



HM Treasury



UK Trade
& Investment

Investing in UK Infrastructure



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www.gov.uk/ukti

Foreword – Chief Secretary to the Treasury

There has never been a better time to invest in the UK. Our economy is growing – with the recovery balanced across all the main sectors. In fact no major advanced economy grew faster than the UK over the last year.

We have a stable economy, with low inflation rates and a tax system which supports business. We have employment at its highest level ever and confidence growing amongst consumers.

Further business investment is crucial to building on this success as our economy moves into a phase of renewal, increasing our productivity and delivering our long-term economic plan.

There is no clearer example of this than in our key economic infrastructure sectors. We need to ensure that our businesses of the future will have the transport, energy, waste, water and digital networks they will need to thrive.

For centuries, the UK has been at the forefront of infrastructure development, from the steam engine to the world wide web. This government is committed to building on that legacy by ensuring that we continue to deliver the world-class infrastructure we need to propel our economy forward.

That is why we have developed our National Infrastructure Plan, setting out our priorities for infrastructure over the next decade and beyond, and the action we will take to deliver them.

We have prioritised public investment in infrastructure, including setting out plans for over £100 billion of projects over the next parliament. But we have always recognised that this is a partnership, and facilitating private-sector investment remains a crucial element of our infrastructure plan.

We know that the UK's stable and transparent legal system, strong regulatory framework and competitive tax regime make it a hugely attractive destination for both domestic and international investors. And the government is committed to ensuring that it continues to create the right conditions for that vital investment to come forward.

The UK is open for business, and I hope that this guide will help highlight the nature and extent of the opportunities available in UK infrastructure. It is in all our interests to ensure that we maximise these opportunities and continue to work together to deliver the networks and services the country needs to drive growth now and in the future.



Danny Alexander

Chief Secretary to the Treasury

Foreword – Minister of State for Trade and Investment

When I go around the world, people tell me that they see the UK as modern, creative, innovative, high-quality, technologically advanced and welcoming to business. Indeed, the UK prides itself on being one of the most open and business friendly economies in the world.

I am delighted that the UK continues to lead the way in attracting investment into key infrastructure projects and our plans for infrastructure development are ambitious, with all sectors seeing the largest investment in decades. It's been a record year for attracting foreign direct investment – the UK was yet again last year the number one location for inward investment across all of Europe.

The Institutional Investment and Infrastructure team in UKTI was set-up to support the UK government's infrastructure ambitions; to develop long-term strategic relationships with this new investment and to encourage it to play a key role in the UK's infrastructure delivery; to support greenfield infrastructure; recognising that the majority of the £383bn national infrastructure pipeline will be funded through private sources.

This guide provides an overview of UK infrastructure characteristics and the specific opportunities which are open for investment. UKTI stands ready to help you enter this crucial market achieving sustainable growth and jobs across the UK.

Livingston → Parkhead.



Lord Livingston

Minister of State for Trade and Investment

About Infrastructure UK

Infrastructure UK (IUK) is a unit within HM Treasury, made up of both civil servants and a number of commercial experts with significant private sector expertise.

The unit provides a strategic focus on the UK's long-term priorities across the economic infrastructure sectors. Its key objectives are to:

- **Work across government to develop co-ordinated and effective plans and priorities for UK infrastructure.**
- **Facilitate long-term investment in infrastructure across the public and private sectors.**
- **Improve delivery of key infrastructure projects and programmes.**

We are responsible for:

- The National Infrastructure Plan, which sets out a plan for UK infrastructure over the next decade, identifying the government's strategic objectives and Top 40 priority investments that are vital for future economic growth.
- The infrastructure pipeline, which sets out £383bn of public and private investment, providing transparency for industry and clarity for investors.
- Monitoring infrastructure delivery to ensure key projects are delivered on time and on budget.
- Supporting infrastructure investment through the UK Guarantee Scheme.
- Improving the delivery of the UK's critical Top 40 infrastructure priority investments.
- Improving the delivery of public sector assets and services through PPP.



Infrastructure UK



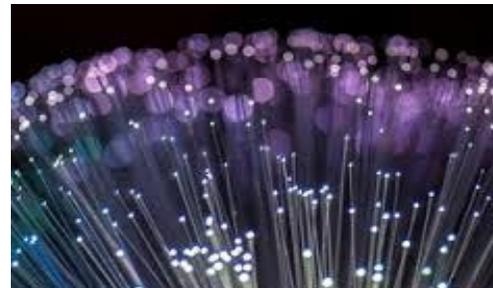
About UKTI

UK Trade & Investment is the Government Department that helps UK-based companies succeed in the global economy.

We also help overseas companies bring their high-quality investment to the UK's dynamic economy, acknowledged as the best place to start in Europe to succeed in global business. UK Trade & Investment offers expertise and contacts through its extensive network of specialists in the UK, and in British embassies and other diplomatic offices around the world. We provide companies with the tools they require to be competitive on the world stage.

The Institutional Investment & Infrastructure team helps to generate economic growth and jobs by increasing capital investment into the UK, especially in the UK's infrastructure. We do this by developing strategic relations with key overseas institutional investors (e.g. Sovereign Wealth and Pension Funds), UK developers, regulators and policy departments.

The team works with Infrastructure UK and other partners across government, in London and overseas, to build up an in-depth understanding of these investors to enable UK business to access capital from major institutional investors. This generates new investment into priority areas (including energy, transport and water) by matching the UK's needs to investor interest.



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National Infrastructure Plan

First published in 2010, and updated annually since, the National Infrastructure Plan is the government's strategic vision for UK infrastructure. It sets out our ambition for infrastructure investment, including:

- Additional public investment in Infrastructure as part of Autumn Statement 2013.
- A list of the Top 40 priority investments in the context of the government's strategic objectives in each economic infrastructure sector.
- What the government has done to improve infrastructure delivery, including action to reduce costs and planning delays.
- Prioritising the delivery of these programmes through the creation of a Cabinet Sub-Committee, chaired by the Chief Secretary to the Treasury.
- Appointment of Lord Deighton, responsible for successful delivery of the Olympics, as Infrastructure Minister.

The government also publishes a **National Infrastructure Pipeline** on a six-monthly basis. This currently represents:

- A forward pipeline of 430 projects and programmes worth more than £383bn of infrastructure investment to 2020 and beyond.
- Most of the value of the pipeline is in the energy and transport sectors, worth more than £200bn and £140bn respectively.
- 25% of the investment in the infrastructure pipeline is publicly funded, 15% public/private funding, and 60% purely privately funded.



National Infrastructure Plan 2013

December 2013

UK Infrastructure funding models

Financing		Energy	Comms	Transport	Waste	Water	Funding
Upfront investment made by public capital	Public industry				Commercial Waste Operations by Local Authorities	Scottish Water	Paid for by taxpayer
	Conventional capital procurement			Most Roads	Municipal Waste Facilities	Most flood and Coastal Defences	Paid for by taxpayer
Upfront investment made by private Finance	PPP/PFI			M25 Widening	Municipal Waste Treatment	Northern Ireland Water PFIs	Paid for by taxpayer
	Economically Regulated Private Industry	Electricity Networks	BT Openreach	Gatwick / Heathrow		England & Wales Water & Sewerage	Paid for by user
	Other Private Industry	Electricity Generation	Cable Networks	Most Airports / Ports	Commercial Waste Disposal		

UK Infrastructure risk and return profiles



	Characteristics	Examples
Private ownership (Market risk)	<ul style="list-style-type: none"> Competitive markets, although high barriers to new entrants Exposure to market/volume risks Investor requires higher returns reflecting greater cash flow volatility 	Transport: Most airports and ports Commercial waste Cable and mobile phone networks
Private ownership with targeted support	<ul style="list-style-type: none"> Business operates in private sector but under strong government-led market framework Competitive but high barriers to entry 	Electricity generation
Public contract/concession for service delivery	<ul style="list-style-type: none"> Procured by public sector, under EU-led process Largely social infrastructure/waste programme Public-sector revenue stream – limited market risks Active secondary market for mature operating assets 	PPP/PF2 (Public-Private Partnership) social infrastructure such as schools and hospitals Local authority waste management
Regulated private ownership	<ul style="list-style-type: none"> Monopoly businesses providing essential services Independent regulation of return and duty to ensure stability for investors 	BT Openreach Electricity, gas and water transmission and distribution networks Some airports, rolling stock
Private ownership with regulated cash flows and government support (semi-gilt)	<ul style="list-style-type: none"> Strong government support Financing raised in capital markets at near gilt 	Transport for London (TfL) bonds

Attractiveness of UK Infrastructure

The UK has always been an attractive location for investment due to its combination of:

- A stable risk and return profile
- Clear property rights for investors
- World-class regulation
- Transparent policy development
- Strong financial markets

Infrastructure assets are often characterised by:

- Strong competitive positions, natural monopolies or high barriers to entry
- Stable and predictable cash-flows, often linked to inflation
- Relative insulation from the business cycle
- Diversification due to low-correlation with other asset classes

The UK has proved an attractive market for global investors, with foreign ownership (shareholding) currently standing at around 40%. Since May 2010, there has been around £15bn inward investment in UK infrastructure. This includes:

- Borealis/OTPP acquired High Speed 1 (100%)
- Marubeni acquired a 49.9% stake in Gunfleet Sands Offshore Wind Farm
- Abu Dhabi Investment Authority became 9.9% shareholder in Thames Water
- China Investment Corporation became 8.68% shareholder in Thames Water and 10% shareholder in Heathrow Airport
- State Administration of Foreign Exchange became a 10% shareholder in Veolia Water
- Hitachi acquired horizon nuclear power (£700 million)
- Sumitomo acquired Sutton & East Surrey Water (100%)
- La Caisse became a 25% shareholder in London Array Offshore Wind Farm

“ The firm views the UK as a primary market in meeting its objectives. HS1 (Channel Tunnel Rail Link) operates in an attractive and stable regulatory environment”

**Borealis Infrastructure
(Borealis are the infrastructure investment division of OMERS pension fund)**

“ We look all over the world for good opportunities to buy top quality infrastructure assets. The investment in Bristol Airport is a good example of our strategy to invest in well run businesses that will provide stable returns”

Ontario Teachers Infrastructure Group

“ We consider that investment in the United Kingdom represents a good buying opportunity”

**South Korean National Pension Service
Financial Times (following purchase of a stake in Gatwick Airport)**

UK economic regulation

Since the privatisations of the 1980s and 1990s the UK has developed a framework of economic regulation that is amongst the best in the world. It is established in legislation and independent of government.

This has resulted in a stable and transparent regulatory environment with a strong track record of objective, consistent and credible regulatory decision making, providing confidence to both consumers and investors.

For example, a recent World Economic Forum report (see link) highlighted the successful track record of the UK regulatory system in facilitating significant levels of investment, notably in the water and sewerage sector which has seen more than £116bn of private investment between 1989 and 2013.

http://www3.weforum.org/docs/WEF_II_InfrastructureInvestmentPolicyBlueprint_Report_2014.pdf

Benefits for investors:

- A stable risk and return profile
- Certainty for a number of years for investment.



What does economic regulation mean?

- Separate regulators for each main infrastructure sector.
- Independent from government.
- Economic regulators set access prices for number of years (often 5-8 years) at a price review.
- Prices are set at a price review using the independent regulators ex ante expectation of the relevant Weighted Average Cost of Capital (WACC).

Separate regulators exist for each of the main infrastructure sectors – energy, water, rail, aviation and communications. This model of independent regulation has been successful and the government has no plans to move away from this approach.

In April 2011, the Government published its **Principles for Economic Regulation**, which reaffirmed the importance of independent economic regulation and the key principles under which the regulators needed to operate. This confirmed the government's commitment to:

- Ensuring future changes preserve the independence of regulators;
- Having particular regard to the effect on investor confidence when assessing changes to the regulatory policy or regulatory frameworks; and
- Not seeking to add objectives, responsibilities or duties to regulators' remits without detailed consideration of the impact on the overall framework, and consideration of cross-sector impacts.

Government support for infrastructure investment

UK Guarantees Scheme

The Government has committed to providing up to £40bn in guarantees to UK infrastructure projects in order to progress development.

The scheme seeks to ensure that where major infrastructure projects may struggle to access private finance due to adverse credit conditions, these projects can still proceed.

Guarantees awarded to date include

- Drax Power Station (£75m)
- Northern Line Extension (£750m)
- Mersey Gateway Bridge (£257m)

The Government has wide discretion over how a guarantee is structured in terms of scale, timing, risk exposure and relationship, subject to the terms and dynamics of each individual project. The guarantees could cover key project risks such as construction, performance or revenue risk.

Projects will have to be well structured to obtain the necessary guarantee which could, for example, come in the form of a financial guarantee of a proportion of the senior debt (transferring project risk).

As of April 2014, 40 infrastructure projects worth £37bn have passed the prequalification stage to make them eligible for the UK Guarantees Scheme.

Applications are made via Infrastructure UK, and will be subject to due diligence, commercial fees, and necessary approvals. The headline eligibility criteria are:

1. **Nationally significant**, as identified in the National infrastructure Plan. Other exceptional projects will be considered on a case-by-case basis.
2. **Ready to start construction within 12 months** from guarantee being awarded, and having obtained (or about to obtain) necessary planning and other required consents.
3. **Financially credible**, with equity finance committed and project sponsors willing to accept appropriate restructuring of the project to limit any risks to the taxpayer.
4. **Dependent on the guarantee to proceed** and not otherwise financeable within a reasonable timeframe.
5. **Good value to the taxpayer**, assessed by HM Treasury to have acceptable credit quality, not present unacceptable fiscal or economic risks and to make a positive impact on economic growth.

