



The role and impact of the EIB and GIB on UK infrastructure investment

**Prepared for National Infrastructure
Commission**

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Disclaimer

This report was commissioned as part of the evidence base for the National Infrastructure Assessment. The views expressed and recommendations set out in this report are the authors' own and do not necessarily reflect the position of the National Infrastructure Commission.

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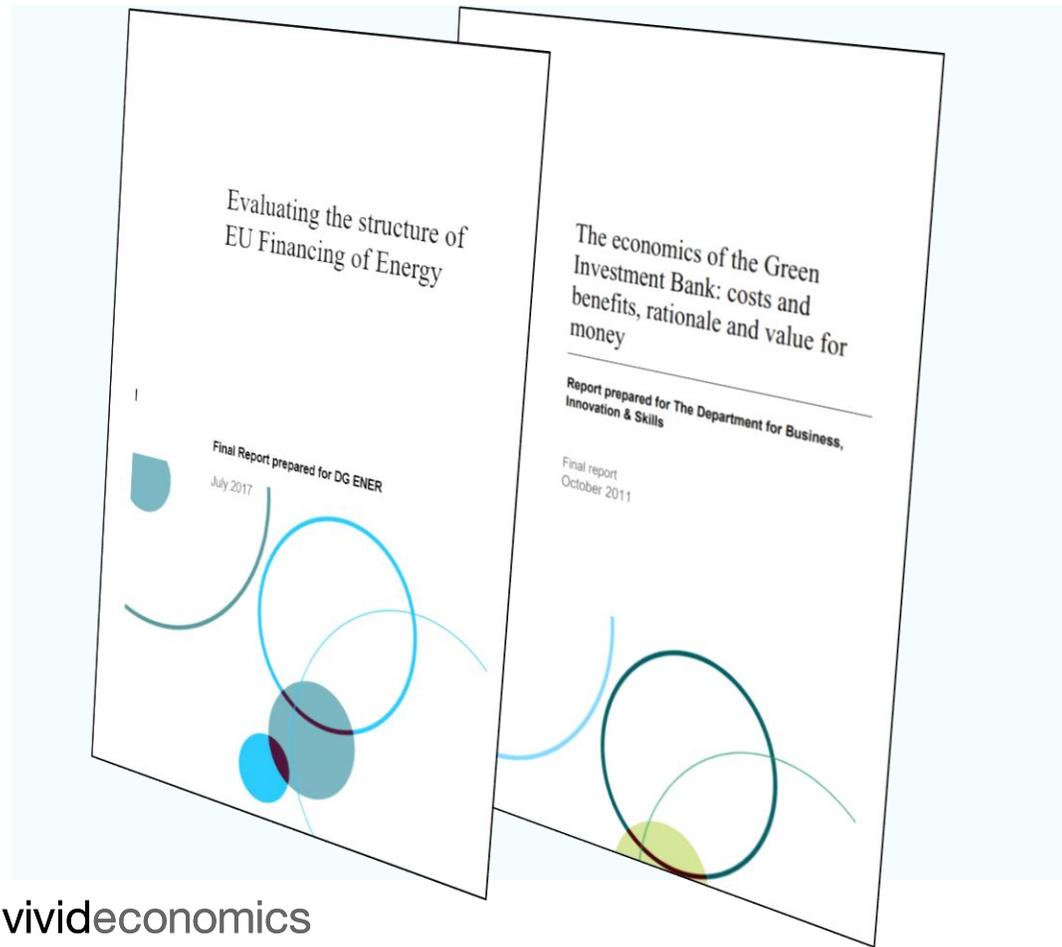
Part A: Summary of findings

Part B: Report

1. The role of the EIB and GIB in crowding in private finance
2. Summary of evidence
3. The institutional role of the EIB/GIB
4. Implications for future infrastructure financing in the UK

Vivid Economics has been commissioned to assess **the role and value of the GIB and EIB** in crowding in private capital

Vivid Economics has made the case for the GIB in the UK in 2011, and evaluated EU energy financing in 2017



Vivid Economics work in more than 60 countries, and is currently advising on green finance in the UK, EU, Vietnam and Colombia

Key findings: the EIB/GIB had the potential to play five roles in the UK. In this study, we assess evidence for each of these:

- 1. Reducing technology and early deployment risk: strong evidence.** The EIB/GIB have accelerated the creation and deepening of financial markets through absorbing risk.
- 2. Reducing construction risk: mixed evidence.** Although EIB has funded large projects, projects of a similar scale proceeded without their help, and interviews suggest projects may have proceeded anyway (perhaps at higher cost or using risk-mitigating instruments such as UKGS).
- 3. Long term (weak evidence) and cyclical finance (strong evidence).** EIB/ GIB provided long-term debt in the aftermath of the financial crisis (counter-cyclical role), but it is not clear such a role was necessary as the UK market normalised.
- 4. Innovative financial structures: mixed evidence.** Greencoat IPO was likely an additional, innovative product that crowded in new investors; there is weaker evidence elsewhere.
- 5. Provision of social and public goods: mixed evidence.** The EIB have been additional in some areas where the private sector is less likely to invest however in many other areas may have overreached, and crowded out private finance.

Key findings: the GIB/EIB did crowd in private capital, but in some circumstances similar projects appear to proceed without their assistance

1. The EIB/GIB are likely to have crowded in private finance

- state financing particularly important where there is early deployment risk and public goods attributes
- the importance is heightened during periods of constrained liquidity
- the GIB is reported to mobilise £3.4 of private capital for every £1 of public capital, however this number could be lower given that it interacts with other government support mechanisms.

2. The EIB also crowded out private investment

- in some cases there appear to be similar projects proceeding without EIB/GIB
- many projects may have proceeded but on a delayed timetable or at higher cost

3. It is not simply about providing capital, the EIB/GIB also have an institutional value

- the EIB/GIB signal government intentions and expertise in specialist areas
- however, this role may be partially met by other state-provided support mechanisms

What are the implications for a new institution in the UK and what issues still warrant further investigation?

- 1. There is a role for an institution with experience in near-commercial technologies.** This appears to be the case from this rapid assessment, however, further analysis of the development stages of technologies, infrastructure needs is required to determine areas of intervention.
- 2. The GIG may not pursue specific UK Government policy objectives.** Even though a Green Purposes Company has been established, its trustee's powers do not extend to approval of specific investments nor are they legally binding.
- 3. Investments should pursue commercial sources of capital first.** While the GIB required investments to pursue commercial capital, the EIB's lending criteria do not appear as stringent.
- 4. There is value in institutional independence from departments** to develop credibility and to create an enduring institution. Setting up the institution and embedding it in statute is a way to create this and avoid changing government priorities impacting on investment.
- 5. In the event of UK leaving the EIB, the potential for treasury to address the shortfall should be explored**

