

Infrastructure delivery

Overview

1.1 The government has a strong record on infrastructure delivery; during the current Parliament more than 2,500 infrastructure projects and schemes have been completed. This includes:

- over 900 energy projects, including 600 electricity generation schemes ranging from 1MW to 2.8GW
- over 950 transport improvements, across the road, rail, aviation and ports sectors, as well as local transport
- over 520 flood defence schemes
- over 140 water projects and programmes
- 19 waste schemes
- 19 science and research projects

1.2 A comprehensive breakdown of significant schemes is included in individual sector updates below.

Roads

1.3 The government has ensured significant delivery in the roads sector, spending more than £12.7 billion on national roads to 2013-14. The Highways Agency has been responsible for delivering:

- 14 major road projects
- construction starts on 14 more major schemes across the country including the M1/M6 Junction 19, A45/ A46 Tollbar end and M3 Junctions 2 to 4A
- additional Smart Motorway lanes on some of our busiest routes including the M6 and M25 with further improvements now underway on the M1, M6 and in Manchester
- over 200 smaller schemes delivered around the country, with over 100 to be completed before April 2015 as part of the government's £317 million Pinch Point Programme, delivering improvements to the Strategic Road Network to help stimulate local growth, relieve congestion and improve safety

1.4 The government has also invested more than £400 million to support the development, supply and use of Ultra Low Emission Vehicles. Alongside private investment, this means there are now over 6,000 publicly-available electric vehicle charge points at locations across the UK. By March 2015, our network of over 500 rapid charge points across the country (including one at every motorway service station), will be the best in Europe.

Table 1.A: Roads projects worth more than £5 million delivered since 2010

Project	Region	Completed
A421 Bedford to M1 J13	East of England	2010
A1 Dishforth to Leeming	Yorkshire & the Humber	2012
A3 Hindhead	South East	2012
A46 Newark to Widmerpool	East Midlands	2012
Gravelly Hill Prop – Cap St	West Midlands	2012
M1 J10-J13 Renewals C NP	East of England	2012
M25 J16-23 (DBFO Section 1)	East of England	2012
M25 J27-30 (DBFO Section 4)	East of England	2012
M50 Viaduct Phase 1 Eastbound	West Midlands	2012
M6 Bromford viaduct pilecap	West Midlands	2012
M6 Tebay SB Deck Refurbishment	North West	2012
Rayhall Midland Links	West Midlands	2012
M1 Junction 19/M6 (viaduct)	East Midlands	2012
M5 Manor Farm VRS 17/9 - 21/9	West Midlands	2012
M5 J5-6 Oddingley VRS - Cap	West Midlands	2012
A31 Canford Bottom Junction Improvements	South East	2012
M4/M5 All lane motorway. I/C Power + Light C	South West	2013
Graveley Hill Viaduct	West Midlands	2013
M27 Park Gate IC Pier Replace	South East	2013
M4 Shefford Woodlands	South East	2013
M50 Queenmill Viaduct	West Midlands	2013

Project	Region	Completed
M50 Viaduct phase 2 westbound	West Midlands	2013
M62 Junctions 25 to 30	Yorkshire & the Humber	2013
A14 Huntingdon Railway Viaduct Replacement	East of England	2014
A23 Handcross to Warninglid	South East	2014
M25 Junctions 23 to 27	East of England	2014
M25 Junctions 5 to 6/7	South East	2014
M3 J4a-5 Bespoke Deck Joints	South East	2014
M42 J2-3A - M40 J15 South	West Midlands	2014
M4 Junction 19-20 and M5 Junction 15-17	South West	2014
M6 Junctions 5 to 8	West Midlands	2014
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>		

Rail

1.5 The government has supported delivery of key infrastructure across the rail network.

1.6 Network Rail Control Period 4, which ended in 2014, saw significant upgrades to passenger and freight services such as part of a £36 billion package of maintenance and enhancements. Work has already begun on the £38 billion maintenance, improvements and operations package as part of Control Period 5 including a commitment to invest £600 million in the Northern Hub.

1.7 Through the £5.7 billion Inter City Express programme, the government has secured new electric trains to run on the Great Western Main Line from 2017 and East Coast Main Line from 2018. The programme will deliver 866 carriages at a new purpose-built Hitachi Rail Europe facility at Newton Aycliffe in the North East, currently in construction, which will support 730 local jobs.

1.8 After more than 20 years in development, delivery of Crossrail is progressing well, and extensions to Reading and Twyford have been confirmed. Over 350 apprentices are working on the project, the vast majority of tunnelling is now complete and construction work on flagship new stations in Central London and the Docklands has [passed the halfway mark]. The contract to operate Crossrail was awarded to MTR Corporate (Crossrail) in July.