The scheme is open until 31 December 2016.

Further information is available at:

<https://www.gov.uk/government/publications/uk-guarantees-scheme-key-documents>

Government support for infrastructure investment

The UK Green Investment Bank (GIB)

GIB's purpose is to accelerate the UK's transition to a greener economy. GIB was created by the UK Government, its sole shareholder, and capitalised with an initial £3.8bn of public funds. GIB uses this finance to back green projects, on commercial terms, across the UK and to mobilise other private sector capital into the UK's green economy.

GIB primarily invests in the offshore wind, waste and bioenergy and energy efficiency markets. Since its launch in November 2012, GIB has backed 26 projects and set up five funds, committing £1.3bn*.

For every pound of investment by GIB, three additional pounds of private investment have been mobilised. Once built, investments made by GIB to date are projected to:

- Provide renewable power to 2.7m homes
- Reduce CO2 emissions equivalent to taking 1.4m cars off the road

GIB has invested in every part of the UK, in all of its sectors. Recent investments include:

- £461m commitment to two equity investments in offshore wind projects
- The UK's first large scale coal to biomass conversion
- The commercial deployment of Siemens' new 6MW wind turbine
- Northern Ireland's largest waste wood plant
- The largest energy efficiency retrofit of an NHS hospital



Find out more at www.greeninvestmentbank.com



Waste & Bioenergy



Energy Efficiency

**Green
Investment
Bank**

*As at April 2014.

Public Private Partnerships

Private finance in the form of Design, Build, Finance and Operate (DBFO) projects is the most common form of PPP used in the UK. We have recently reformed and renamed the model as PF2.

The UK PPP market is now over 20 years old and is the most mature market in the world With a large and diverse contractor base including construction, finance and equity.

The UK currently has over 700 operational projects with a capital value of over £50bn covering a very wide range of public sector services.

The UK is seen as a global leader in PPP policy design and delivery and the policy development is led by a highly experienced team in IUK. In addition, technical consultants in the UK now have a great deal of experience in all aspects of PPP procurement.

Characteristics of this form of PPP are:

- Private capital at risk.
- Strong incentives to deliver on time and on budget (no payment until the asset is operational and UC is fixed).
- Incentives to maintain asset and service level over the contract period (the public sector only pays for an acceptable service).
- Fixed price.
- Certainty of whole-life costs.
- Output based. Private sector decides how to deliver the service to meet the output requirements.

PF2 - Improvements to the Model

Introduction of public sector equity to enable greater transparency.

Procurement will be faster and less expensive, without sacrificing quality and competitiveness.

Equity funding competitions will improve both transparency of costs and Value for Money.

Service provision will be more flexible focussing on services directly related to the asset.

Some risks previously transferred to the private sector will now be retained by the public sector or in some cases be shared to improve Value for Money.

Projects will be structured to facilitate access to capital markets or other sources of long term debt finance.

Introduction of a central government control total for PPP liabilities of £70bn in total over the next Parliament.

Pipeline includes £700m privately financed element of the Priority Schools Building Programme and £300m Midland Metropolitan Hospital.

Streamlining the Planning System

The Nationally Significant Infrastructure Planning (NSIP) regime was introduced to streamline the decision-making process in England and Wales. Decisions are made within 16 months of applications being accepted, which is significantly quicker than the old system.

Qualifying NSIP thresholds include:

- Energy generation over 50 MW onshore and 100 MW offshore
- Underground natural gas and LNG storage facilities over 43 million cubic metres
- Rail freight interchanges over 60 hectares
- Airports with over 10 million passengers per year
- Container ports with over 500,000 TEU (20 foot equivalent containers) per year
- Other major infrastructure projects falling outside the criteria can still apply to be assessed under the NSIP regime

Applications are examined by the Planning Inspectorate who make a recommendation to inform the relevant government Minister's decision to approve or refuse consent.

The major infrastructure planning systems for Scotland and Northern Ireland are devolved.

In total there are close to 80 NSIP projects at various stages, with a combined value of some £150bn

The new regime currently has a permission rate of 95%.

Those granted a Development Consent Order include:

- A new nuclear power station at Hinkley Point in Somerset for NNB GenCo
- An offshore wind farm extension at Kentish Flats for Vattenfall
- An onshore wind farm at Brechfa Forest, Wales for RWE Npower
- Major rail line and strategic road upgrades
- Port infrastructure and related manufacturing for offshore wind turbines



Energy Sector

Energy sector – overview

Consumer

Customers buy gas and electricity from retail suppliers who buy on the wholesale market. The supplier pays distribution operators for transporting it along their networks.

Retail supply

The supply market is competitive although prices paid by consumers are monitored by Ofgem, who investigates pricing and competition. The market is dominated by the large utility companies.

MARKET-BASED
Electricity Generation and Gas Supply
 Competitive market – responsible for providing gas and producing the electricity sold to suppliers.
 Electricity market size: current capacity between 79 and 81GW.
Market players: over 80% (c.67GW) of electricity generation controlled by large utilities (Eon, EDF, Scottish Power, SSE, Centrica, RWE), International Power/GdF & Drax.

REGULATED MONOPOLIES
Transmission & Distribution
 Monopoly businesses carrying gas or generated electricity across the network to consumers.
 Ofgem sets eight-year price reviews to regulate the amount the transmission & distribution companies can levy on users of their system. Current Weighted Average Cost of Capital (WACC) 4.24% – 4.76% (dependent on network)
Market players: National Grid Electricity Transmission is the single System Operator for electricity transmission. National Grid also own and operate the gas transmission network. There are 14 electricity distribution networks operated by six different companies, and eight main gas distribution networks operated by four companies (including National Grid).

REGULATED
Offshore Transmission
 There is a need to support the offshore wind generation market with required transmission infrastructure.
 Monopoly businesses Offshore Transmission Owners (OFTOs) carry generated electricity from offshore wind farm to the onshore grid.
 Ofgem currently awarding 20-year transmission concessions to private sector bidders. Revenue linked to RPI and paid by GBSO (National Grid) to OFTOs.
Market players: Strong financial investor interest.

Generator pays transmission owner a use of system charge

National Grid pays revenue to OFTO

Future direction of UK energy markets

The pipeline of investment in energy is up to £100bn to 2020. To support the delivery of this the government has passed the Energy Act 2013. This introduced Electricity Market Reform.

The government's key objectives are:

- security of supply;
- decarbonisation; and
- affordability .

Low-carbon energy investment

The UK has a target of 15% of energy from renewable sources by 2020 (EU Energy Directive). To achieve this, around 30% of the UK's electricity needs will need to be met from renewable sources. Investment in renewables is being driven by:

- the need to decarbonise electricity generation; and
- the closure of ageing nuclear and coal-fired plant.

To ensure affordability for consumers, subsidies for low-carbon generation must fall within the Levy Control Framework:

Levy Control Framework: Upper limit on total budget available to low-carbon projects (£m in 2011/12 prices)

14/15	15/16	16/17	17/18	18/19	19/20	20/21
3,300	4,300	4,900	5,600	6,450	7,000	7,600



Financial support for low-carbon energy

Current regime: Renewables Obligation

The Renewables Obligation regime gives financial support to renewable power plants for the first 20 years of operation. Renewables Obligation Certificates (ROCs) are awarded in relation to the amount of renewable electricity generated.

Key components of the regime:

- Electricity suppliers are required by government to source a proportion of the electricity they supply from renewable sources accredited under the regime. To demonstrate this they have to purchase ROCs from accredited generators or pay a 'buy-out' price for each ROC they are short of their obligation.
- Renewable electricity generators receive additional income from the ROCs they receive for the renewable electricity that they generate. The number of ROCs awarded varies based on technology types.
- The requirement for suppliers to purchase renewable energy is set by government, and increases incrementally every year. It is always set at a level that exceeds supply, to ensure a market price for ROCs.
- Under the transition to Electricity Market Reform (EMR), the Renewables Obligation will remain open until 31 March 2017*. Developers can plan to enter the scheme, then switch to the new regime at any point before accreditation.

New regime: Contracts for Difference

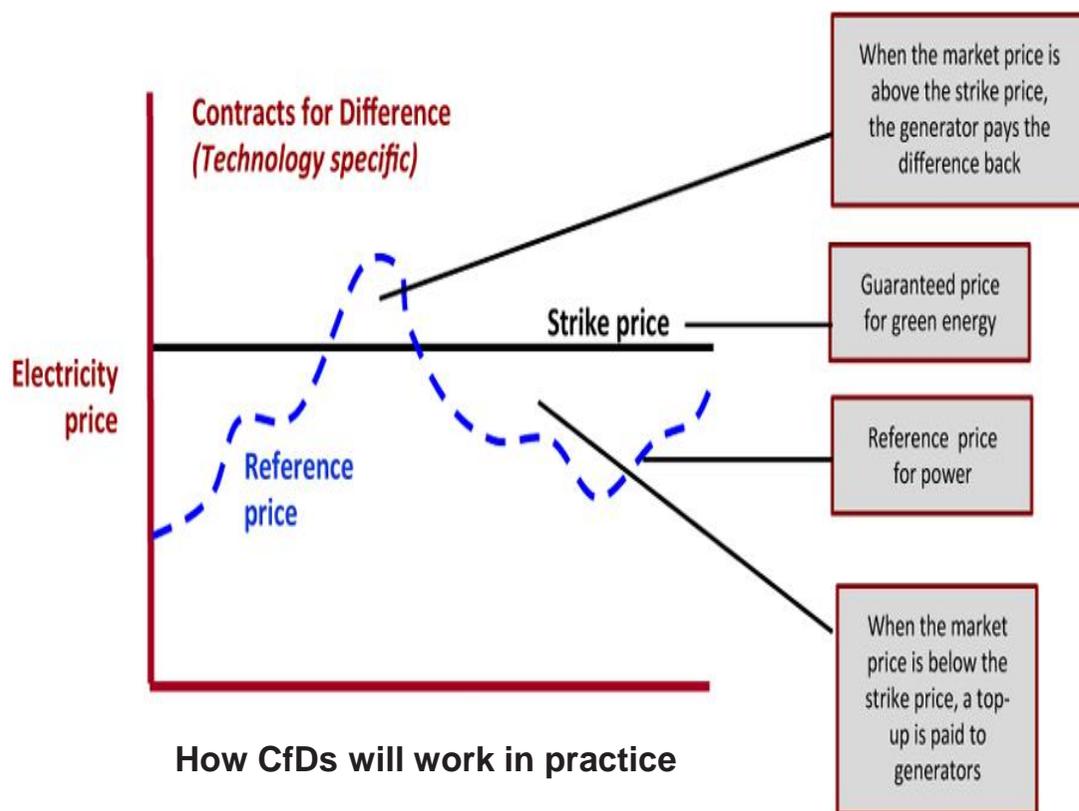
The Energy Act 2013 introduced new Contracts for Difference (CfDs) for low-carbon energy suppliers to replace ROCs. CfDs are long-term contracts to provide stable and predictable incentives for companies to invest in low-carbon generation.

Key components of the regime:

- Removal of wholesale electricity price exposure by paying a variable top-up between the market price and a fixed price (the 'strike price'), stabilising project revenue.
- Transparent allocation process for the assignment of strike price to a project.
- Robust single counterparty owned by government and set up as a limited liability company; counterparty has power to levy charges on energy suppliers to fund ongoing obligations under the CfD.
- Counterparty will be insolvency remote and protected by the following: Energy Supplier Collateral, Mutualisation, Supplier of Last Resort Mechanics and an Energy Supply Company administration regime.
- Power Purchase Agreements (PPA) availability: Government is currently consulting on proposals for an Offtaker of Last Resort (OLR) mechanism to give independent generators and investors the certainty they need to make investment decisions. Government is also introducing powers to improve the liquidity of the electricity market, should it prove necessary.

*The UK Government is currently consulting on closing the RO from 31 March 2015 to new solar PV capacity above 5MW in size. A decision is expected to be announced by autumn 2014.

Contracts for Difference



The below table details the current strike prices for various low-carbon technologies

Renewable Technology	Strike price (£/MWh) (2012 prices)				
	14/15	15/16	16/17	17/18	18/19
Biomass Conversion	105	105	105	105	105
Hydro (>5 MW &<50MW)	100	100	100	100	100
Offshore Wind	155	155	150	140	140
Onshore Wind	100	95	95	90	90
Large Solar PV	125	120	115	110	100

Tenor	15 years for all renewable technologies (CCS and Nuclear subject to bilateral negotiation – same for strike price level).
Inflation indexation	Strike price fully indexed 100% to Consumer Price Index throughout entire term.
Reference prices	Intermittent technologies (e.g. wind) GB day - ahead hourly price. Baseload technologies (e.g. nuclear) season ahead price, moving to year-ahead (when conditions allow) option for year ahead announced in Energy Act.
Refinancing gain	No refinancing clause in the generic CfD contract (developers free to recycle capital, consumers protected by price setting process).
Change in law	Developers protected against unforeseeable changes in law that target a project, technology or the CfD, and protection also covers political decisions to shut down a generator.
Conditions precedent	Flexibility to deliver within a 'commissioning window' – payments commence once specified standards are met.