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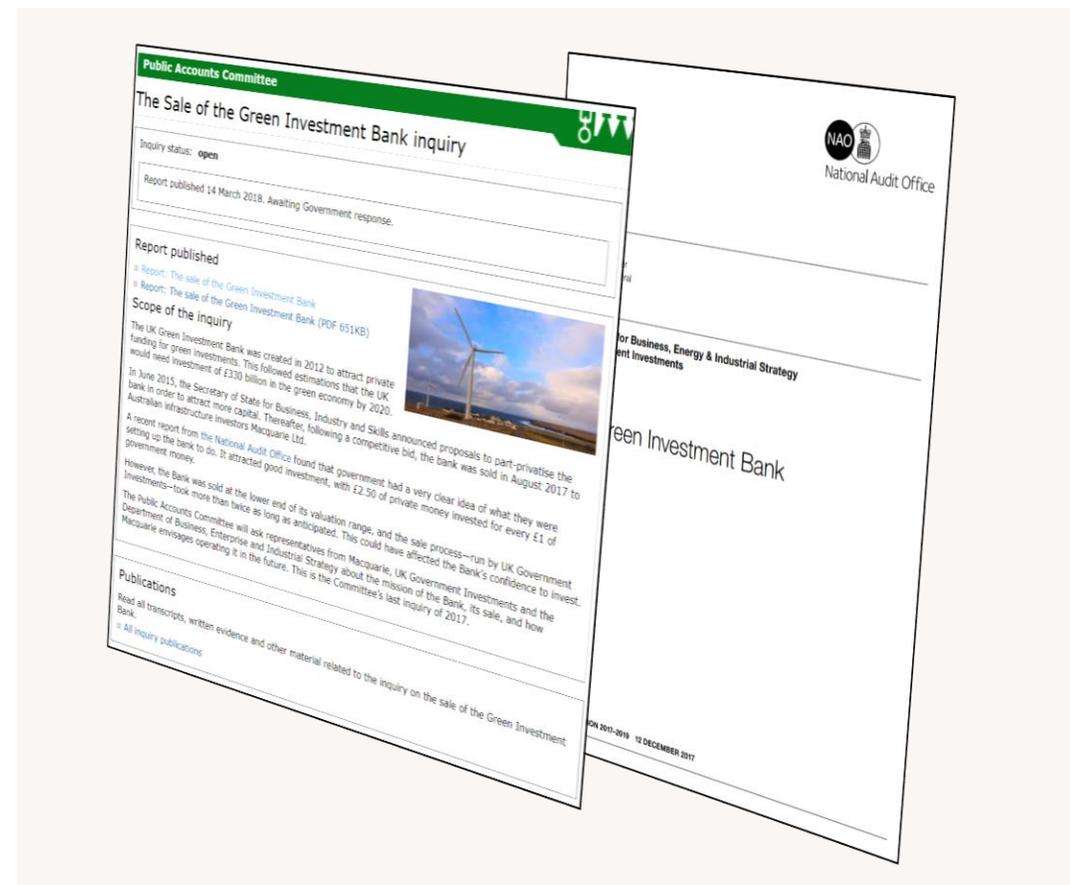
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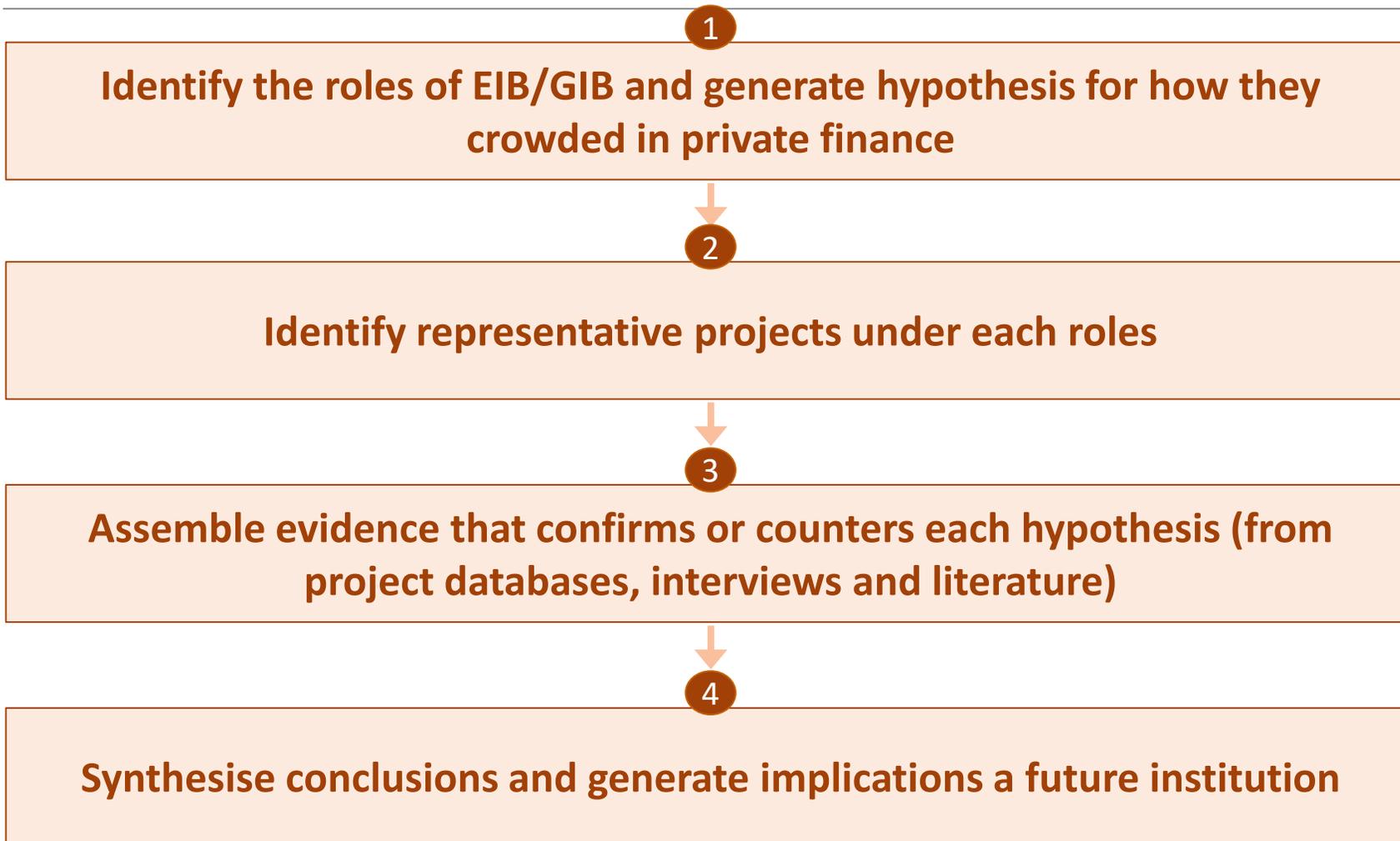
There is renewed interest in state financing of infrastructure, against the backdrop of GIB privatisation and Brexit

