants)	<b>Communication paths per 100 inhabitants:</b> Ofcom Communications Market Report 2012, p309, Fig 5.26 (PSTN, ISDN, fixed broadband, mobile handset, mobile broadband) , <a href="http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/">http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011, previous figures revised from 2006, and data source changed.
	<b>Mobile subscriptions</b> (total mobile subscriptions per 100 inhabitants)	<b>Mobile subscriptions per 100 inhabitants:</b> Ofcom Communications Market Report 2012, p281, Fig 5.1 (“active mobile connections per 100 population”), <a href="http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/">http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011, previous figures revised from 2006, and data source changed.
	<b>Broadband subscriptions</b> (Total broadband subscriptions per 100 inhabitants)	<b>Broadband subscriptions per 100 inhabitants:</b> OECD Key ICT Indicators, <a href="http://www.oecd.org/sti/interneteconomy/oecdkeyictindicators.htm">http://www.oecd.org/sti/interneteconomy/oecdkeyictindicators.htm</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011.
	<b>Broadband penetration rate – households</b> (percentage of total households)	<b>Households with broadband access:</b> Ofcom Communications Market Report 2012, p332, Fig 5.54 (“household penetration of fixed and mobile broadband”), <a href="http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/">http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011, previous figures revised from 2006, and data source changed.
	<b>Broadband penetration rate – businesses</b> (percentage rate of businesses with 10 or more employees)	<b>Business use of broadband:</b> OECD Key ICT Indicators, <a href="http://www.oecd.org/sti/interneteconomy/Final_7.c_Business%20use%20of%20broadband_2012.xls">http://www.oecd.org/sti/interneteconomy/Final_7.c_Business%20use%20of%20broadband_2012.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005-2011.
	<b>Secure servers</b> (Secure servers per 100,000 inhabitants)	<b>Secure servers:</b> <a href="http://data.worldbank.org/indicator/IT.NET.SECR">http://data.worldbank.org/indicator/IT.NET.SECR</a> <b>Population data:</b> ONS, hosted at <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> United Kingdom <b>Time coverage:</b> 2005 – 2011.

Dimension	Indicator	Sources	Observations
Service quality and reliability	Observed average broadband connection speeds (Mbps)	<p><b>Observed average broadband connection:</b></p> <ul style="list-style-type: none"> <li>2009-2011: Ofcom Infrastructure Report 2012, p17, Fig 11, and previous Ofcom speed reports, <a href="http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/infrastructure-report/Infrastructure-report2012.pdf">http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/infrastructure-report/Infrastructure-report2012.pdf</a>;</li> <li>2008: Akamai, the state of the internet <a href="http://www.akamai.com/stateoftheinternet/">http://www.akamai.com/stateoftheinternet/</a> as quoted in OECD Communications Outlook 2011</li> <li>2007: data from <a href="http://www.broadband-expert.co.uk">www.broadband-expert.co.uk</a></li> <li>2005-2007: fastest advertised connection speed by incumbent, OECD</li> </ul>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Time coverage:</b> 2005-2011</p> <p>Fastest advertised connection speed by incumbent used to derive trend in observed connection speeds for 2005-2007. Previous data revised from 2008.</p>

**Table D.28: Communications cost sources**

Sector	Indicator	Sources	Observations
Communications	Fixed telephony cost (pence per minute/pence per call)	<b>Fixed telephony cost:</b> OECD Communications Outlook 2011, 2009 and 2007. An average of the cost per call of the different baskets was calculated for each year	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Time coverage:</b> 2006-2010. 2005 value assumed equal to 2006 value, 2010 value assumed equal to 2011 value</p> <p><b>Price base:</b> 2011</p>
	Mobile telephony cost (cost per call)	<b>Mobile telephony cost:</b> OECD Communications Outlook 2011, 2009, 2007 and 2005 An average of the cost per call of the different baskets was calculated for each year	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Time coverage:</b> 2004, 2006, 2008 and 2010. 2005, 2007 and 2009 values were interpolated, 2011 value assumed equal to 2010 value</p> <p><b>Price base:</b> 2011</p>
	Broadband cost (£ per kbps)	<p><b>Broadband cost:</b> OECD Communications Outlook 2011, <a href="http://dx.doi.org/10.1787/888932398974">http://dx.doi.org/10.1787/888932398974</a>; 2011: HM Treasury estimate based on market research</p> <p><b>Incumbent maximum speed offered:</b> To 2010: OECD Communications Outlook 2011, <a href="http://dx.doi.org/10.1787/888932398974">http://dx.doi.org/10.1787/888932398974</a> 2011: OECD Broadband Portal, <a href="http://www.oecd.org/internet/broadbandandtelecom/BB-Portal_5g_13July_Final.xls">http://www.oecd.org/internet/broadbandandtelecom/BB-Portal_5g_13July_Final.xls</a></p>	<p><b>Geographical coverage:</b> United Kingdom</p> <p><b>Price base:</b> 2011</p>

## Water and sewerage performance and cost indices

**D.17** Since the publication of the *National Infrastructure Plan 2011*, Ofwat have made significant changes to the information that is collected from and published about water and sewerage companies. These changes mean that most of the indicators used in the *National Infrastructure Plan 2011* are no longer available. As a result overall performance and cost indices cannot be produced. Where data do exist these are included in the tables below. The Government will seek to establish new indices if suitable data can be found.