The Capacity Market

Capacity Market:

The Capacity Market (CM) will provide a mechanism to help ensure security of supply and ensure sufficient headroom within total UK generating capacity.

The CM will give investors the certainty needed to put adequate capacity in place by providing a predictable revenue stream to providers of reliable capacity. Providers will commit to provide capacity when needed or face financial penalties.

Both generation and non-generation e.g. demand-side responses, will be able to participate in the capacity auction.

Increasing investment certainty:

- Providing predictable payments for capacity, reducing dependence on unpredictable scarcity rents.
- Offering long term contracts for new plant, providing long term revenue certainty.
- Introducing an enduring reliability standard gives investors and market participants clarity over the Government's long-term security of supply objectives, and helps market participants price their bids in an auction.

Initiating the Capacity Market	<p>The first CM auction will take place in December 2014, for delivery in the winter of 2018, subject to State Aid clearance.</p> <p>Intention to run pilot auctions for delivery of Demand-Side Response and Storage in 2015 and 2016 to provide additional capacity during this period.</p> <p>15 year capacity agreements will be available to new capacity. Existing capacity will be able to access rolling one year agreements – although three year agreements will also be on offer to plants which need to undertake significant refurbishment.</p>
Setting the volume of capacity to contract for	<p>The capacity auction will be capped at £75/kW to protect consumers from excessive costs.</p> <p>Following detailed recommendations from National Grid, the government will procure a total of 53.3 GW of capacity. This equates to more than 80 per cent of peak electricity use in Great Britain today - and together with renewables and other generation will ensure we have enough power to meet the demands of homes and businesses in the future.</p>
Timing of auctions	<p>Competitive auctions for capacity will be held four years before the delivery year.</p> <p>Secondary auctions are likely to be useful to contract for additional capacity nearer to delivery (12 months) if required.</p>
Eligibility	<p>All generation plants, including existing plants, will be eligible to participate in this auction, with some exceptions (eg low carbon plants receiving CfDs or ROCs), DSR will be able to participate.</p>
Non-delivery penalties	<p>Penalties will be charged for capacity that does not deliver when needed and capped at 200% of a provider's monthly income, and 100% of annual income.</p>
Payment	<p>Settlement body will coordinate payments for capacity between suppliers and capacity providers. Costs of the capacity payments will be shared between electricity suppliers in the delivery year.</p>

Offshore Wind

Market background

The UK is the global leader in offshore wind in terms of installed capacity and market size:

- more than 1,000 turbines installed.
- operational capacity at 3.7GW (December 2013).
- The world's largest offshore wind farm, the 630 MW London Array, was officially opened by Prime Minister in July 2013.

Licences have been awarded in 3 Rounds, with the majority of investment being developed by the large European multi-national utilities which own 75% of the licenses for offshore wind.

Why invest?

Wind energy is a free resource, so the costs only reside in the manufacture, construction and maintenance of the infrastructure.

Offshore wind has been identified as the most scalable of the UK's bulk renewable technologies, and will be a key part of the UK's energy mix to 2020 and beyond.

Strike Price	14/15	15/16	16/17	17/18	18/19
Offshore Wind £/MWh (2012 Prices)	155	155	150	140	140

UK Offshore Wind Programme

- Installed capacity: 3.7 GW
- Under construction: 1.4 GW
- 2020 potential: 8 -15 GW
- Potential investment to 2020: £16.2bn – 21.3bn



Onshore Wind

Market Background

The UK has some of the best wind resources in Europe and the government is committed to using onshore wind as part of the UK's energy mix.

Many new projects became operational in 2013, including Scottish Power Renewables' extension to the UK's largest onshore wind farm at Whitelee (which boosted generating capacity to 539 MW) and EDF's 144 MW Fallago Rig (both in Scotland).

Why Invest?

Wind energy is a free resource, so the costs only reside in the manufacture, construction and maintenance of the infrastructure. As such onshore wind is one of the most cost-effective large scale renewable technologies.

Although onshore wind energy has its detractors, popularity ratings tend to show that around two thirds of people are typically supportive.

Strike Price	14/15	15/16	16/17	17/18	18/19
Onshore Wind £/MWh (2012 Prices)	100	95	95	90	90

UK Onshore Wind Programme

- Installed capacity: 7.3 GW
- Under construction: 1.5 GW
- 2020 potential: 11-13 GW
- Potential investment to 2020: £3.7bn - £5.8bn



Biomass and Bioenergy (including energy from waste)

Overview

Processing of biomass can be used to harness products such as heat, electricity and fuel. Fuel from biomass can be obtained from a number of sources including energy crops, wood and food waste. Biomass must be sourced and used sustainably, in line with standards set by government.

There are three subsectors of biomass:

- **Biomass Conversion** - Conversion of coal-fired plant.
- **Co-firing** - Biomass blended with coal in existing coal plant.
- **Dedicated** - New build biomass plant.

After a public consultation in 2012, the government announced the introduction of a non-legislative cap of 400MW on new build dedicated biomass power under the Renewables Obligation.

The investment driver for energy from waste is the EU landfill directive which requires the level of UK Biodegradable Municipal Waste (BMW) going to landfill in 2020 to be reduced to 35% of the 1995 level. The current proportion UK BMW going to landfill is currently 38% and the UK is on track to meet the 2020 EU landfill directive target with the current pipeline of projects.

Industry analysis suggests a significant investment opportunity in the Commercial and Industrial waste sector. The Green Investment Bank estimate that this could be in the region of £5bn.

Costs within this sector are driven by the UK's landfill tax levels, designed to dissuade landfill as a waste treatment option. From 2014 to 2020, landfill tax will have a minimum level of £80 per tonne and will increase in line with inflation.

UK Biomass / Bioenergy Programme

- Installed capacity: 4.1 GW
- Under construction: 0.8 GW
- 2020 potential: Up to 5.1 GW
- Potential investment to 2020: £5.0bn – £5.9bn

Why invest?

By 2020 up to 11% of the electricity generated in the UK could come from biomass. Biomass can be used for non-intermittent base load power generation which provides favourable levelised costs comparable to other forms of renewable generation.

Strike Price	14/15	15/16	16/17	17/18	18/19
Biomass Conversion £/MWh (2012 Prices)	105	105	105	105	105

Government review of waste policies suggests that renewable electricity generated from waste through combustion technologies could almost treble from the current 1.2TWh to between 3.1TWh and 3.6TWh by 2020.

Combined Cycle Gas Turbine (CCGT)

Market Background

Gas plays a critical role in the UK's electricity market. New CCGT gas plant will be required and will be vital in supplying a backup for intermittent renewable generation and less flexible nuclear generation, ensuring that the system can meet peak electricity demand.

In December 2012 the Department of Energy and Climate Change (DECC) announced the Gas Generation Strategy, which set out the important role that gas generation will continue to play in any future generation mix, supporting a secure, low carbon source of electricity.

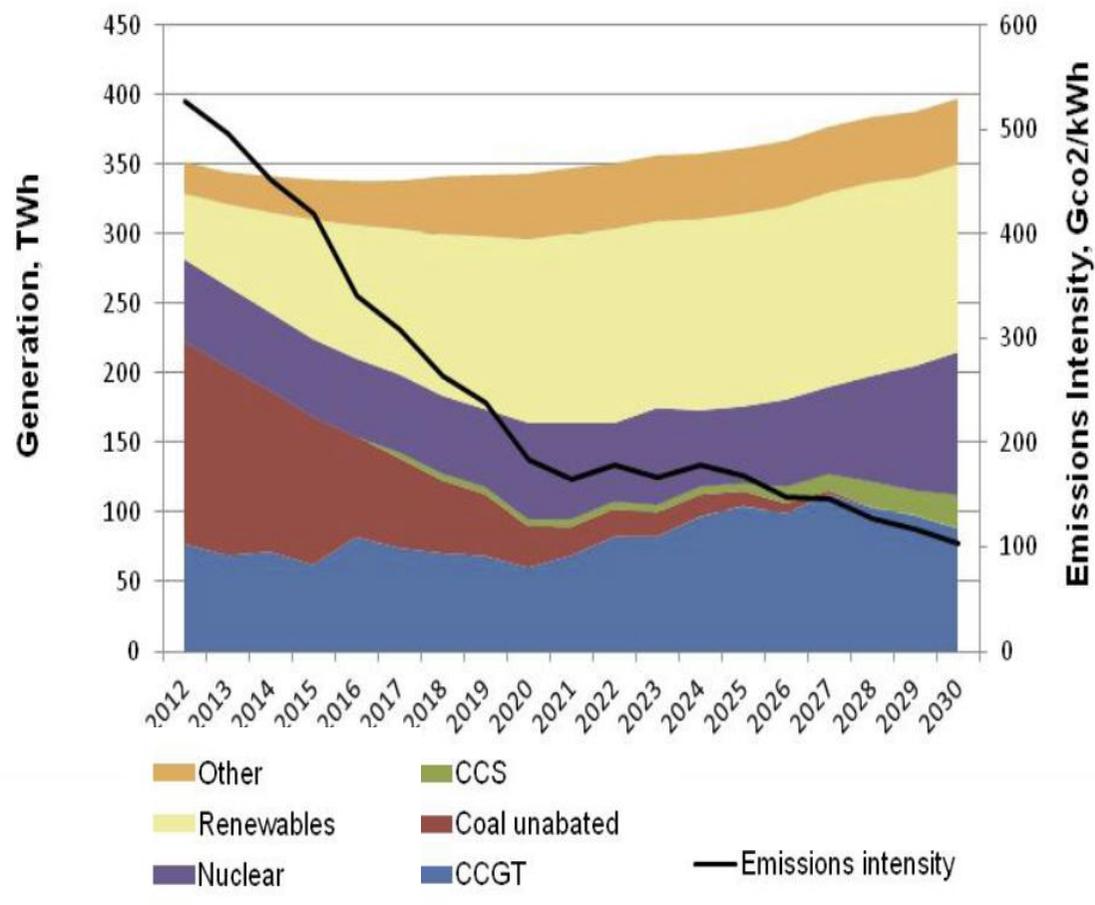
Why Invest?

The government expects gas to continue to play a major role in the UK electricity mix over the coming decades, alongside low-carbon technologies to decarbonise the electricity system. Up to 28GW of new gas plant may be needed between 2012 and 2030. This will in part be to replace older coal, gas and nuclear plant as it retires off the system.

Gas generation is therefore expected to play a leading role in the Capacity Market:

- Providing predictable payments for capacity
- Offering long-term contracts for new plant to provide long-term revenue certainty.

As of May 2014 there was around 16GW of gas plant with planning permission, and an additional 6GW awaiting consent.



New Nuclear

Market Background

New Nuclear Policy has strong cross-party support within UK Government, evident in the National Policy Statements and Parliamentary votes. Three consortia are currently developing new nuclear build projects in the UK:

- NNB GenCo
- Horizon Nuclear Power (Hitachi)
- NuGen (Toshiba/GDF Suez)

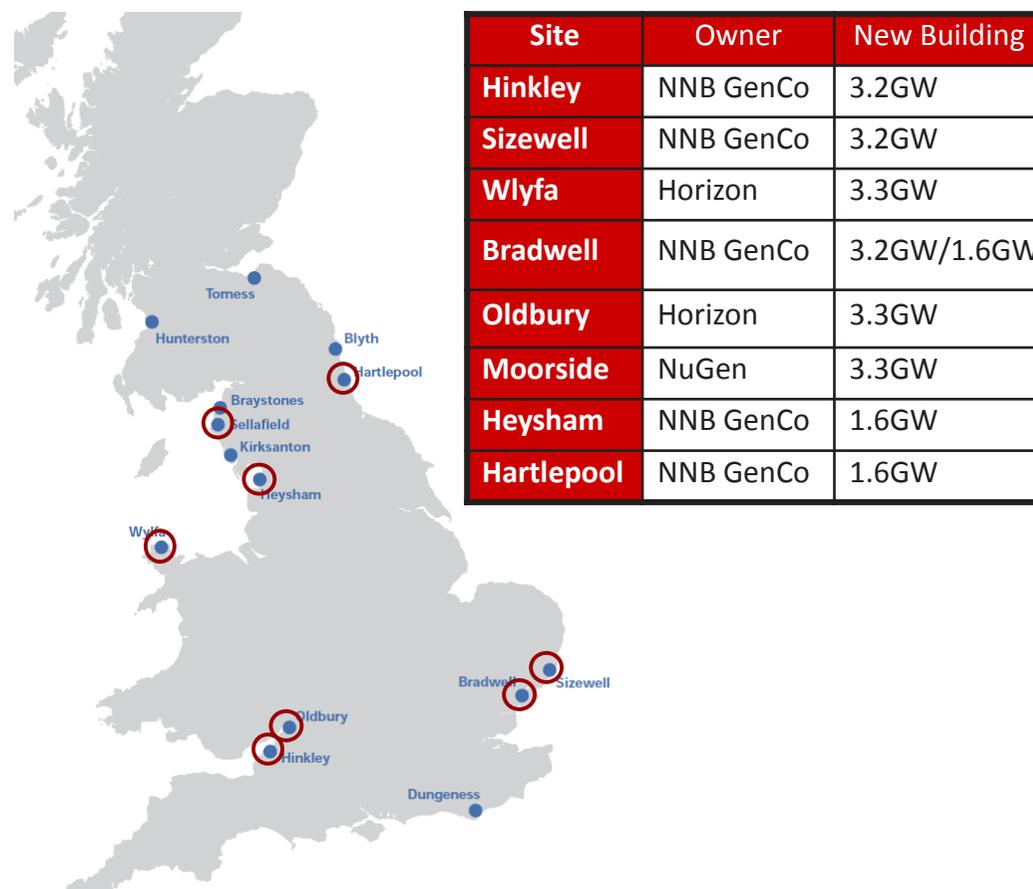
16GW of proposed new build is currently in planning stages across 5 sites, with 3 further sites also identified. This includes:

- EDF is leading the NNB GenCo Group – a consortium, which includes AREVA and Chinese investors (CGN and CNNC) – to potentially build the Hinkley Point C plant in Somerset.
- Hitachi is advancing plans for the deployment of 2 Advanced Boiling Water Reactors at Wylfa in Wales, and may seek to attract additional partners to the project.