1.9 The government has also made real progress on driving forward High Speed Rail:

- with the High Speed Rail Preparation Act now passed, the HS2 Hybrid bill is currently proceeding through Parliament
- the HS2 Taskforce was set up to support cities in maximising the benefits, and the government has confirmed that the new headquarters for HS2 will be in Birmingham, creating 1,500 jobs in the area; a new National College for High Speed Rail will also be located in Birmingham and Doncaster to provide specialist vocational training to the next generation of engineers working on HS2

1.10 The government has consistently focused on ensuring that the railways provide value for money for taxpayers and consumers, this includes:

- responding to concerns about the cost of rail fares and the impact they have on family budgets; that is why in both 2014 and for 2015 rail fare increases on regulated tickets have been capped at RPI inflation; in 2015, Train Operators will no longer be able to increase some fares above the RPI cap
- trialling a number of schemes to reduce the impact of fares including flexible season tickets, single leg pricing for off peak return fares (starting in 2015) and a code of practice on ticketing information

Table 1.B: Summary of significant rail projects delivered as part of CP4

Project	Region	Completed
North London capacity improvements	London	2011
Edinburgh to Glasgow improvement (Haymarket North)	Scotland	2011
Cotswold Line redoubling	South West	2011
Paddington Station roof restoration	London	2011
Northern Urban Centres: Platform lengthening and capacity improvements	North West /Yorkshire & the Humber	2012

Project	Region	Completed
Kings Cross Station redevelopment programme	London	2012
London Blackfriars (part of Thameslink)	London	2012
Strategic Freight Network (including Felixstowe to Nuneaton, Ipswich Chord and gauge works across England)	England	2014
Southern Train Lengthening: 12 projects completed	South East	2014
Southern Capacity Package (Including Gatwick Airport remodelling)	South East	2014
East Coast Main Line Improvements (including North Doncaster Chord)	Various	2014
Swindon to Kemble redoubling	South West	2014
Peterborough Station	East of England	2014
Reading Station Building Works	South East	2014
Nottingham Station Works	East Midlands	2014
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>		

Local transport

1.11 The government has provided significant support to the development of local transport infrastructure since 2010. This includes:

- 41 Local Authority Major Transport projects have been completed.
- 28 more are now in construction including projects at extensions to the Nottingham Tram system Extension and the Bexhill-Hastings Link Road
- the Mersey Gateway Bridge started construction earlier this year; once complete bridge will provide a 3- lane dual carriageway connection from Widnes to the M56 Junction 12 in Runcorn; in April 2014 a UK guarantee was issued for £257 million for this scheme
- tackling some of the worst bottlenecks on the local road network through the creation of the Local Pinch Point Fund, which has invested 266 million in 110 projects, enabling improvements worth more than £500 million to go ahead. The fund supports economic growth by tackling barriers on the local highway network that may be restricting the movement of goods and people; estimates suggest that such schemes have the potential to support more than 200,000 jobs and around 150,000 new homes¹
- setting up the Highways Maintenance Efficiency Programme, to help local authorities plan and manage the road networks
- a total of £600 million has been made available through the Local Sustainable Transport Fund; funding was awarded in 96 packages to 77 local authorities to deliver sustainable transport schemes between 2011 and 2015. Projects include a variety of measures designed to enhance growth, including smart ticketing, encouraging infrastructure for electric vehicles, bus, rail and ferry improvement measures, the promotion of car clubs, and infrastructure improvements for cycling and walking; along with local contributions over £1 billion is now being invested in local sustainable travel
- making bus services more punctual, inter-connected, green and accessible through improving the system of local bus subsidy and regulation in England, encouraging people to use buses in urban areas through the Better Bus Areas fund and helping local authorities invest in low carbon buses through the Green Bus fund
- supporting cycling improvements such as encouraging both business and leisure cyclists, with better urban cycling facilities and in areas covered by National Parks; improving cycling and walking infrastructure in communities; and, tackling dangerous junctions in London and across England – with local contributions, this represents nearly £150 million of funding for cycling to 2015

1.12 Transport for London also receives substantial funding from the government, totalling £12 billion over the current Mayor of London's 4 year term. This has been invested in a number of significant improvements with highlights included in the table below.