**Table D.29: Water and sewerage performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Water and sewerage performance index</b>	<b>100</b>	<b>102</b>	<b>104</b>	<b>100</b>	<b>104</b>	<b>122</b>	<b>-</b>
<b>Capacity, access and availability</b>	<b>100</b>	<b>106</b>	<b>105</b>	<b>105</b>	<b>104</b>	<b>105</b>	<b>-</b>
Water available for use (EA definition) per capita – dry year	100	99	99	98	96	97	95
Water available for use (EA definition) per capita – critical period	100	117	118	118	117	119	-
Sewage treatment capacity	100	101	99	100	97	99	97
<b>Asset or capacity utilisation</b>	<b>100</b>	<b>106</b>	<b>110</b>	<b>113</b>	<b>111</b>	<b>116</b>	<b>-</b>
Security of Supply Index – dry year	100	97	101	103	102	105	-
Security of Supply Index – critical period	100	119	129	133	129	136	-
Sewage treatment capacity utilisation	100	102	101	102	101	106	-
<b>Service quality and reliability</b>	<b>100</b>	<b>96</b>	<b>99</b>	<b>76</b>	<b>96</b>	<b>161</b>	<b>-</b>
Interruptions of supply	100	88	47	10	88	117	-
Properties subject to sewer flooding incidents	100	100	100	67	100	67	-
Inadequate pressure of mains	100	100	150	150	100	300	300
<b>Asset condition</b>	<b>100</b>	<b>100</b>	<b>103</b>	<b>106</b>	<b>104</b>	<b>105</b>	<b>-</b>
Distribution losses per km of main	100	100	102	106	105	105	-
Total leakage as percentage of distributional input	100	101	103	105	104	104	-

**Table D.30: Water and sewerage cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
<b>Water and sewerage cost index</b>	<b>100</b>	<b>104</b>	<b>107</b>	<b>108</b>	<b>116</b>	<b>119</b>	<b>-</b>
Cost of water supply	100	111	116	120	123	127	-
Cost of sewerage services	100	96	99	97	109	112	-

**D.18** The assessment presented in this document is not meant to supersede or interfere with Ofwat's (the Water Services Regulation Authority) role as the economic regulator of the water and sewerage sectors in England and Wales nor is it meant to provide any additional targets for the sector.

**Table D.31: Water and sewerage performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Water available for use (EA definition) per capita – dry year (l per day)	Water available for use (EA definition) and population data obtained from the June reports of regulated companies (Table 10i), available here: <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a>	Geographical coverage: England and Wales
	Water available for use (EA definition) per capita – critical period (l per day)	Water available for use (EA definition) and population data obtained from the June reports of regulated companies (Table 10iii), <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a> Not available for 2011	Geographical coverage: England and Wales
	Sewage treatment capacity (tonnes BOD5/day)	Sewage treatment capacity: data obtained from the June reports of regulated companies (Table 15), <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a>	Geographical coverage: England and Wales
Asset or capacity utilisation	Security of Supply Index – dry year (index –maximum value 100)	SOSI: data obtained from the June reports of regulated companies (Table 10i), available here: <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a> Not available for 2011	Geographical coverage: England and Wales Individual company scores were weighted by population Veolia South East was excluded due to data unreliability issues
	Security of Supply Index – critical period (index –maximum value 100)	SOSI: data obtained from the June reports of regulated companies (Table 10iii), available here: <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a> Not available for 2011	Geographical coverage: England and Wales Individual company scores were weighted by population Veolia South East was excluded due to data unreliability issues
	Sewage treatment capacity utilisation (percentage)	Total load entering sewerage system: data obtained from the June reports of regulated companies (Table 15), available here: <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a> Not available for 2011	Geographical coverage: England and Wales Note: assumes 1 tonne of BOD is equivalent to 1 tonne of BOD5
Service quality and reliability	Interruptions of supply (percentage)	Properties subject to unplanned supply interruptions of 12 hours or more: indicator reported in Ofwat’s “Service and delivery – performance of the water companies in England and Wales” available here: <a href="http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10">http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10</a> Not available for 2011	Geographical coverage: England and Wales