Why Invest?

Individual plants can require capital investment of approximately £5bn to £8bn per reactor. Construction periods of 5-6 years followed by long term operating periods of 60 years.

New Nuclear Plants will be fully supported under the government's proposed Electricity Market Reform package. In October 2014 the government reached an agreement in principle on key commercial terms of the Hinkley Point C development, including a strike price of £89.50/MWh (subject to State Aid approval and Final Investment Decision on Sizewell C).



Identified sites for potential new build nuclear expansion

Electricity Interconnectors

Market Background

Interconnectors are transmission cables that allow electricity to flow from one country to another. Britain's electricity market currently has 4GW of interconnector capacity, as shown in the map overleaf.

In general terms, two routes exist for interconnector investment:

- a regulated route, where interconnector developers have to comply with all aspects of European legislation on cross border electricity infrastructure and receive a regulated return for their investment.
- a merchant-exempt route, where developers would face the full upside and downside of the investment and apply for an exemption from European legislation in order to increase the safeguards for the business case of their investment.

Ofgem, the regulator, is putting in place:

- A new 'cap and floor' mechanism for regulating how much profit a company can earn from interconnector operation.
- The process by which companies can apply for a 'cap and floor' regulated revenue stream; the first window for applications is likely to be September 2014

Under the cap and floor approach, if revenues exceed the cap then excess revenue will be returned to consumers. Conversely, if revenues fall below the floor then consumers will top up revenues to the level of the floor.

The floor will encourage interconnectors to be built as it insulates developers' exposure to the full potential loss. Ofgem will carry out a robust project assessment to ensure that only projects in consumers' interests are awarded a cap and floor.

Interconnectors derive congestion revenues which are dependent on the existence of price differentials between markets at either end of the interconnector. European legislation governs how capacity is allocated. It requires all interconnection capacity to be allocated to the market via market based methods i.e. auctions.

Why Invest?

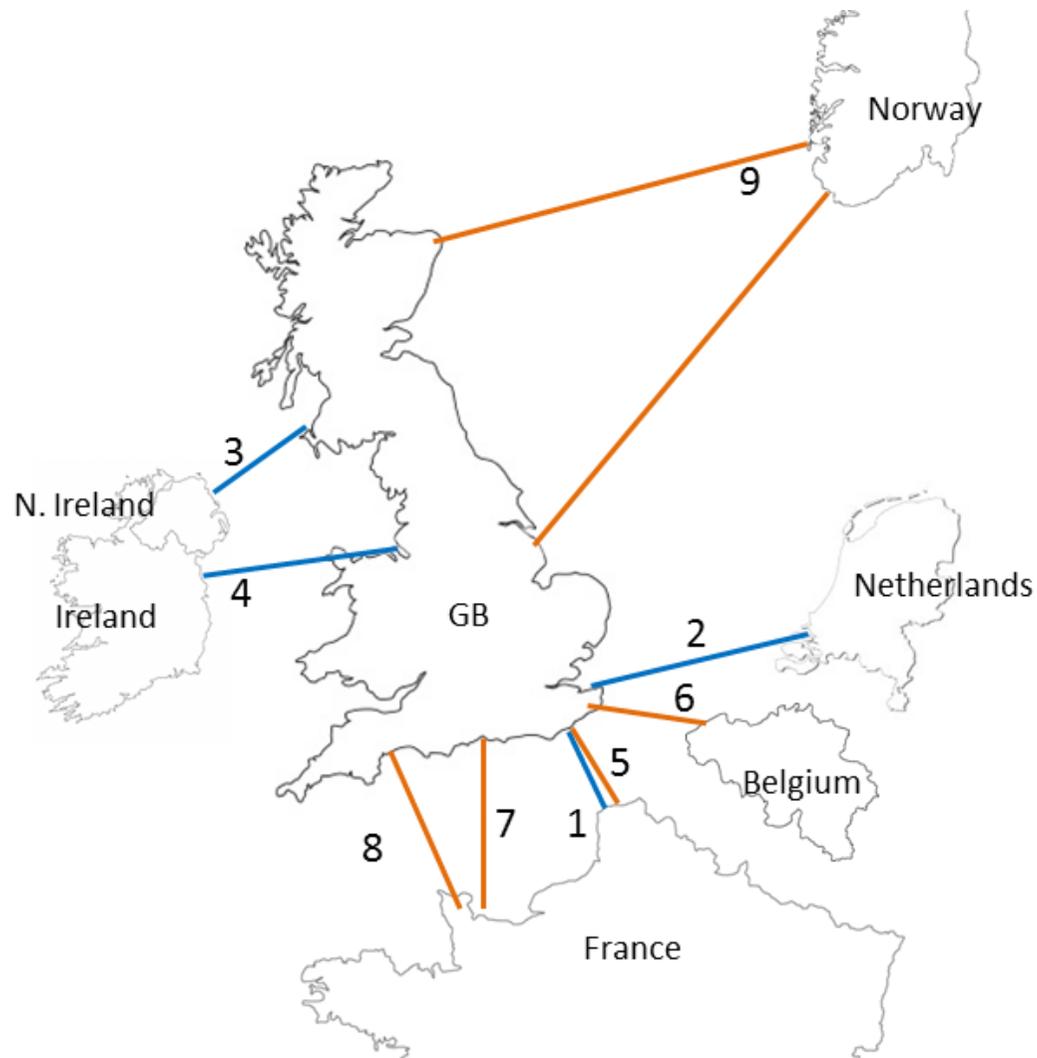
The UK is committed to increasing electricity interconnection as it can offer significant benefits for consumers by helping to:

- lower electricity supply prices
- lower the cost of delivering security of supply
- support the decarbonisation of energy supplies.

Government has supported an initial 6GW of interconnector capacity to benefit from European 'Project of Common Interest' status. This means these projects will benefit from improved planning and regulatory treatment.

DECC has confirmed that interconnected capacity will participate in the Capacity Market from 2015.

Map of current Interconnectors and priority new projects



Existing interconnectors

1. IFA – 2GW
2. Brined – 1GW
3. Moyle – 0.5GW
4. East-West – 0.5GW

European Projects of Common Interest (PCIs)

5. Eleclink – 1GW
6. NEMO – 1GW
7. IFA2 – 1GW
8. FAB – 1.4GW
9. NSN – 1.4GW or Northconnect – 1.4GW

Carbon Capture and Storage

Market Background

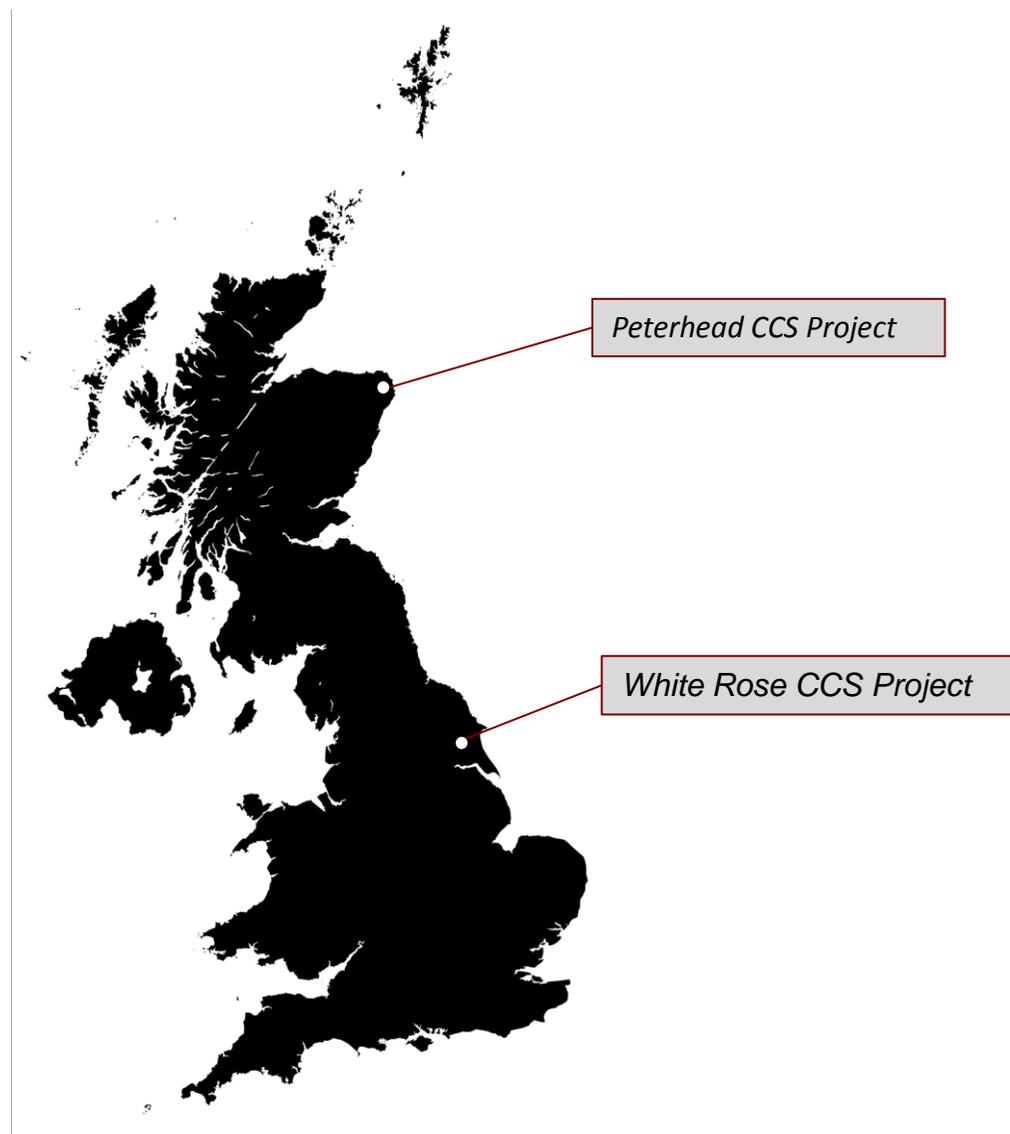
The government is providing funding to support the deployment of Carbon Capture and Storage (CCS) technology, which if developed at scale, could allow the safe removal and storage of harmful carbon emissions from coal and gas plants.

- DECC has awarded multi-million pound contracts for design and planning, known as a FEED study, to both the Peterhead and White Rose CCS Projects.
- In March 2014 HMG announced an additional £60m to expand the £125m R&D programme to fund innovative Carbon Capture and Storage (CCS) technologies.

Shortlisted projects

1. Peterhead: A 340MW Post-combustion capture retrofitted to part of an existing 1180MW CCGT power station at Peterhead. (Shell and SSE)

2. White Rose Project: An Oxyfuel capture project at a proposed new 426 MW fully abated supercritical coal-fired power station. (Alstom, Drax, BOC and NG)



Offshore Transmission

Market Background

Offshore transmission assets transport electricity from offshore generation sites (such as wind farms) back to the onshore grid. Ofgem are responsible for running tenders to appoint offshore transmission owners (OFTOs) for individual transmission assets.

- Over £1.4bn has been invested so far in the OFTO asset class from a wide variety of equity and debt investors, with a further £1.5bn in the tender process.
- DECC estimates that 10GW of offshore wind capacity is achievable by 2020 given announced strike prices, which would deliver billions of pounds of further investment in the OFTO market.
- Licences give successful bidders the responsibility to operate and manage the asset for a 20-year period, in return for a regulated, stable revenue stream.

Why Invest?

The asset class has quickly attracted significant interest from the investor community, offering solid returns on a relatively low risk profile underwritten by a stable regulatory framework overseen by Ofgem, providing the opportunity to receive a long-term index linked revenue stream.

Tender Round 3 was launched in early 2014, with bids invited to own and operate already constructed assets worth approximately £400m in total. In future, there may be opportunities for OFTOs to design, procure and construct offshore transmission assets as well, depending on developer's risk appetite.