1.13 The Secretary of State for Transport has now given the go-ahead for plans to extend the Northern line to Battersea. The extension will help regenerate the Vauxhall, Nine Elms and Battersea areas, supporting 24,000 new jobs and over 18,000 new homes. Two new stations to be built at Battersea and Nine Elms will be open by 2020. The project has a government support package including up to £1 billion of borrowing by the Greater London Authority.

Table 1.C: Summary of major local transport projects delivered since 2010

Project	Region	Completed
Weymouth 2012 Package	South West	2011
Selly Oak New Road	West Midlands	2011
Bidston Moss Viaduct Maintenance	North West	2011
Taunton Third Way	South West	2011
Burnt Tree Junction	West Midlands	2011
A34 Alderley Edge Bypass	North West	2011
Sittingbourne Northern Relief Road	South East	2011
East of Exeter	South West	2012
Hall Lane	North West	2012
Weymouth Relief Road	South West	2012
Poole Bridge	South West	2012
Greater Manchester Urban Traffic Control	North West	2012
Greater Bristol Bus Network	South West	2012
Blackpool Tram Upgrade	North West	2012
GM Highway Retaining Walls	North West	2012
East Kent Access Phase 2	South East	2012
Edge Lane	North West	2012
A65 Quality Bus Corridor	Yorkshire & the Humber	2012
A41 Expressway	West Midlands	2012
Victoria Line upgrade	London	2012
Jubilee Line upgrade	London	2012
Mansfield PT Interchange	East Midlands	2013
A164 Humber Bridge to Beverley Improvements	Yorkshire & the Humber	2013
White Rose Way Imp Scheme	Yorkshire & the Humber	2013
Walton Bridge	South East	2013
Rochdale Interchange	North West	2013
A130/A13 Sadlers Farm Junction	South East	2013
West Midlands Red Routes Phase 1	West Midlands	2013
Wolverhampton Interchange	West Midlands	2013
Luton-Dunstable Busway	South East	2013
Access York Park & Ride	Yorkshire & the Humber	2014
Luton Town Centre Transport Scheme	East of England	2014
Portsmouth Northern Road Bridge	South East	2014
Portsmouth,Tipner Interchange	South East	2014

Project	Region	Completed
Todwick Crossroads Improvement (A57 to M1)	Yorkshire & the Humber	2014
A43 Corby Link Road	East Midlands	2014
Weston Package Phase 1	South West	2014
Evesham Bridge	West Midlands	2014
Tyne & Wear Metro Ticketing & Gating	North East	2014
Manchester Metrolink Extensions – Phase 1	North West	2014
Loughborough Town Centre improvement	East Midlands	2014
London Derby Road Bridge	East Midlands	2014
Reading Station Highway Works	South East	2014
Silverlink station upgrades	London	2014
More than 30 other station upgrades	London	Various
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>		

Aviation

1.14 The government has established the Airports Commission, led by Sir Howard Davies, to look at what extra capacity will be needed in the short, medium and long term. The Commission has now reduced its shortlist of options for increasing airport capacity in the South East to just 3. This includes 2 options at Heathrow and another at Gatwick. The option of a new airport in the Thames Estuary is no longer being taken forward.

1.15 The Commission published its interim report in 2013 with a number of recommendations on surface access. In line with these recommendations, the government has taken steps to improve connectivity to airports, including:

- a commitment of £50 million towards a new rail station at Gatwick
- initial approval of a new A6 link road at Manchester

1.16 While the Commission undertakes its analysis, the government has continued to support airports growth through maximising existing capacity. Progress includes:

- a new deal has been agreed to allow improved air links to China, including increasing the weekly maximum available to both countries to 40 direct flights in each direction, giving airlines more freedom to continue to expand into this growing market
- the government has also protected regional air services to London by setting up the £20 million Regional Air Connectivity Fund; Public Service Obligations have been signed to maintain services from Dundee and Newquay
- publication of a draft Aviation Policy Framework to balance the economic benefits of air travel with its impact on the environment and local communities; the government has also worked with National Air Traffic Services to bring the public and private sectors together to plan how to manage increasing demand for air traffic services
- at the government's request, the Civil Aviation Authority has established an industry focused Senior Delivery Group which will develop and, where appropriate, lead delivery of an Optimisation Strategy to improve the efficiency of UK airports and airspace

1.17 Since 2010, there have also been a number of private sector led infrastructure improvements to support better connectivity and growth in capacity at some of our busiest airports. This includes a combined investment of £5.3 billion at Heathrow and Gatwick as part of the 5-year regulatory period which ended in 2014.