Recent statements...

- “The Department lacked clear criteria or evidence to judge whether GIB was achieving its intended green impact.” – National Audit Office (December, 2017)
- “Lending to Britain by the European Investment Bank fell two-thirds in 2016” – Financial Times (January 2018)
- “the Green Investment Bank failed to live up to original ambitions and there is no guarantee it ever will” – Public Accounts Committee (March, 2018)



Our project is focussed on whether the EIB/GIB was additional in crowding-in private finance. We do this by identifying roles and assessing evidence for each.



Out of scope:

- whether the EIB/GIB were sufficient to address market failures
- whether the EIB/GIB was the best way of crowding in investment

The EIB and GIB have different objectives: the GIB focuses on solving financial market failures, the EIB on achieving broader social objectives

		
Scale	£3.4 bn committed (2012-17)	~€52 bn in loans to UK (2008-17)
Mandate	Green impact mandate - projects which contribute to one or more of the UK Govt's environmental and sustainability targets	Supports projects that make a significant contribution to growth, employment, economic and social cohesion and environmental sustainability
Sectors	Narrow focus: energy, primarily offshore wind, waste to energy. Aim of exiting markets once the private sector has caught on.	Broad focus: energy, transport, water and sewerage, with smaller scale investments in urban development, telecoms, health, education and solid waste
Within-sector investments	Primarily early-stage technology , mostly operational assets; moved towards construction risk over time	Primarily network infrastructure , social goods and some early-stage technology
Type of financing	Primarily equity , long term debt at market rate	Primarily debt (concessional and market rate), equity, guarantees