Round	Projects	Transfer value	OFTO/Preferred bidder	Status/Timing
Round 1	Robin Rigg	£65.5m	Transmission Capital/IPP/Amber	Financial Close (March 2011)
	Gunfleet Sands	£49.5m	Transmission Capital/IPP/Amber	Financial Close (July 2011)
	Barrow	£33.6m	Transmission Capital/IPP/Amber	Financial Close (September 2011)
	Walney 1	£105.4m	Mitsubishi/Barclays Infra Fund	Financial Close (October 2011)
	Ormonde	£103.9m	Transmission Capital/IPP/Amber	Financial Close (July 2012)
	Walney 2	£109.8m	Macquarie/Barclays Infra Fund	Financial Close (September 2012)
	Sheringham Shoal	£193.10m	Macquarie/Barclays Infra Fund	Financial Close (July 2013)
	Thanet	£163.1m	Balfour Beatty	Preferred Bidder Appointed
	Greater Gabbard	£317.0m	Balfour Beatty/AMP/Equitix	Financial Close (November 2013)
Round 2 (Tranche A)	Lincs	£281.6m	Transmission Capital/IPP/Amber	Preferred Bidder Announced
	London Array	£428.4m	Barclays/Mitsubishi	Financial Close (September 2013)
	Gwynt y Môr	£305.7m	Balfour/Equitix	Preferred Bidder Announced
Round 2 (Tranche B)	West of Duddon Sands	£311.0m	Source - OFGEM Blue Transmission	Preferred Bidder Announced

Water Sector

Water

Market Background

The UK water industry was privatised in 1989. Regional companies operate as regulated monopolies providing water services to consumers. No competition exists and retail consumers cannot switch supplier.

The role of Ofwat, as the economic regulator, is to:

- Regulate industry performance, protect consumers and ensure companies can adequately finance themselves to meet obligations.
- Set prices for five-year Asset Management Periods based on an assessment of the investment, operating costs and return needed to provide an agreed and efficient level of service.
- For Asset Management Period 6 (2015 – 2020), Ofwat has determined a Weighted Average Cost of Capital of 3.9%. Company business plans will be reviewed and approved by Ofwat for Q3 2014.

Why Invest?

The water industry has attracted significant ownership by financial investors due to:

- Non-cyclical revenue streams supported by stable economic regulation.
- Inflation-linked prices – set on the basis of RPI +/- X.
- Also significant debt issuance available to investors because of stable revenues.



Transport Sector

Overview of the UK rail sector

Market Background

The UK's railways are the safest of any comparable country in Europe, ranked ahead of France, Germany, Italy and Spain. Passenger satisfaction is also increasing at a faster rate than in any other European country.

Since privatisation in 1997:

- passenger miles and passenger journeys have both doubled
- 15-20% of all passenger journeys in Europe have taken place in UK
- rail freight has increased by 60%, transporting 100m tonnes of goods a year

Roles within the UK passenger rail sector are clearly delineated between government and different private sector operators.

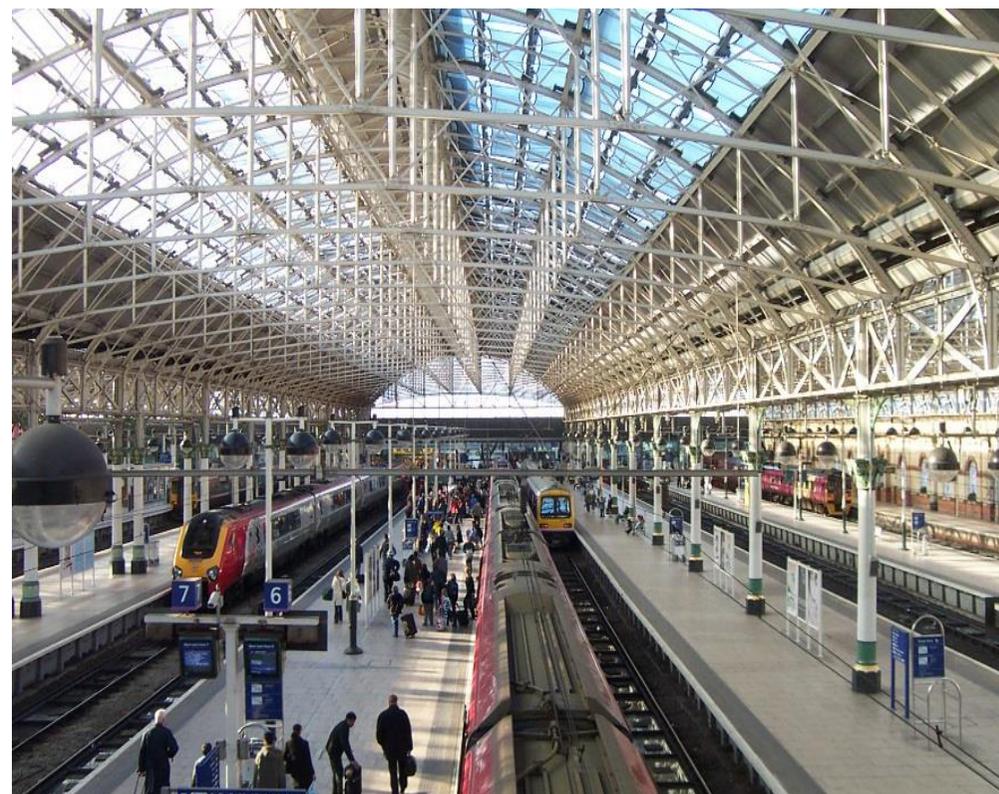
UK rail statistics

Track miles	20,000
% of network electrified	35%
Stations	2,500
Trains	4,000
Daily services	20,000
Passenger miles (millions)	36,000
Passenger journeys (millions)	1,500
Freight moved (million net tonne miles)	14,000
Freight tonnes (millions)	110

Why Invest?

The UK operates a fully liberalised model of passenger rail franchising, which has had the fastest growth rate of all major European railways. The sector has a global reputation for spearheading innovation and delivering first-class products and services.

Participation from the best transport operators domestically and from overseas is welcomed.



The UK Passenger Rail Market

Market Background

Track and infrastructure

This is owned, operated and maintained by Network Rail based on the standard UK economic regulation Regulated Asset Base model. Franchise holders pay a track access charge to Network Rail, with investment and pricing being determined by the regulator (Office of Rail Regulation) on a 5 yearly "Control Period" basis.

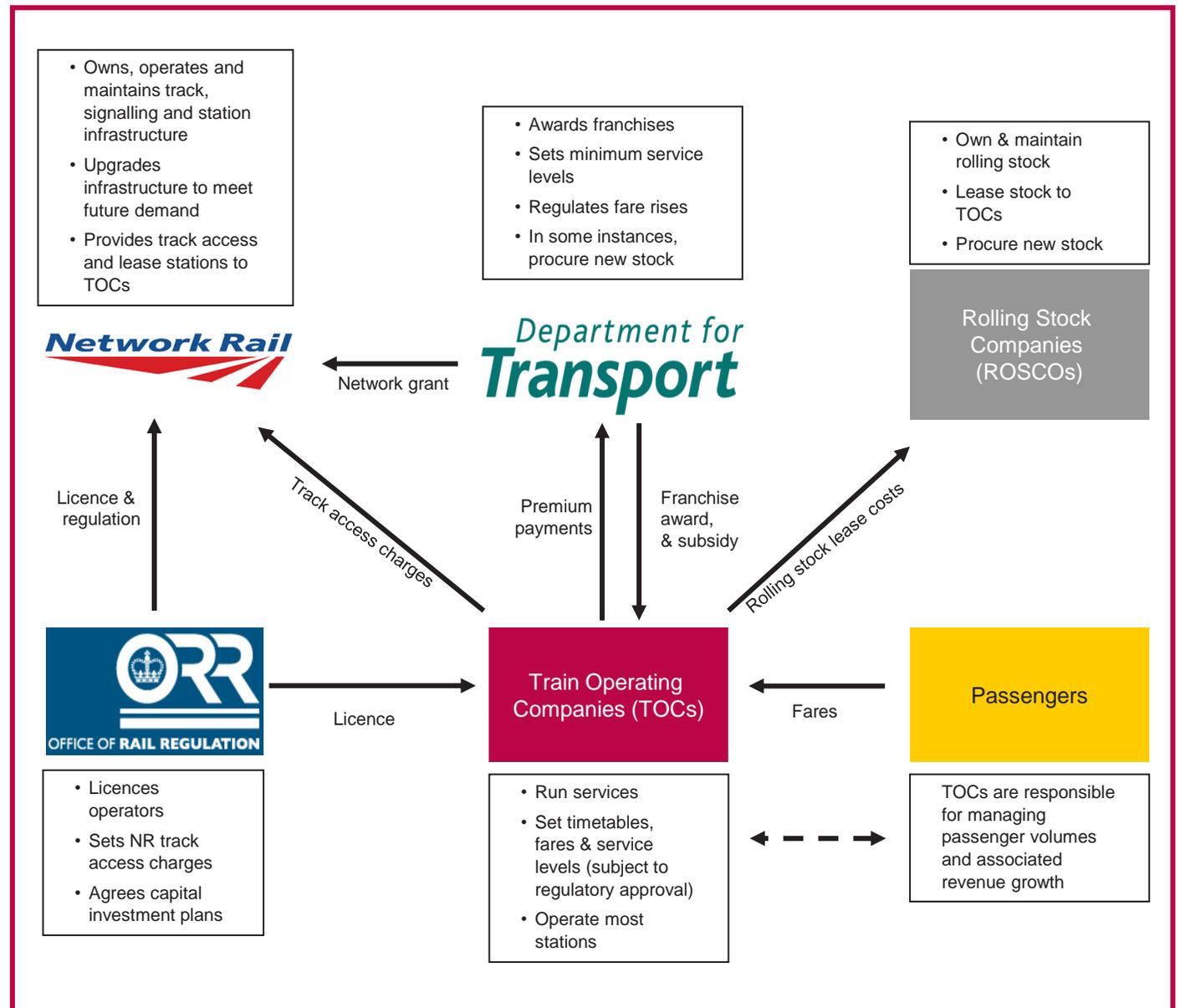
Train Operating Companies (TOCs)

run services subject to minimum criteria on specified routes for a franchise period set by government. They receive either a subsidy for the route, or for profitable routes pay a premium to government.

Rolling stock

In most cases this is owned separately by rolling stock leasing companies (ROSCOs), and leased to TOCs, given its longer asset life relative to franchise lengths.

Open Access TOCs operate outside of this framework.



Aviation

Market Background

The government is committed to maintaining the position of the UK as an aviation hub. In 2012, the government set up the Airports Commission to perform an independent assessment of the UK's future airport capacity needs and steps needed to maintain the UK's status as an international hub for aviation.

In December 2013, the Commission released an interim report, which identified Gatwick and Heathrow as potential sites for developing runway capacity in the longer term. The Isle of Grain (in the Thames Estuary) is a third potential site for further assessment.

The government welcomes the publication of the interim report as a major milestone for the Commission. It represents a very significant step forward in its work towards assessing the options to meet the UK's future aviation needs. The Government will comment on the long-term shortlisted options when the Commission has concluded its work in 2015.

The final report and recommendations of the Commission will be published in Summer of 2015.



Why Invest?

The government is taking steps to support the aviation industry. In the National Infrastructure Plan 2013, the government published its plans for surface-access improvements. These include:

- committing £50m towards a full redevelopment of Gatwick railway station (subject to commercial negotiations);
- commissioning studies into improving rail and road access to various London airports; and
- including the Gatwick to London route on a planned trial of smart ticketing (subject to commercial negotiations).

Significant private sector investment has already taken place, such as:

- £5.5bn at Heathrow (including newly opened Terminal 2)
- £900m at Gatwick
- Birmingham Airport, which extended the runway by 350 metres connecting the West Midlands to even more international routes including China.



Ports

Market Background

The UK ports sector comprises a variety of company, trust and municipal ports, all operating on commercial principles, independently of government and very largely without public subsidy. The private sector operates 15 of the largest 20 ports by tonnage and around two-thirds of the UK's ports traffic.

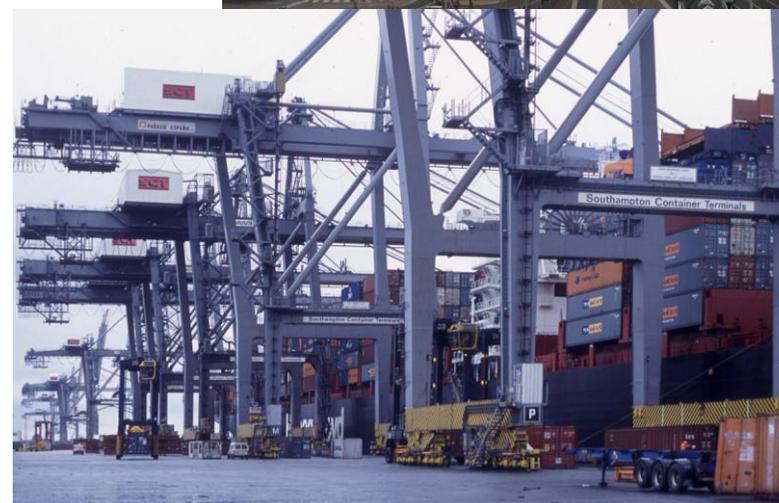
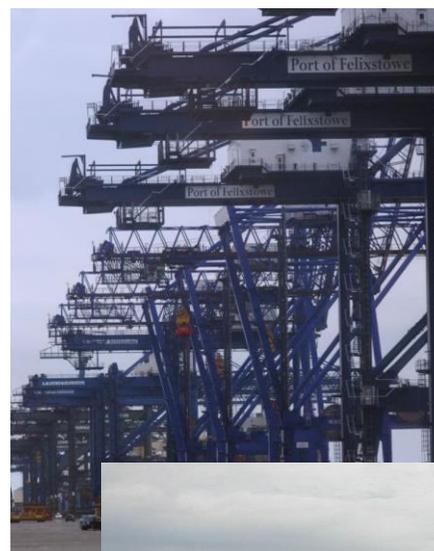
The government allows judgements about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or developers.