Table 1.D: Projects delivered at top 15 UK airports (by traffic) since 2010:

Project	Region	Completed
Belfast City Airport: terminal infrastructure redevelopment	Northern Ireland	2010
London City Airport: £7 million terminal expansion	London	2011

Project	Region	Completed
Gatwick: major programme of works including: <ul style="list-style-type: none"> • 6 new large aircraft stands to accommodate A380 • Main runway and taxi resurfacing • North Terminal extension & baggage system upgrade • South Terminal - Security area with 19 new lanes and dedicated facilities 	South East	2010-2012
Southend Airport: new air control, re-sited passenger terminal and extension, runway extension	South East	2011-2012
Manchester Airport: new control tower, refurbishment of Runway 1	North West	2011-2013
National Air Traffic Services: £164m 10-year en-route radar upgrade programme to upgrade the UK's 23 radar stations	UK	2013
Bristol Airport: central walkway	South West	2014
East Midlands Airport: premium lounge upgrade	East Midlands	2014
Edinburgh Airport: multi-airline bag drop, new scanners	Scotland	2014
Glasgow Airport: improvements to main building	Scotland	2014
Heathrow: programme of works including Terminal 2 upgrade and transport pods launched	South East	2011-2014
Birmingham Airport: 405 metre runway extension, new control tower, primary radar tower	West Midlands	2012-2014
Stansted Airport: new air traffic control tower, new international departures lounge, new security lanes	South East	2013-2014
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>		

Ports

1.18 The government has taken policy action to support private investment in ports through designation of a Ports National Policy Statement to provide a clear framework for their future development. It has also signed the Coastal Concordat, an agreement between the relevant regulatory bodies to streamline the approvals and consenting process relating to coastal infrastructure projects.

1.19 The UK's major ports have seen a significant amount of investment since 2010, delivering an increase of more than 3 million TEU per annum:

- the newly-built London Gateway welcomed its first vessel in 2013; the port, when fully built, will provide an annual capacity of 3.5 million TEU
- Associated British Ports have constructed a new 500 metre berth at Southampton to accommodate the current generation of large container vessels
- Peel Ports are making a £300 million investment in the development of Liverpool 2, currently in construction, to create what is claimed to be Europe's first semi-automated container port; PD Ports expanded Teesport in 2011, increasing its capacity to c. 500,000 TEU
- the first stage of the Felixstowe South development opened in 2010, and has been enhanced since

1.20 Furthermore, Siemens has announced it will invest £160 million in wind turbine production and installation facilities as part of the Green Port Hull project, alongside Associated British Ports who will invest a further £150 million. The combined investment will create more than 1,000 new jobs in the Hull area.

1.21 A number of surface access improvements have also taken place including construction of a new North Rail terminal at the Port of Felixstowe and development of the Mersey Multimodal Gateway (3MG) which was partly funded through contributions from the Regional Growth Fund and Growing Places Fund.

Table 1.E: Major ports which have completed improvements since 2010:

Project	Region	Completed
Port of Tyne: installation of new bulk crane	North East	2013
London Gateway: opening of new container port	South East	2013
Belfast harbour : purpose built offshore wind installation and pre-assembly harbour	Northern Ireland	2013
Port of Grimsby: new lock mechanism to support offshore wind companies	Yorkshire & The Humber	2014
Port of Dover: refurbishment of berths 3 & 6, and redevelopment of inbound tourist facility	South East	2012-2014
Port of Immingham: installation of new crane	Yorkshire & The Humber	2014
Port of Tilbury: installation of new cranes	East of England	2014
Port of Southampton new 500m berth, straddle carrier installation and dredging project	South East	2014

Source: HM Treasury Major Infrastructure Tracking Unit

Energy

Electricity generation

1.22 With the passing of the Energy Act, Electricity Market Reform is now well into its implementation phase and is already delivering significant investment. Early contracts were awarded to 8 renewable electricity projects under the Final Investment Decision Enabling for Renewables process in April 2014.

1.23 Between 2010 and 2013 more than £45 billion was invested in new electricity generation and networks, with nearly 20GW of new capacity delivered, enough to power 23 million homes. Electricity generation from renewable sources has doubled to 15%. Investment since 2010 has included:

- £7.6 billion in onshore wind, which now generates nearly 5% of total UK electricity; the 68MW Keadby wind farm in North Lincs, the largest onshore wind farm in England, became operational in summer 2014
- £6.9 billion in offshore wind, where the UK is now the clear world leader with more operational capacity (3.7GW) than any other country; this includes the London Array, the world's largest operational offshore wind farm (389MW) and Gwynt Y Mor which is nearing the end of construction; when completed it will be the second largest offshore wind farm in the world at 576MW
- £6.4 billion of investment in solar photovoltaics, which is now one of the most rapidly growing markets in Europe with 1.6GW of new capacity installed in the UK in 2014; this includes Blackfriars Station in London, which is the world's largest solar bridge with 4,400 panels installed, providing 50% of the station's power
- £6.3 billion of investment in biomass and bioenergy; Drax, responsible for meeting around 7-8% of the UK's electricity demand, has now converted two of its six units to biomass, with a capacity of around 1GW
- £2.5 billion of investment in gas generation; 6 new plants delivering nearly 8.5GW of capacity have been completed since 2010, including at West Burton and Pembroke
- interconnection projects valued at around £1 billion have also been delivered since 2010; this brings Great Britain's current interconnection capacity to 4GW

1.24 The government believes that new nuclear generation has a significant role to play in the future energy mix and has taken action to build and maintain the UK as the best market in the world for companies to do business in nuclear power. This includes

- securing state aid approval for Hinkley Point C
- establishing the Office for Nuclear Regulation to provide a one-stop shop for developers, creating a simplified process for reactor certification, and publishing a Nuclear Industrial Strategy to support skills and the supply chain
- more than £100 million invested in nuclear decommissioning innovation

1.25 The government has also taken action to support the ongoing development of less mature low-carbon technologies. This includes:

- introducing a programme, including £1 billion in capital funding, for the first 2 projects to demonstrate commercial scale CCS in the UK.

- working with the Offshore Wind Industry Council and Offshore Wind Programme Board, to drive cost reduction and UK supply chain development.
- establishing 2 marine energy parks in the South West and the north of Scotland.

Oil and gas

1.26 Between 2010 and 2013, the UK oil and gas industry invested nearly £50 billion and produced more than 2.6 billion barrels of oil equivalent.

1.27 In 2013, the government commissioned Sir Ian Wood to advise on options to maximise economic recovery of the oil and gas reserves on the UK Continental Shelf (UKCS). It has now committed to implement his recommendations, including establishing a new regulator, the Oil and Gas Authority, to be set up in shadow form in spring 2015.

1.28 The government has taken action to unlock additional investment in the UKCS by; introducing new and enhanced tax allowances to enable the development of resource that are commercially challenged; and introducing unprecedented certainty over tax relief for decommissioning costs through the introduction of Decommissioning Relief Deeds, now signed by 64 companies.

1.29 At the same time as supporting investment in the North Sea, the government has taken steps to support investment in shale gas. It has:

- published detailed and accessible information on our website to help investors and public understand our robust regulatory approach, including a roadmap setting out the overall process as it applies in the different nations of the UK
- announced actions to simplify the regulation of exploratory activity while maintaining environmental protection; in July new planning guidance clarified that applications should be refused in National Parks other than in exceptional circumstances and in the public interest
- announced £2 million to support companies looking to develop innovative processes for shale exploration or production, to help UK firms develop products and services in this new sector
- introduced the most competitive tax regime in Europe for shale gas

Electricity and gas transmission and distribution

1.30 Over £16 billion has been invested in electricity networks since 2010, and more than £3.8 billion in gas transmission and distribution. In the same period, around £1 billion was invested in new gas storage and import infrastructure. This included capital expenditure on five gas storage sites and one liquefied natural gas terminal.

1.31 RIIO (Revenue = Incentives + Innovation + Outputs) is Ofgem's new performance-based model for setting network company price controls, lasting for eight years. Ofgem completed the first price control reviews to use the RIIO framework in early 2013: RIIO-T1 for gas and electricity transmission and RIIO-GD1 for gas distribution.

Energy efficiency

1.32 In its Energy Efficiency Strategy, the government has set out its ambition to see the UK get closer to using only the energy it really needs. A rolling programme of action to address the barriers to energy efficiency take up is now underway, including

- a Smart Meter programme which will see deployment to all British households and several million small non-domestic sites by 2020; around half a million Smart Meters have already been installed in domestic sites, with a similar figure of smart and advanced meters now installed in small non-domestic sites
- more than 389,000 Green Deal assessments by the end of October 2014, and the supply chain is growing; nearly a million measures were installed in over 800,000 properties, through the Energy Company Obligation, Cashback, Green Deal and the Green Deal Home Improvement Fund, to the end of August 2014
- Plans to spend an extra £30 million a year, over 3 years, in public sector renovation

Table 1.F: Significant electricity generation projects delivered since 2010:

Project	Region	Completed
West Burton (CCGT)	East Midlands	2010
Grain (CCGT)	South East	2010
Severn (CCGT)	Wales	2010
Thanet (offshore wind)	Offshore	2010
Crystal Rig Phase 2A (onshore wind)	Scotland	2010
Pembroke (CCGT)	Wales	2011
Walney 1 (offshore wind)	Offshore	2011
Arecleoch (onshore wind)	Scotland	2011
Alborough Gas Storage	Yorkshire & The Humber	2011
Staythorpe (CCGT)	East Midlands	2012
Greater Gabbard (offshore wind)	Offshore	2012
Clyde (onshore wind)	Scotland	2012
Sheringham Shoal (offshore wind)	Offshore	2012
Walney 2 (offshore wind)	Offshore	2012
Griffin (onshore wind)	Scotland	2012
Ormonde (offshore wind)	Offshore	2012
Whitelee Extension Phase 1 (onshore wind)	Scotland	2012
Crighshane (onshore wind)	Northern Ireland	2012
Ironbridge Power Station (biomass)	West Midlands	2013
Drax - Unit 1 (biomass)	Yorkshire & The Humber	2013
London Array Phase 1 (offshore wind)	Offshore	2013
Centrica (Lincs) (offshore wind)	Offshore	2013
Fallago Rig (onshore wind)	Scotland	2013
Whitelee Extension phase 2 (onshore wind)	Scotland	2013
Teeside (offshore wind)	Offshore	2013
Middlemoor (onshore wind)	North East	2013
Wymeswold Airfield (solar)	East Midlands	2013
Drax - Unit 2 (biomass)	Yorkshire & The Humber	2014
West of Duddon Sands (offshore wind)	Offshore	2014
Harestanes (onshore wind)	Scotland	2014

Project	Region	Completed
Keadby (onshore wind)	Yorkshire & The Humber	2014
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>		

Flood and Coastal Erosion

1.33 The National Flood and Coastal Erosion Risk Management Strategy for England, has been published to provide an overarching framework for action to tackle flooding and coastal erosion.

1.34 Over the course of this Parliament, more than £1.6 billion of capital spending will have been invested in managing flood and coastal erosion risk. The Environment Agency has already delivered more than 520 projects. Overall the standard of protection has been improved for nearly 160,000 homes. By March 2015 this is expected to have increased to more than 165,000, beating the target at the start of the spending review period by more than 20,000 homes.

1.35 Repairs to flood defences damaged by the 2013-14 severe weather and flooding are on track, and no communities will be at greater risk going into this winter.

1.36 The government has also taken action to protect high-risk households by supporting the insurance industry's development of its proposed Flood Re scheme, which will make sure that flood insurance remains affordable and available.

Table 1.G: Flood and coastal erosion defence projects delivered since 2010 which have each improved protection to more than 1,500 homes

Project	Region	Completed
Hull Tidal Surge Barrier	Yorkshire & The Humber	2010-11
Wisbech Defences	East of England	2010-11
St. Germans Pumping Station	East of England	2010-11
South Holland Main Drain Sluice, Sutton Bridge	East Midlands	2010-11
H&F Package Thames & Palace Wharves	London	2010-11
Weston-super-Mare Sea Defences	South West	2010-11
Gainsborough Frontage	East Midlands	2010-11
Altmouth Pumping Station	North West	2011-12
Deptford Creek Frontages Package (TTD)	London	2011-12
B&D Meica Package 3 (NE)	London	2011-12
Thames Barrier Pier Crane Modernisation	London	2011-12
Nottingham Trent Left Bank	East Midlands	2012-13
Humber Stallingborough 2	Yorkshire & The Humber	2012-13
Canvey Barriers	East of England	2012-13
Crossens Pumping Station	North West	2012-13
Pevensey Sea Defences PPP	South East	2012-13
Middle Level Barrier Bank Erosion protection	East of England	2012-13
South Hayling Beach Management Plan	South East	2012-13
Pevensey Outfalls Reconstruction	South East	2012-13
Salford Asset Assessment	North West	2013-14
Eastoke Point, Hayling Island, Coastal Defence Works	South East	2013-14
Lower Dove Flood Alleviation Scheme	East Midlands	2013-14
Lincshore 2010 to 2015	East Midlands	2013-14

Source: HM Treasury Major Infrastructure Tracking Unit

Water

1.37 Ofwat's final price determinations for the 2010-2015 period provided for a major programme of more than £22 billion of capital investment in water infrastructure.