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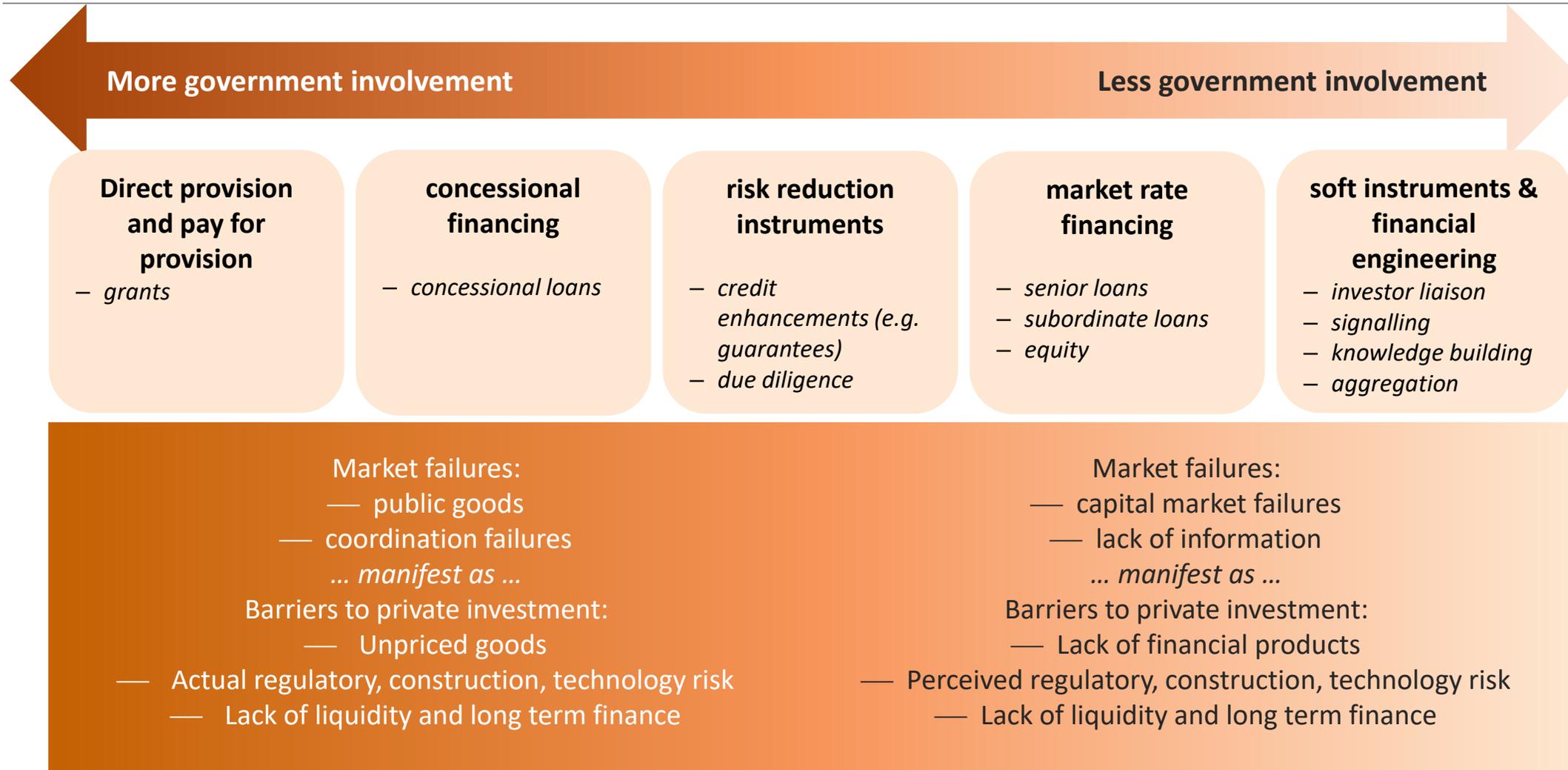
		
Institutional set up & governance	Prior to privatisation, non-departmental public body of BEIS, operating independently from government; independent board and executive committees	A bank and an institution, governed by public and corporate governance principles, 4 statutory bodies: board of governors, board of directors, management and audit committees
State aid status	Subject to state aid: only transactions within permitted sectors, characterised by market failure in the availability of finance → had to be additional to private finance ; could invest in 1/3 rd of UK wider green economy	Where EIB directly employs own resources, it is not considered state aid ; where it implements and manages member state programs, state aid rules apply
Funding	Capital paid in by gov't, no ability to borrow	Capital paid in by member states (10%), but majority of funding raised in capital markets through bond issues (AAA-rated)
Focus on profitability	For-profit bank, clear aim to be commercially successful and profitable, providing finance on commercial terms	Non-for-profit, financially autonomous (covers costs), providing finance at commercial and non-commercial (concessional) terms

This study is a rapid assessment of evidence that attempts to fill the evaluation gap, and lack of clear evidence of additionality¹

		
Process of selecting investments	Projects must have proof of unsuccessfully seeking funding in the private market before approaching the GIB	“Lending criteria” are applied but are broad, and do not specifically focus on unlocking additional private capital
Ex-post evaluations	None available. Study by NERA (2015) conducts a substantial survey but is not a full evaluation.	None available at time of publishing, however an evaluation of additionality is currently being conducted.