However, the government has worked with the ports industry to establish a strategic partnership that will provide a cohesive platform for future strategic development in the ports industry.

It has also included container ports in its Top 40 priority infrastructure investments, recognising the compelling case for sustainable port development to provide substantial additional capacity over the next 20-30 years.

Why Invest?

- About 95% of UK imports and exports by volume go by sea, and volumes are forecast to grow in the long-term. Ports can also support sustainable development by providing additional capacity for the development of renewable energy.
- The government has therefore concluded that there is a compelling need for substantial additional port capacity over the next 20-30 years, to be met by a combination of development already consented and developments for which applications have yet to be received.



Infrastructure: Supporting UK Regeneration

Why invest in Regeneration in the UK?

Ease for permits: The latest (2012) World Bank Ease of Doing Business ranking placed the UK as third best in the European Union for dealing with construction permits. The UK Government is committed to further improving this.

Internationally minded: The UK has long term historical links with all corners of the globe extending to strong cultural bonds that are deeply rooted in UK society.

Superfast Broadband: A £100m urban broadband fund has been established to create Ten Super-Connected Cities with 80-100 megabytes/second download speed.

Enhancing road networks: UK government is managing and investing in roads to help ease traffic congestion and increase connectivity.

Improving local transport: The government is giving Councils more freedom to improve their local transport systems to make them more efficient and sustainable.

Expanding rail network: The government is expanding and developing the rail network to improve passenger journeys and support economic growth.

New high speed rail network: The government will develop a new high-speed network to provide the rail capacity that Britain needs.



Revitalising high streets: Town centres across the country are being given the support and the opportunity to revitalise their high streets.

Committed to new housing: The 2012 Autumn Statement announced that over £10bn of funding will be available to assist in the building of 120,000 new homes.

UK labour market: The UK's labour market is one of the world's most flexible, with a strong skills base. Its strengths are reflected in an excellent record of attracting major foreign investors from all over the world.

Quality of life in the UK: UK residents enjoy a high standard of living, education and recreation. Publicly funded health care is available to all and there is a rich cultural heritage and abundance of leisure facilities.

Investment Case Studies

Investment Case Study: Gunfleet Sands

Deal Overview

- DONG Energy sold a £200m stake in Gunfleet Sands (GFS) offshore wind farm to Marubeni Corporation, the first Japanese company to invest significantly in the UK offshore wind industry.
- Marubeni Corporation acquired a 49.9% minority interest from DONG Energy in the Gunfleet Sands wind farm in November 2011, and achieved financial close on a NEXI-insured project finance structure at the end of March 2012.
- DONG Energy retains a 50.1% majority interest in the project, and provides operational and maintenance services under a long-term arrangement and in co-operation with Siemens (turbine supplier). This is the first such financing of a minority interest in a UK offshore wind farm.

Deal History

- DONG began soliciting bids for a minority interest around the end of 2010.
- At the time of acquisition there was no construction risk since the wind farm began commercial operation in late spring 2010.
- A key requirement of Marubeni during commercial negotiations was that the structure should be bankable as project financing.
- By August 2011, the structure of the acquisition and the commercial package had settled into what was considered by all parties to be a bankable proposition.
- NEXI assisted the financing through its Overseas Untied Loan Insurance (OULI) programme, which it applied to earlier renewables projects in Europe. This narrowed the field of prospective lenders to Japanese banks.
- In the acquisition and financing of the minority interest in GFS, Marubeni demonstrated its ability to work with innovative financing structures. This was achieved in a competitive bid environment.
- December 2013 Marubeni signed an agreement with the Development Bank of Japan to divest half of its shares. Each will hold 24.95% stakes in the project.



Key Facts

- GFS is a 172.8MW wind farm.
- GFS was built in two phases.
- It consists of 48 Siemens 3.6MW wind turbines.
- 30 turbines in Phase 1 and 18 turbines in Phase 2, each with a hub height of 75.5m and rotor diameter of 107m.
- The wind farm site covers 17.5km² and is located in the Thames estuary c.7km offshore.

Investment Case Study: South Tyne & Wear Energy from Waste

Deal Overview

South Tyne and Wear has been the first project-financed Energy from Waste PFI (Project Finance Initiative) project to reach financial close for two years in the UK. Others have typically been financed on-balance sheet.

The 256,000 tonnes per annum plant capacity will accommodate municipal waste under the PFI contract as well as third-party municipal and commercial and industrial waste.

Third-party waste volumes were supported by a market study, and they were also underpinned by a waste supply contract from Sita UK. Sita UK as a project sponsor operates a significant waste collection business.

The original EPC contractor / equipment supplier Von Roll Inova was acquired by Hitachi Zosen Corp in December 2010 and rebadged as Hitachi Zosen Inova.

Deal History:

December 2007	- OBC to Defra
July 2008	- PFI credits awarded
August 2008	- OJEU published
September 2010	- PB announced
April 2011	- Financial Close
Q1 2014	- Fully Operational

Key Facts

Developer:

Sita UK 45% / Lend Lease 35% / Itochu 20%

Capacity:

256,000 tonnes per annum

Electricity:

net power output of 19MW

Power Sales:

A long-term PPA was agreed

Waste:

contracted with local authority to process 190ktpa of municipal waste under a 28-year contract

Capital Cost:

Project Debt: £190m

Project Equity: £40m

Project Partners:

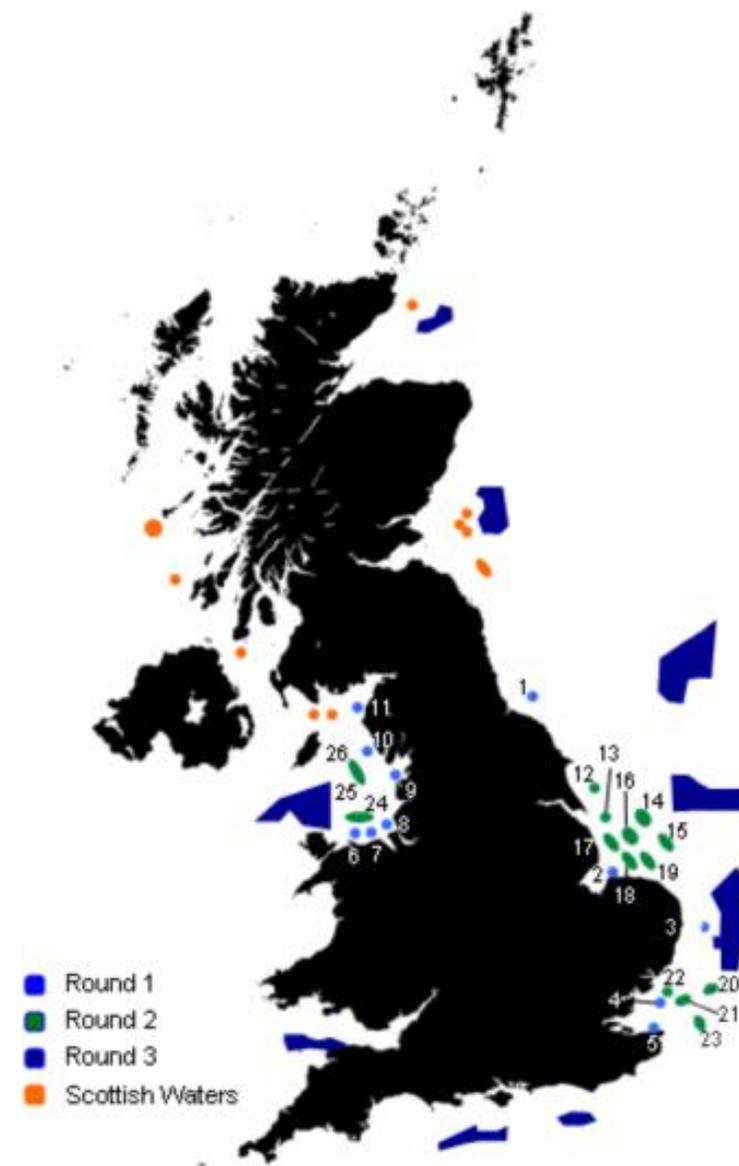
Lead contractor: Lend Lease

Technology: Hitachi

Featured Investment Opportunities

Offshore wind projects – Rounds 1 and 2

	Project	Capacity (MW)	Developer(s)	Status
ROUND 1	1 Teesside	62	EDF	Operating
	2 Lynn/Inner Dowsing	194	Centrica	Operating
	3 Scroby Sands	60	EON	Operating
	4 Gunfleet Sands I	108	DONG/Marubeni	Operating
	5 Kentish Flats	90	Vattenfall	Operating
	5a Kentish Flats Extension	51	Vattenfall	Consented
	6 Rhyl Flats	90	RWE	Operating
	7 North Hoyle	60	RWE	Operating
	8 Burbo Bank	90	DONG	Operating
	8a Burbo Bank Extension	250	DONG Energy	Submitted
	9 Barrow	90	Centrica/DONG	Operating
10 Ormonde	150	Vattenfall	Operating	
11 Robin Rigg	180	EON	Operating	
ROUND 2	12 Westermost Rough	240	DONG	Consented
	13 Humber Gateway	219	EON	Construction
	14 Triton Knoll	600-900	RWE Npower	Consented
	15 Dudgeon	400	Statoil & Statkraft	Consented
	16 Race Bank	580	DONG Energy	Consented
	17 Lincs	270	Centrica/Dong/Siemens	Operating
	18 Docking Shoal			Refused
	19 Sheringham Shoal	317	Scira Offshore Energy Ltd	Operating
	20 Greater Gabbard	504	SSE/RWE	Operating
	20a Galloper	340	SSE/RWE	Consented
	21 London Array I	630	EON/DONG/Masdar	Operating
	22 Gufleet Sands II	65	DONG & Marubani	Operating
	23 Thanet	300	Vattenfall	Operating
	24 Gwynt y Mor I	576	RWE Innogy / SWM / Siemens	Construction
	25 West of Duddon	389		Construction
	26 Walney	368	DONG/SSE/PGGM	Operating
26a Walney III	660	DONG	Submitted	



Offshore wind projects – Round 3 / Scotland

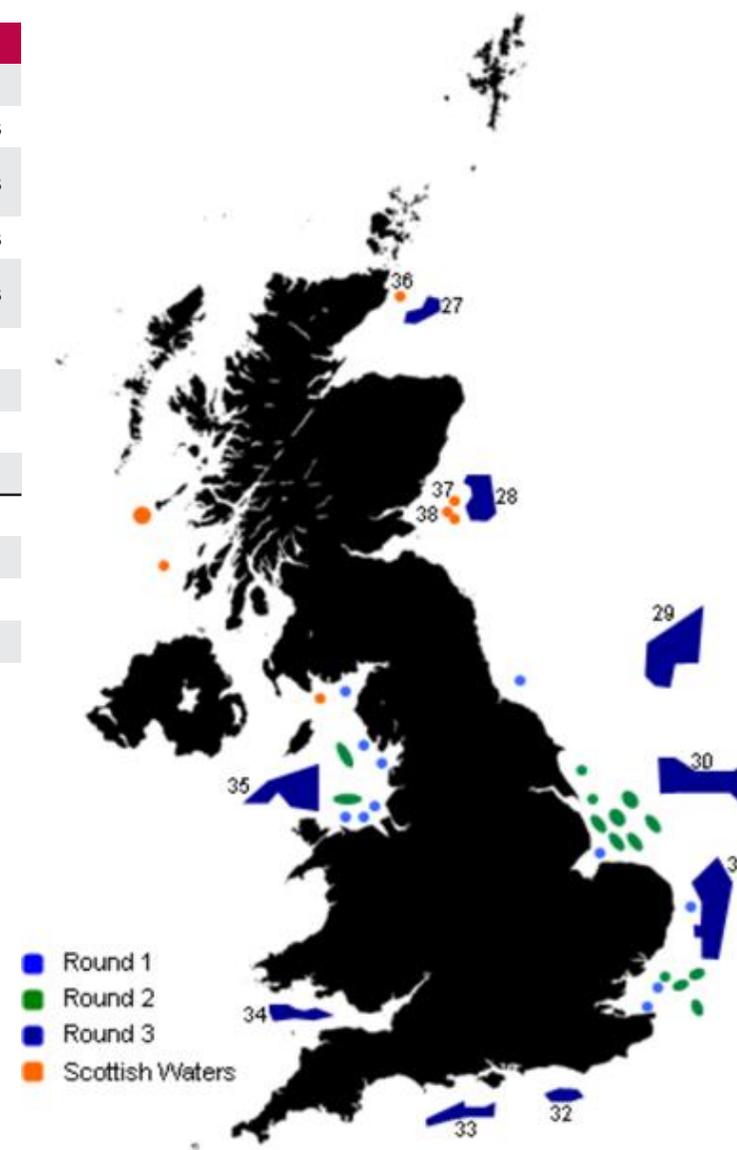
	Project	Capacity (MW)	Developer(s)	Status
ROUND 3	27	Moray Firth	EDP/Repsol	Consented
	28	Firth of Forth	SSE/Fluor	Submitted for first projects
	29	Dogger Bank	Forewind/SSE/RWE/Statoil & Statkraft	Submitted for first projects
	30	Hornsea I	Siemens/Mainstream/Dong	Submitted for first projects
	31	East Anglia	Iberdrola/Vattenfall	Submitted for first projects
	32	Rampion	EON	Development
	33	Navitus Bay	Eneco/EDF	Submitted
	34	Atlantic Array	RWE	Withdrawn
	35	First Flight Wind	DONG Energy, RES, B9	Development
SCOTLAND	36	Beatrice	SSE/Sea Energy	Development
	37	Inch Cape	EDP/Repsol	Submitted
	38	Nearr na Gaoithe	Mainstream	Submitted
	39	Islay	SSE	Submitted

Market Overview

Tables and maps shows detail and locations for 39 offshore wind projects which have been consented to date.