Dimension	Indicator	Sources	Observations
Asset condition	Properties subject to sewer flooding incidents (percentage)	<b>Properties subject to sewer flooding incidents (overloaded sewers and other causes):</b> indicator reported in Ofwat's "Service and delivery – performance of the water companies in England and Wales" available here: <a href="http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10">http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10</a> Not available for 2011	<b>Geographical coverage:</b> England and Wales
	Inadequate pressure of mains (percentage)	<b>Pressure of mains water - Percentage of connected properties below reference level:</b> indicator reported in Ofwat's "Service and delivery – performance of the water companies in England and Wales" available here: <a href="http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10">http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10</a>	<b>Geographical coverage:</b> England and Wales
	Distribution losses (millions of litre per km of main per year)	<b>Distribution losses:</b> indicator reported in Ofwat's "Service and delivery – performance of the water companies in England and Wales" available here: <b>Mains length:</b> data obtained from the June reports of regulated companies (Table 11), available here: <a href="http://www.ofwat.gov.uk/regulating/junereturn/">http://www.ofwat.gov.uk/regulating/junereturn/</a> Not available for 2011	<b>Geographical coverage:</b> England and Wales
	Leakage as a percentage of distributional input (percentage)	<b>Total leakage:</b> indicator reported in Ofwat's "Service and delivery – performance of the water companies in England and Wales" <b>Distributional input:</b> indicator reported in Ofwat's "Service and delivery – performance of the water companies in England and Wales" available here: <a href="http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10">http://www.ofwat.gov.uk/publications/los/rpt_los_2009-10</a> Not available for 2011	<b>Geographical coverage:</b> England and Wales

**Table D.32: Water and sewerage cost sources**

Sector	Indicator	Sources	Observations
Water	Cost of water supply (pence per litre supplied)	<b>Total turnover of regulated companies – water:</b> reported in Ofwat's "Financial performance and expenditure of the water companies in England and Wales 2009-10" available here: <a href="http://www.ofwat.gov.uk/regulating/reporting/rpt_fpe_2009-10">http://www.ofwat.gov.uk/regulating/reporting/rpt_fpe_2009-10</a> Not available for 2011	<b>Geographical coverage:</b> United Kingdom <b>Price base:</b> 2009-10
	Cost of water treated (pence per litre treated)	<b>Total turnover of regulated companies – sewerage services:</b> reported in Ofwat's "Financial performance and expenditure of the water companies in England and Wales 2009-10" available here: <a href="http://www.ofwat.gov.uk/regulating/reporting/rpt_fpe_2009-10">http://www.ofwat.gov.uk/regulating/reporting/rpt_fpe_2009-10</a> Not available for 2011	<b>Geographical coverage:</b> United Kingdom <b>Price base:</b> 2009-10

**Table D.33: Flood Risk Management performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Flood Risk Management performance index	100	102	105	131	140	146	154
Capacity, access and availability	100	104	110	115	120	131	146
Asset condition	100	100	100	148	160	161	162

**Table D.34: Flood Risk Management cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Flood Risk Management cost index	100	69	121	107	98	59	48

**Table D.35: Flood Risk Management performance sources**

Dimension	Indicator	Sources	Observations
Capacity, access and availability	Households at moderate or significant flood risk as a percentage of total number of households (percentage)	Households at moderate or significant flood risk: estimated at 900,000 by Department for Environment, Food and Rural Affairs in 2009, then derived using <b>Households better protected against moderate or significant flood risk</b> : Environment Agency (EA) <b>Households data</b> : ONS – <a href="http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Number+of+Households">http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Number+of+Households</a>	<b>Geographical coverage</b> : England Index is reversed to show an increase when fewer households are at risk
Asset condition	Flood Risk Management asset condition (percentage)	<b>Flood Risk Management asset condition index</b> : Environment Agency data	<b>Geographical coverage</b> : England Two different measures exist. The old measure (2007-2009) reported on the number of high consequence 'systems' at target condition. The new measure reports (2008-2011) on the number of high consequence 'assets' within systems at target condition. An overlap allows for a linkage in the series <b>Time coverage</b> : 2005 and 2006 values are assumed to be equal to 2007 value

**Table D.36: Flood Risk Management cost sources**

Sector	Indicator	Sources	Observations
Flood Risk Management	FDGiA Expenditure per additional better protected household (£/additional better protected household)	<b>FDGiA expenditure</b> : Department for Environment, Food and Rural Affairs data <b>Households better protected against flooding risk</b> : Environment Agency (EA) data	<b>Geographical coverage</b> : England <b>Price base</b> : 2010-11