Additionality: in this study, we define additionality as crowding in private capital and/or catalysing socially useful projects that would not otherwise have happened on the same timescale.

There are a range of options available to government to address barriers to private investment



There are **five roles the GIB/EIB may potentially have played** in overcoming barriers to private investment

Role	Description	Example
1. Reducing technology and early deployment risk	Bank fills information gaps regarding markets, technologies, or policies, overcoming technology or early deployment risk	London Array offshore wind farm
2. Reducing construction risk	Bank socializes construction risks that are too large for private sector to finance	Thames tideway tunnel
3. Liquidity and tenor	Bank provides long-term finance that is unavailable due to tight capital constraints and credit conditions	Wakefield Waste
4. Aggregation and innovative finance products	Bank creates new financial structures, often through aggregation of projects that are too small for private financiers	GIB Offshore Wind Fund, Greencoat IPO
5. Providing social and public goods	Bank finances projects with social objectives that are not compensated in the market	THFC Affordable Housing Finance

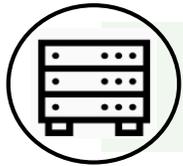
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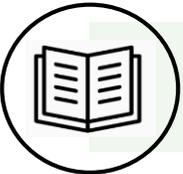
We assembled evidence from three sources and assessed it as strong, mixed or weak



Databases: include evidence from EIB and GIB project databases, as well as other online sources (e.g. 4Coffshore; iiglobal.com). A compiled database is provided.



Interviews: we interviewed 14 stakeholders, 6 from the private sector, 8 from public institutions. Anonymized interview minutes are provided.



Literature review: project-specific information, and other assessments of the EIB/GIB role. We have provided a bibliography of key documents.

-  Strong evidence in favour of a hypothesis
-  Weak evidence in favour of a hypothesis
-  Strong evidence against a hypothesis
-  Weak evidence against a hypothesis

strong – confirmed through different sources or repeatedly within the same source; complete and mostly based on facts
weak – confirmed through one or two sources, partial, mostly based on opinions
mixed - conflicting evidence found with regards to a hypothesis: evidence and counter-evidence of same strength

Hypothesis 1: the bank absorbed technology and early deployment risk, enabling the private sector to invest. This is done within deals and also across multiple deals over time in a new technology area, through familiarising the financial sector with a novel/risky technology.

	Project example	Evidence source	Instrument
For 	London Array: first project financed OFW, reflecting a step up in confidence in the technology. OSW commonly project financed today.		EIB – loan
	Westernmost Rough: first application of the Siemens 6MW turbine, which subsequently became industry standard.	  	GIB – equity
	Galloper: UK's first early construction project finance for OSW	 	GIB – equity EIB – loan
Against 	Ormonde: Step up in turbine size to 5MW without GIB/EIB support, although this was quickly superseded and did not become industry standard	 	Fully balance sheet financed

*There is **strong evidence** that the EIB/GIB have accelerated the creation, and deepened, financial markets in offshore wind, through absorbing early deployment and technology risk. While there are exceptions, the EIB/GIB involvement was associated with increases in scale, new technology and crowding in new investors.*

Hypothesis 2: the bank absorbed construction risk for large, complex projects where the private sector is less likely to step in

	Project example	Evidence source	Instrument
For	Rampion OSW: filled capital gaps and took on construction risk. GIB's involvement was instrumental in ensuring the Final Investment Decision.	 	GIB – equity
	Liverpool Port Extension: deep water tidal estuary terminal (construction risks); EIB led the way (£150m loan-nearly half of needed); other banks followed - £50m syndicated loan. Interviews suggest foreign lenders reassured by EIB presence.	 	EIB – loan
	Thames Tideway Tunnel: EIB provided largest ever loan for a water investment worldwide. EIB stake ~5x larger than next largest involvement.		EIB – loan
Against	Thames Tideway Tunnel: Interviews suggest that private providers could have raised debt in absence of EIB. Gov't guarantee more important than EIB.	 	EIB – loan
	Hinkley Point C: Major and complex project financed without EIB involvement. There was a £2bn gov't guarantee.		Other govt instruments
	Crossrail: EIB lent £1bn to TfL in the largest construction project in Europe (£16bn) - a public entity with AA-/ Aa3 long term credit rating. Beyond providing size, it is doubtful it absorbed any construction risk		GIB – equity

There is **mixed evidence** of EIB's additionality. Although EIB has funded large projects, projects of a similar scale proceeded without their help, and interviews suggest projects may have proceeded anyway (perhaps at higher cost or making use of other risk-mitigating instruments such as government guarantees).