Investment Opportunity

- Potential debt or equity opportunities in a number of schemes.
- A number of projects (particularly in Round 3 / Scotland) are yet to reach Final Investment Decision.
- Round 3 licences were issued underrating the potential of each zone, allowing for further development scope in the future.
- Rounds 2 and 3 field extension applications will be considered on a case-by-case basis by The Crown Estate.



GIB Offshore Wind Fund

GIB is seeking to partner with third-party institutional capital to provide access to the attractive UK renewable energy sector

Investment Focus	<ul style="list-style-type: none"> • Significant minority equity investments in operational UK offshore wind parks
Asset Class Opportunity	<ul style="list-style-type: none"> • Stable, long-term and highly predictable revenue streams <ul style="list-style-type: none"> ✓ Long-term infrastructure assets (20-25 year asset lives) ✓ Operational track record / no construction risk ✓ Inflation linked revenues ✓ Unlevered and British Pound: strong macroeconomic fundamentals
Market Opportunity	<ul style="list-style-type: none"> • Significant market opportunity evidenced by: <ul style="list-style-type: none"> ✓ Excess of £11.5bn of operational assets ✓ Excess of £4.5bn of assets currently under construction ✓ Wind park developers are increasingly willing to recycle capital to finance their construction pipeline • Sector requires specialist offshore wind investors able to make sizeable investments • Given its dedicated focus GIB has a high visibility on market opportunities

GIB Offshore Wind Fund

Proposed structure offers significant advantages to investors

GIB Track Record	<ul style="list-style-type: none">• GIB has significant deal experience in the sector• GIB involved in six OSW transactions in the space of 18 months with a total value of £1.9bn
GIB Role in the Fund	<ul style="list-style-type: none">• 20% GIB investment in the Fund as an LP (up to £200m)• Two identified seed assets for the Fund: Rhyl Flats and Gwynt y Mor (c.£280m of GIB investment)• Access to ongoing pipeline of assets through GIB construction investments• Access to wider GIB platform of over 70 investment and technical professionals
Structure	<ul style="list-style-type: none">• Conventional UK domiciled fund structure• Potential significant co-investment opportunity
Timing	<ul style="list-style-type: none">• First Close by year-end

EDPR/Repsol: Moray Firth & Inch Cape

Project Overview

EDP Renováveis (EDPR) and Repsol is providing a project level investment opportunity into the construction and operation of two offshore wind farms in Scotland.

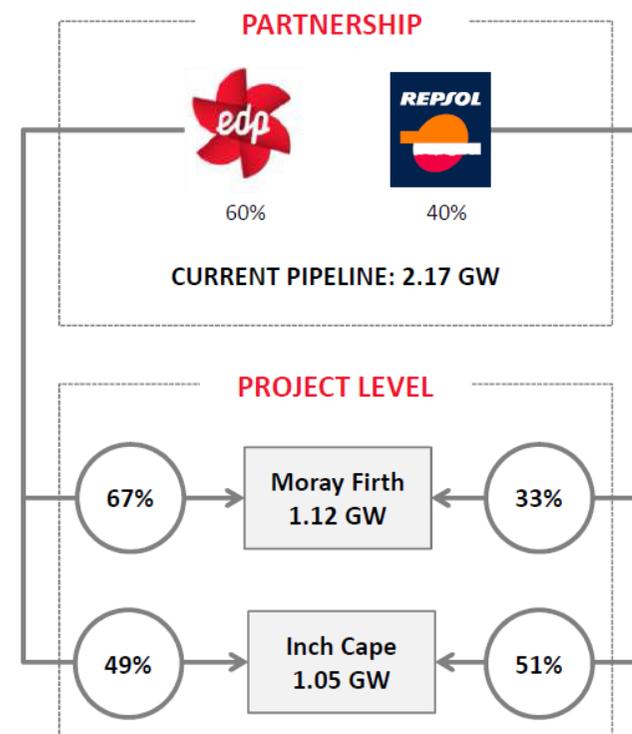
Moray Firth is a Round Three Offshore Wind Farm with generating capacity up to 1116MW. It is 67% owned by EDPR with Repsol holding 33%. EDPR recently received planning consent from the Scottish Executive. Inch Cape has generating capacity of 1050MW and is 51% owned by Repsol with EDPR holding the remaining 49%.

Next steps to FID, Moray Firth:

- Supply chain plan – shortlist of two suppliers, final Wind Turbine Generator selection Q3 2014, 504MW project to be delivered in one or two phases starting 2018
- Power Purchase Agreement - formal process began Q2 2014
- FID Q4 2015 or Q1 2016.

Investment Opportunity

EDPR and Repsol have set up a corporate partnership and are seeking potential investors in the development and construction phase for both Moray Firth and Inch Cape.



Key projects figures

	Inch Cape	Moray Firth
Max Capacity	1050 MW	1116 MW
Capacity (Project 1)	528 MW	504 MW
Area	150 km ²	520 km ²
Water Depth	40-55 m	35-55 m
DevEx (until 2015)	58 M€	70 M€
Average Wind speed	9.51 m/s	9.75 m/s

Mainstream - Neart Na Gaoithe Offshore Wind

Project Overview

Mainstream is providing a project level investment opportunity into the construction and operation of a 450MW offshore wind farm in Scotland.

Neart Na Gaoithe is located 13 – 30km off the Fife coast and covers an area of approximately 105 square km with water depths of 48-52m.

Initial analysis indicates a mean wind speed of 9.3m/s at a 100m hub height implying a net P50 capacity factor of over 45% depending on turbine and layout selection.

The project is scheduled to receive consent in the summer of 2014, with full financial close scheduled for Q1 2015 and full commissioning of the first phase of the project in early 2017.

Mainstream has secured:

- a firm grid offer from National Grid Electricity and Transmission (NGET) to connect the project to the UK's 400kv transmission network
- all necessary onshore consents
- a 50 year Agreement for Lease for the project site and cable corridor with The Crown Estate.



Investment Opportunity

The Project has pre-qualified for the UK Guarantees Scheme and is also working with commercial banks, export credit agencies and multi-lateral agencies to provide c.£1bn of non-recourse project finance at financial close.

Offshore Transmission Operators (OFTOs)

Investment Opportunity

February 2014 saw the launch of Tender Round Three (TR3). This marked a key milestone for the Offshore Transmission regime as it is the first tender round to be run by Ofgem under the enduring regime.

Worth approximately £400m in total, the transmission assets of two offshore wind farms (Westermost Rough and Humber Gateway) are being tendered during this tender round. Both are projects where the wind farm generator has built the assets.

For TR3 lessons were learnt from previous tender rounds and Ofgem decided to combine the Pre-Qualification (PQ) and Qualification to Tender (QTT) stages into one Enhanced Pre-Qualification (EPQ) stage. This will make the tender process simpler and quicker for all parties involved.

Although the TR3 projects are being built by offshore generators using the generator build model, the enduring regime also gives generators the choice of an Offshore Transmission Owner (OFTO) designing and constructing the transmission assets (the OFTO build model).

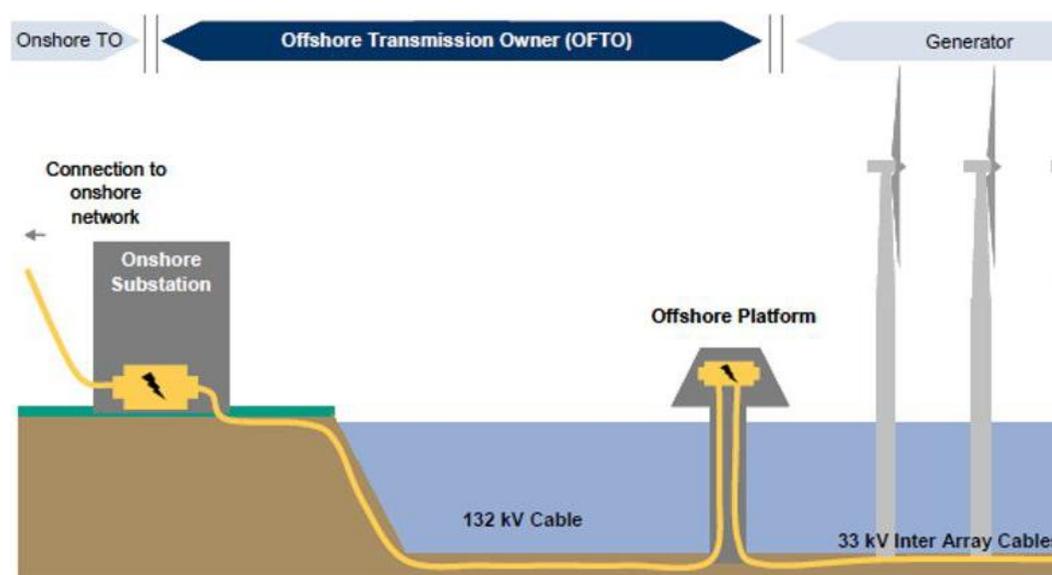
If you are interested in participating in the tender process please contact tendercoordinator@ofgem.gov.uk for further information.

Westermost Rough

Westermost Rough offshore wind farm is owned by WMR Limited, part of DONG Energy A/S. Situated in the North Sea off the coast of East Yorkshire, the wind farm has 35 wind turbines capable of producing 205 megawatts (MW) of electricity. The transmission system will include an offshore substation platform, offshore and onshore AC export cables and an onshore substation.

Humber Gateway

Humber Gateway offshore wind farm is owned by E.ON Climate & Renewables UK. Located off the East Yorkshire coast, it will have 73 wind turbines capable of producing 220 MW. The transmission system will include an offshore substation platform, offshore and onshore AC export cables and an onshore substation.



Final Investment Decision Enabling for Renewables

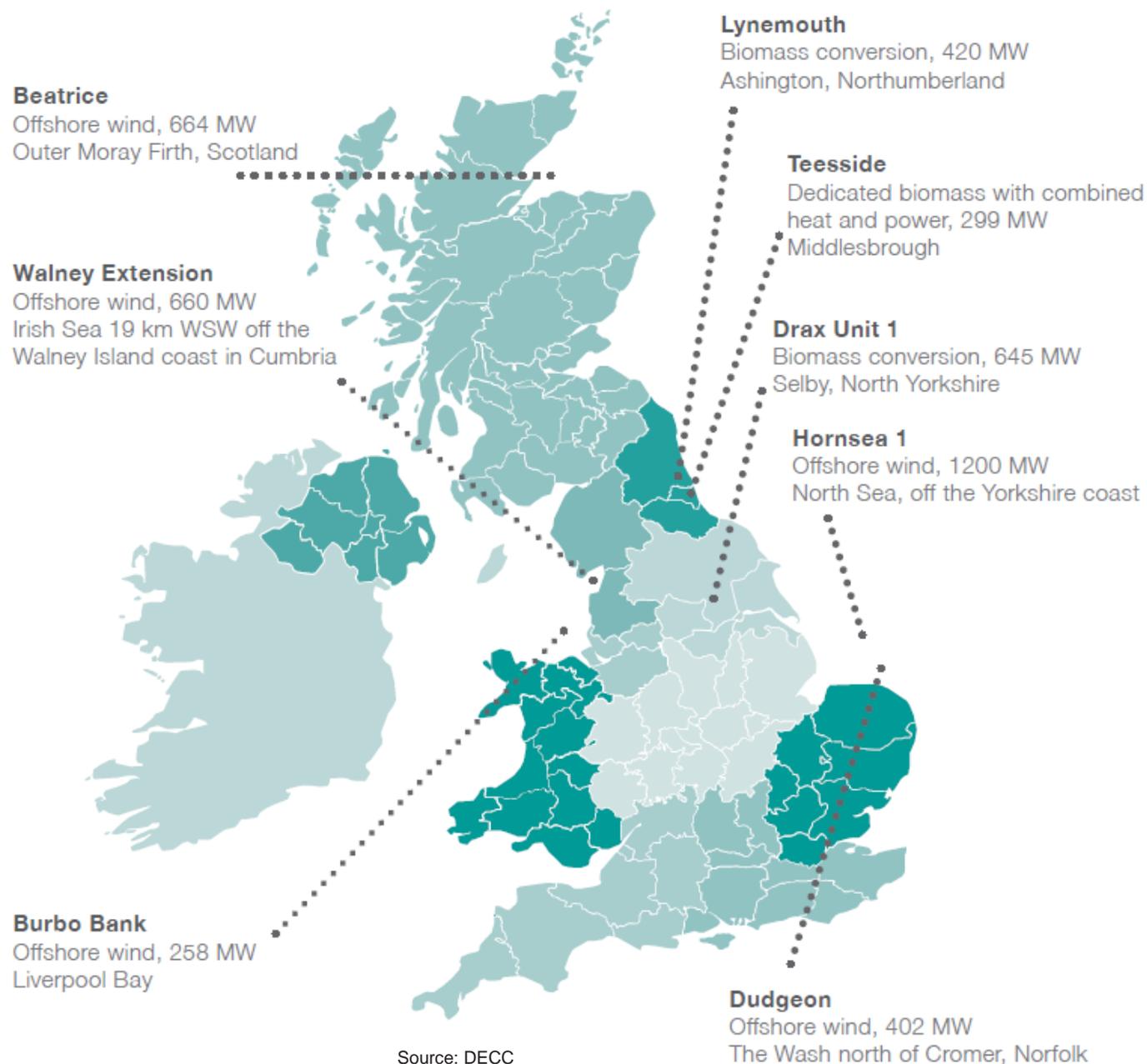
The map opposite shows eight projects which have been awarded Investment Contracts – or early Contracts for Difference (CfDs).