1.38 Investment delivered through this programme includes major enhancements to the sewerage system in Preston, ongoing work to improve water quality in the Manchester Ship Canal, and the boring of the 4-mile Lee Tunnel, London's deepest ever, as part of a £635 million project to help prevent more than 16 million tonnes of sewage mixed with rainwater overflowing into the River Lee each year.

1.39 Significant progress has also been made on developing the Thames Tideway Tunnel. During 2014, the project was specified under the 2013 Specified Infrastructure Projects Regulations. Planning permission for the Tunnel has also now been granted.

1.40 The government has consistently taken action to ensure that the delivery of water and wastewater infrastructure remains affordable for consumers. This includes:

- reforming the water industry to make it more innovative and responsive to consumers through the Water Act, which received Royal Assent in 2014
- introducing specific measures to provide targeted financial assistance to water customers, such as funding South West Water to reduce bills by £50 per year for its household customers
- enabling water and sewerage companies to develop social tariffs, in consultation with their customers, to help those who are struggling to pay

Table 1.H: Significant water and sewerage projects delivered since 2010

Project	Region	Completed
Endeavour Wharf, Whitby, Sewer Repair	Yorkshire & The Humber	2010
Dwr Cymru: Investing £75m in wastewater works in Cardiff, Hereford, Port Talbot	Wales	2011
Northumbrian Water: £30m to refurbish and clean 171km of trunk mains in Tyneside and Northumberland	North East	2011
Severn Trent Water: Renewal of 1,289km of mains	Various	2011
South East Water: Hindhead Reservoir Construction	South East	2011
Abberton Pipelines Project installation of 32km of pipeline	East of England	2012
Thames Water: £140m upgrade at Mogden sewage treatment works	London	2013
Wessex Water: Weston-super-Mare sewage treatment works £26m upgrade scheme	South West	2013
Upgrade works to Elsham Water Treatment Works	Yorkshire & The Humber	2013
Thames Water: £85m upgrade at Riverside sewage treatment works	London	2014
United Utilities: £114m Preston Tunnel and Rising Main improvement scheme	North West	2014

Project	Region	Completed
Source: HM Treasury Major Infrastructure Tracking Unit		

Digital communications

1.41 To support its vision for a superfast broadband network in the UK of over 24 Megabits per second (Mbps), public sector is investing £1.7 billion, alongside private-sector investment, to stimulate commercial investment and support the rollout of superfast broadband to 95% of the UK by the end of 2017. Projects are now delivering in 46 areas (44 from Phase 1 and 2 from Phase 2) with more than 1.5 million homes and businesses with access to superfast broadband for the first time, and 2 million expected by February 2015.

1.42 Funding has also been allocated to explore ways to reach the final 5% of premises in the most remote and hardest to reach places in the UK that are not covered by existing plans. £8.2 million of a £10 million fund has so far been invested in 8 pilot projects to identify the most effective way to rollout out superfast broadband to these areas.

1.43 The government has also created 22 'Super-Connected Cities'. This means an investment of up to £150 million in wireless coverage in city centres, free wifi in public buildings and a connection voucher scheme which provides grants to businesses of up to £3,000 to cover the costs of installing faster and better broadband. The programme will see more than 1,000 public buildings across the UK fitted with free wifi by March 2015.

1.44 In 2013, Ofcom carried out an auction and licence award for 250 MHz of spectrum in the 800 MHz and 2.6 GHz bands to enable the commercial rollout of 4G services by the end of 2017. This will provide faster and more reliable mobile internet access to laptops, smartphones and other mobile devices. 4G is already available in over 300 large towns and cities around the UK.

1.45 The government has also invested up to £150 million through the Mobile Infrastructure Project to improve the quality and coverage of mobile phone voice and data services.

Table 1.I: Areas with improved access to broadband services since 2010

Project	Region
44 areas supported by Superfast Broadband Phase 1 funding, including Scotland, Wales and Northern Ireland	Various
Aberdeen (super-connected city)	Scotland
Belfast (super-connected city)	Northern Ireland
Birmingham (super-connected city)	West Midlands
Bristol (super-connected city)	South West
Brighton and Hove (super-connected city)	South East
Cambridge (super-connected city)	East of England
Cardiff (super-connected city)	Wales
Coventry (super-connected city)	West Midlands
Derby (super-connected city)	East Midlands
Derry/Londonderry (super-connected city)	Northern Ireland
Edinburgh (super-connected city)	Scotland
Leeds and Bradford (super-connected city)	Yorkshire and The Humber
London (super-connected city)	London
Manchester (super-connected city)	North West
Newcastle (super-connected city)	North East
Newport (super-connected city)	Wales

Project	Region
Oxford (super-connected city)	South East
Perth (super-connected city)	Scotland
Portsmouth (super-connected city)	South East
Salford (super-connected city)	North West
York (super-connected city)	Yorkshire and The Humber
<i>Source: HM Treasury Major Infrastructure Tracking Unit</i>	

Waste

1.46 In publishing a Waste Management Plan for England, the government has brought all waste management policies under one umbrella. It has also increased the standard rate of Landfill Tax to £80 per tonne to incentivise a reduction in waste sent to landfill.