**Table D.37: Waste performance indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Waste performance index	100	110	114	119	126	126	129
Capacity, access and availability	100	115	114	111	111	110	115
Landfill capacity	100	101	99	93	88	85	81
Incineration capacity	100	130	129	128	135	135	149
Asset or capacity utilisation	100	115	112	117	126	120	119
Landfill life left - non-hazardous waste (commercial sites)	100	106	107	118	133	130	129
Incineration capacity usage	100	124	117	116	118	109	110
Service quality and reliability	100	100	116	129	141	149	154

**Table D.38: Waste cost indices**

Indicator	2005	2006	2007	2008	2009	2010	2011
Waste cost index	100	128	135	136	136	161	165

Table D.39: Waste performance sources

Dimension	Indicator	Sources	Observations
Capacity, access and availability	<b>Landfill capacity</b> (Thousand cubic metres per capita)	<b>Landfill capacity:</b> Environment Agency (EA), <a href="http://www.environment-agency.gov.uk/research/library/data/142511.aspx">http://www.environment-agency.gov.uk/research/library/data/142511.aspx</a> <b>Population data:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> England and Wales
	<b>Incineration capacity</b> (Thousand tonnes per capita)	<b>Incineration capacity:</b> EA, Incineration inputs and capacity tables (one per year). 2010 table is available here: <a href="http://www.environment-agency.gov.uk/research/library/data/142773.aspx">http://www.environment-agency.gov.uk/research/library/data/142773.aspx</a> <b>Population data:</b> ONS, <a href="http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls">http://data.london.gov.uk/datafiles/demographics/ons-mye-population-totals.xls</a>	<b>Geographical coverage:</b> England and Wales
Asset or capacity utilisation	<b>Landfill life left – non-hazardous waste (commercial sites)</b> (years)	<b>Landfill inputs:</b> EA <a href="http://www.environment-agency.gov.uk/research/library/data/142773.aspx">http://www.environment-agency.gov.uk/research/library/data/142773.aspx</a> (taking only the “Inert C&D” and “HIC” lines of “the categories “Non Inert” and “Inert only”) <b>Landfill capacity:</b> Environment Agency (EA), <a href="http://www.environment-agency.gov.uk/research/library/data/142773.aspx">http://www.environment-agency.gov.uk/research/library/data/142773.aspx</a> (excluding the lines “Restricted User” and subtracting the “Hazardous Merchant” and “Hazardous Restricted”	<b>Geographical coverage:</b> England and Wales Capacity left in years based on current landfill inputs Engineering and cover is assumed to consume 25 per cent of total voidspace Landfill inputs are converted to volumes using a density factor of 1.2 m <sup>3</sup> /tonne for HIC and 1m <sup>3</sup> /tonne for inert materials
	<b>Incineration capacity usage</b> (percentage)	<b>Incineration inputs:</b> EA, Incineration inputs and capacity tables (one per year). 2011 table is available here: <a href="http://www.environment-agency.gov.uk/research/library/data/142773.aspx">http://www.environment-agency.gov.uk/research/library/data/142773.aspx</a>	<b>Geographical coverage:</b> England and Wales 2005 value was unavailable and is estimated by applying the 2006 proportion of total waste incinerated to the 2005 total waste figure
Service quality and reliability	<b>Household recycling rate</b> (percentage)	<b>Household recycling rate:</b> Department for Environment, Food and Rural Affairs, <a href="http://www.defra.gov.uk/statistics/environment/waste/wrfg23-wrmsannual/">http://www.defra.gov.uk/statistics/environment/waste/wrfg23-wrmsannual/</a>	<b>Geographical coverage:</b> England <b>Time coverage:</b> 2006-2011. 2005 data is assumed equal to 2006 value.

**Table D.40: Waste cost sources**

Sector	Indicator	Sources	Observations
Waste	Expenditure on municipal waste management (£/tonne)	Public sector expenditure on waste management: PESA <a href="http://www.hm-treasury.gov.uk/pespub_pes12.htm">http://www.hm-treasury.gov.uk/pespub_pes12.htm</a> <b>Municipal waste collected by local authorities:</b> Local Authority Collected Waste Generation in the UK, N,I information found at <a href="http://www.doeni.gov.uk/niea/municipal_data_reporting">http://www.doeni.gov.uk/niea/municipal_data_reporting</a> ,	Geographical coverage: United Kingdom Price base: 2010-11



### **HM Treasury contacts**

This document can be found in full on our website: <http://www.hm-treasury.gov.uk>

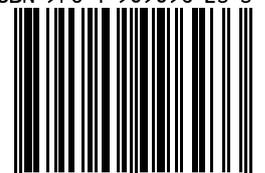
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