The eight successful projects have signed contracts under the Final Investment Decision (FID) Enabling for Renewables process, allocating the first CfDs that are being introduced through the Electricity Market Reform programme.

Under CfDs, generators and developers receive a fixed strike price for the electricity they produce for 15 years. These contracts are vital to give investors the confidence they need to pay the up-front costs of major new infrastructure projects.

The contracts are supported by the new legislative framework introduced through the Energy Act 2013. Further CfDs will be made available in the autumn.

In July 2014, Dudgeon (a joint venture between two Norwegian energy companies, Statoil and Statkraft) became the first of these projects to announce its Final Investment Decision.



Estover Energy

Project Overview

Estover Energy is a specialist developer of small-scale Combined Heat & Power plants with offices in Edinburgh and London. Estover has a pipeline of projects which it is looking to complete within the existing Renewables Obligation window (March 2017).

Fuel is sourced locally (within an average of 50 miles), consisting of low-grade wood from parts of the tree that have little or no use to other potential users.

Estover has four projects with planning consent, totalling approximately 80MW.

It is currently seeking funding for its Aberdeen project. This project is located to supply low-carbon heat and power to Arjowiggins' Stoneywood Mill and green electricity to the National Grid. The plant's output will be up to 25MWe - enough to power 30,000 homes.

Estover's other projects are situated at the Macallan whisky distillery in Speyside, at the Aesica pharmaceutical site in Northumberland and at the Discovery pharmaceutical complex in Kent.



Investment Opportunity

- Seeking capital investment of £80m in total (of which approximately £30m is expected to be equity) to finance the construction of the Aberdeen project.
- Estimated post-tax project IRR of 10-12%, and post-tax levered equity IRR of 13-15%.
- Returns are expected to be significantly higher on a sale of the operating project at lower discount rates.

Shore & Chinook Energy: Carnbroe

Shore Energy and Chinook Sciences have formed a strategic partnership to develop Energy from Waste (EfW) plants in Scotland. The first site to be developed is at Carnbroe, between Glasgow and Edinburgh, which has planning consent to process 180,000 tonnes of household and commercial wastes with intended gross electricity generation of 22MW.

The technology to be deployed at Carnbroe is similar to the 160,000 tonne plant which is currently being commissioned by Chinook at Oldbury in the West Midlands. This is the world's largest industrial waste gasification facility, which is being operated in partnership with European Metal Recycling.

Shore Energy

Shore Energy is part of the Simon Howie group of companies. It is one of Scotland's leading private businesses with extensive business interests including in the renewable energy and waste management sectors. Simon Howie's previous experience of the waste market and detailed market analysis has confirmed the need for state-of-the-art facilities to process residual waste in Scotland.



Chinook Sciences

Chinook Sciences is a UK-based company specialising in developing state-of-the-art Combined Heat and Power Plants that use its proprietary Advanced Thermal Treatment technology to recover recyclable metal and renewable energy from a wide range of municipal, commercial and industrial wastes.

The technology is commercially proven, with 16 installations worldwide, the first of which has operated since 2000. The technology is in its ninth design generation, has an exemplary environmental record, and is protected by over 100 patents.

Recently Chinook was awarded a significant deal to build the world's largest advanced thermal EfW facility in the UAE. Chinook is gaining increased recognition in the industry with a series of awards for its highly innovative technology, including in April 2014 the Queen's Award for Enterprise in Innovation, the UK's highest accolade for business success.

Investment Opportunity

- Total project cost £91 million.
- Simon Howie and related parties will invest an element of the equity funding as well as providing the site.
- In the first full year of operation, the project will deliver £23.2 million of EBITDA on revenues of £31.1 million.
- Unlevered project Internal Rate of Return of 19.9%.
- Four revenue sources: gate fees, power sales, Renewable Obligation Certificates and sales of recovered metal.

Shore Energy and Chinook Sciences are seeking a lead investor to deploy significant funds into the Carnbroe project, with flexibility over active or passive investor role.

Port of Ardersier

Port of Ardersier (PoA) is a 340 acre site situated in North East Scotland, 14 miles from Inverness. It operated as an oil fabrication yard for 20 years and has been remediated by existing owners. Through Aventa Capital Partners it is being developed as a large dedicated port focused on UK offshore energy.

PoA is considered to be the only available site in Scotland capable of developing as an Offshore Renewable Energy Hub benefiting from its natural harbour facilities, existing infrastructure, size of site and strategic location to the upcoming Moray Firth (1,500MW) and Beatrice (1,000MW) offshore wind farms.

The site:

- Is a natural sheltered harbour protected by a 1.2km quay wall, ensuring a safe and stable harbour for the loading of hi-tech wind generation equipment for shipping offshore.
- Already has industrial level mains, electricity, gas, water and sewerage utilities.

The development will accommodate offshore wind manufacturing, installation staging, operations and maintenance in a coordinated hub.

PoA has all the necessary planning permissions and marine consents to be used as an Offshore Renewable Energy Hub.

The region qualifies for grant funding as it is in the lowest 5% of GDP per capita in the UK.



Investment Opportunity

To partner Aventa Capital Partners to acquire, finance and operate a manufacturing and operating PoA. A phased development of infrastructure, industrial real estate and commercial developments. Initial funding of £100m required to:

- Acquire the majority equity of the Port from existing developers;
- Restructure the existing external debt facilities and improve the capital structure of the company;
- Fund capital investment for core infrastructure relating to dredging and quay wall expansion;
- Expand the operational and management capabilities.

Investment returns are targeted at 15-18% IRR with a cash yield above 6%.

Shetland Investment Fund

Total return equity fund targeting £500m of private funding into Shetland Islands.



35% of the UK's offshore oil assets lie to the north and west of Shetland with new investments in these fields in excess of £20bn. Local infrastructure is already at capacity. It requires:

- Regeneration of obsolete infrastructure
- Expansion and modernisation of existing facilities
- Renewable energy to supply the new industries

Aventa Capital Partners are looking to invest in a portfolio of predictable and stable inflation linked cash flows with growth potential. This is principally an infrastructure fund balanced between operationally yielding and developmental asset classes:

- Mix of real assets with earnings diversification
- Flexible ownership model and open to concessions and long term retention by public sector/private owner
- Alternate funding opportunity via mezzanine debt

Structure	UK Limited Partnership Fund (LP)
Mandate	Shetland Islands Investment Fund Ltd
Size	£500m with hard cap of £650m.
1st Close	£100m - £150m
Target returns	12% - 14% blended return
Fund Manager	Aventa Capital Partners
Fees	1.25% management, 20% performance
Asset class	Infrastructure plus
Legal Advisors	Stephenson & Harwood
Bankers	Santander

New UK regulated utility: Thames Tideway Tunnel



Project Overview

London's sewerage system is no longer fit for purpose and spills tens of millions of tonnes of untreated sewage mixed with rainwater (combined sewage) into the tidal section of the River Thames every year.

The Thames Tideway Tunnel, a 25km sewer under London, will tackle the problem of overflows from the capital's Victorian sewers for at least the next 100 years, and enable the UK to meet European environmental standards.

The procurement of the Thames Tideway Tunnel Infrastructure Provider has begun. The winning tenderer is expected to be awarded a Project Licence in 2015.

Investment Opportunity

A unique opportunity to invest in a new UK regulated utility company

- Total estimated cost of the project is c.£4.2bn
- ~£1bn equity opportunity
- Investment grade debt package

Bespoke regulatory framework reflecting project specific features, based around familiar building blocks:

- Cost of capital bid by investors and fixed up until Project Acceptance
- Investment remunerated during construction - revenue flowing from Project Licence Award (and dividend yield during construction)

Government Support Package will further protect investors:

- Sharing / mitigation of exceptional risks
- Total investor funding requirement capped at pre-defined maximum

Investors do not need to bring project delivery expertise:

- An experienced project team, project manager and management team will be transferred to the Infrastructure Provider at Project Licence Award.

Midland Metropolitan Hospital PPP

The next PPP scheme will be the new £300 million, 600+ bed, Midland Metropolitan Hospital.

The Sandwell and West Birmingham Hospital NHS Trust is offering the opportunity for the private sector to design, build, finance and operate the new facilities in Smethwick.

In line with current PPP policy:

- The procurement programme is targeting a 16 month timetable from publication of the contract notice until a preferred bidder is identified in October 2015.
- The concession will run for 30 years with the new hospital opening in October 2018.
- The public sector will look to take a minority equity shareholding in the project.
- The private sector will also hold funding competitions for both senior debt and equity funding at the preferred bidder stage.

In addition, the scheme includes up to £100 million public sector capital contribution to improve Value for Money.



Liverpool Waters

Overview

Liverpool Waters is a £5.5bn scheme to develop the historic docklands site. The site is part of the c. £75bn Atlantic Gateway project to develop a strategic corridor stretching 40 miles from the Port of Liverpool to the City of Manchester.

Liverpool Waters will create a world-class, high quality, mixed use waterfront quarter in central Liverpool. The site covers 60 hectares of land spreading over 2km of the world famous Liverpool waterfront.

The flagship development sits within the Mersey Waters Enterprise zone which includes the International Trade Centre (ITC). The strong links between Liverpool Waters and the ITC will bring strong international ties and trading opportunities to the area building upon the cities strong ties with Asia.

As an integral part of Liverpool's iconic skyline, and continuing its tradition of innovation, Liverpool Waters will symbolise the city's 21st century renaissance alongside its 19th and 20th century heritage on the world stage.



Opportunity

Based on a long-term programme, Liverpool Waters includes mixed use

- Residential
- Visitor attractions
- Office/commercial and
- Retail and leisure



It will accommodate city centre expansion integration with the adjoining areas of the city centre and the wider sub-region.

Developer: Peel Holdings

Project size: £5.5bn

Type: Mixed Use

Investment Type: Partner

Construction: 2014 / 15

Completion: 2025

Location: NW

Circuit of Wales

Overview

The Circuit of Wales is an impact investment focused on delivering long term sustainable regeneration. It is designed to cater for the growth in low carbon motorsport activity in the UK and benefits from:

- Specific tax benefits through its designation as an enterprise zone;
- Strong support from regional government through capital grant and long-term funding.

Opportunity

Financial Conduct Authority-authorized fund manager Aventa Capital Partners Ltd is seeking investors to take forward its 10 year phased automotive centred regeneration scheme.

The development will transform 830 acres, adjacent to the Brecon Beacons National Park, to create the UK's leading motorsport destination and will include:

- 200 acres of automotive centred Industrial, education and commercial development.
- 5.1 km FIA-GT1 international track capable of hosting all major international, national and regional championships. The UK's leading education and automotive test facilities;
- Two hotels and associated retail, residential, leisure and tourist facilities;



- Strong linkages with the Welsh universities and domestic automotive supply chain;
- Central location and enhanced infrastructure links to the Midlands and Wales; and
- Strong political and corporate support / BT / Tata / Hanergy / Princes Trust / FTR Moto.

Current Status

The site has been acquired and outline planning consent has been secured as have high profile motorsport events commencing in 2016.

Project Owner: Aventa Capital
Initial Development Cost: £300m
Future Phases: £150m+
10 year Return Expectations: 12%-15% total return, 5% average yield
Investment Type: Equity and debt
Status: Outline planning granted
Construction: Commencing in 2014
Location: Ebbw Vale, South Wales
Job creation: 10,000+
Local Impact: +£50m per annum

For more information

Government Departments

Energy: www.gov.uk/decc

Transport: www.gov.uk/dft

Water: www.gov.uk/defra

Waste: www.gov.uk/defra

Communications: www.gov.uk/dcms

Industry Bodies

Energy: www.energy-uk.org.uk

Renewables: www.RenewableUK.com

Rail: www.atoc.org

Water: www.water.org.uk

Ports: www.ukmajorports.org.uk

Regulators

Electricity & Gas: www.ofgem.gov.uk

Aviation: www.caa.co.uk

Rail: www.rail-reg.gov.uk

Water: www.ofwat.gov.uk

Communications: www.ofcom.org.uk

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