1.47 £3.2 billion in grant funding has been allocated to 27 local authority waste infrastructure projects, paid over the 25-year operating life of each project. Since 2010, some 19 projects (including private sector schemes) have been completed. Combined, these have delivered 4.6 million tonnes of extra processing capacity per year. Schemes range from the large 670,000 tonne facility at Western Riverside in London, to the smaller Isle of Wight Waste Gasifier.

Table 1.J: Waste projects delivered since 2010

Project	Region	Completed
Leicestershire County Council Waste Management Project	East Midlands	2010
Lancashire Waste Partnership	North West	2011
East Sussex Brighton & Hove	South East	2012
Cambridgeshire	East of England	2012
Isle of Wight Waste	South East	2012
Western Riverside WDA	London	2012
London Borough of Southwark Integrated Waste Management Solutions Project	London	2012
Cumbria Waste South & North	North West	2013
Wiltshire Council Waste PPP Project	South West	2013
Birmingham Landor Street	West Midlands	2013
West Sussex County Council Waste Management	South East	2013
Lincolnshire County Council Waste Management	East Midlands	2013
Devon County Council	South West	2014
Essex County Council and Southend-on-Sea Waste Management Project	East of England	2014
Oxfordshire County Council - Ardley	South East	2014
South Tyne & Wear Partnership	North East	2014
Staffordshire County Council	West Midlands	2014
Suffolk County Council	East of England	2014
Greater Manchester WDA	North West	2015

Source: HM Treasury Major Infrastructure Tracking Unit

Science and research

1.48 The government has made significant investments in science and research infrastructure since 2010. This includes protecting £4.6 billion of funding in cash terms over the Parliament and more than £2 billion of funding for large research facility projects. In addition, the government has announced plans to invest £165 million in two cutting-edge international science projects: the Square Kilometre Array and the European Spallation Source. Projects worth more than £800 million have been completed.

1.49 The UK Research Partnerships Investment Fund (RPIF) has been set up by the government to support investment in large-scale capital projects at higher education research facilities. All projects must include private funding from industry or the charitable sector worth at least double the public contribution. £400 million has already been allocated to 27 projects through the RPIF. These include the National Automotive Innovation Campus at the University of Warwick, the 5G Research Centre at the University of Surrey and the Precision Cancer Medicine Institute at Oxford. The government has confirmed that the RPIF will continue to receive funding until 2017.

1.50 The government has also set up 7 catapult centres across the country to accelerate commercial exploitation of new technologies. Over £1 billion of public and private sector money is being invested in the catapults, to support the following areas:

- Cell Therapy
- Connected Digital Economy
- Future Cities
- High Value Manufacturing
- Offshore Renewable Energy
- Satellite Applications
- Transport Systems

Table 1.K: Major science and research projects completed since 2010

Project	Region	Completed
York Plasma Institute	Yorkshire & The Humber	2012
Imperial Centre for Translational and Experimental Medicine	London	2012
Nottingham Trent University - Rosalind Franklin Building	East Midlands	2012
Diamond Phase II	South East	2012
Hartree Centre (Phases 1 & 2)	North West	2012
MRC Laboratory of Molecular Biology	East of England	2013
Halley VI Research Station	Antarctica	2013
Royal Research Ship Discovery	UK	2013
Chip IR - facility at the UK's Science and Technology Facilities Council ISIS neutron source.	South East	2014
Norwich Research Park	East of England	2014

Project	Region	Completed
Babraham Research Campus	East of England	2014
The Maurice Wohl Clinical Neuroscience Institute	London	2014
Waters Wilmslow, New Mass Spectrometry Facility	North West	2014
HIVE, Construction Materials Test Facility	South West	2014
Bristol University Life Sciences Lab	South West	2014
BBSRC National Virology Centre (The Plowright Building)	South East	2014
ARCHER supercomputer	UK (based in Edinburgh)	2014
Discovery Centre for Translational and Interdisciplinary Research	Scotland	2014
National Composites Centre Expansion	South West	2014

Source: HM Treasury Major Infrastructure Tracking Unit