Hypothesis 3: the bank provides long-term finance and liquidity that is unavailable due to structural (capital constraints) or cyclical (economic downturn) reasons

	Project example	Evidence source	Instrument
For	Municipal waste: private finance was withdrawn after the crisis and GIB stepped in (e.g. Wakefield Waste had 4 year delay); high mobilization ratio of 5.6	  	GIB – debt
	M25 widening: EIB provided £185m (c3x private lenders) structured finance facility allowing financial closure of 1.1bn project in post crisis conditions (2009)	 	EIB – debt
	OSW capital recycling (Rhyl Flats, Sheringham Shoal): GIB bought equity stakes in operating OSW farms helping developers ‘recycle’ and reinvest capital in OSW	 	GIB – equity
Against	Municipal waste: some extremely high mobilisation ratios suggest ample private interest (~19x for Drax, UKGS used); private interest to finance 100% of equity	 	GIB – debt
	M25 widening: EIB was additional in the context of tight liquidity post crisis, but may no longer be additional today as debt is refinanced through highly bid bond		EIB – debt
	OSW ‘capital recycling: 1) some of the developers were public and arguably didn’t have liquidity constraints 2) limited evidence of them ‘reinvesting back in OSW’		GIB – equity

There is **strong evidence** that EIB/ GIB were additional in providing long-term debt in the aftermath of the financial crisis (counter-cyclical role), but **weak evidence** of such role being necessary as the UK market normalised.

Hypothesis 4: through aggregating projects and providing innovative financing structures, the bank attracts new and different types of investors

	Project example	Evidence source	Instrument
For	Greencoat IPO /GIB OSW Fund: GIB was cornerstone investor in 1 st RE yieldCo IPO, helping create a new asset class - 6 IPOs in the UK followed; aggregated 6 OSW stakes in 1 st OSW fund (£1.12bn); attracted new investors to OSW	  	GIB – equity, portfolio aggreg.
	EIB infrastructure bonds e.g. Greater Gabbard wind-grid bond: 1 st transmission project bond (£300m), 3x oversubscribed by instit. investors	 	EIB – bond
	Energy Efficiency funds and funding alliances: GIB aggregated small, unlikely to be invested EE projects e.g. Equitix EEEF/ESI fund (2012) managed by Equitix. Introduced on-bill financing ('pay as you save') to offset upfront cost barriers.		GIB – portfolio aggreg. EIB – equity
Against	Greencoat IPO /GIB OSW Fund: renewable yieldCos ran out of steam (Greencoat £50m short of target in 2 nd round of raising); pension funds (though different ones) and SWFs had already been investing in UK OSW prior to GIB OSW fund	  	GIB – equity, portfolio aggreg.
	Greater Gabbard bond: Ofgem's tender process may have been more important than EIB enhancement; project was already investment grade prior to EIB		GIB – equity
	Energy Efficiency funds and funding alliances: EE impact was limited and with low mobilisation ratio (1.0x); limited impact in expanding or accelerating the sector; limited evidence on EIB role in structuring products in the UK	 	GIB – portfolio aggreg. EIB – equity

There is mixed evidence of GIB additionality to the private sector through structuring innovative fin. products, and portfolios, providing asset management services. Greencoat IPO was likely additional; weaker evidence elsewhere.

Hypothesis 5: Bank finances projects where social return is higher than private return. This includes network goods and goods that achieve welfare objectives (e.g. social housing)

	Project example	Evidence source	Instrument
For	Crossrail: EIB lent £1bn 2009 (out of £16bn) for construction + £500m in 2013 for rolling stock. Business case suggests externalities.		EIB: loan
	The Housing Finance Corporation (THFC): £1.5bn for on-lending for social housing, S&P state it could lower credit rating if EIB support is ceased	 	EIB - loan
	National Grid £1.5bn for upgrades across National Grid's Network. The EIB is National Grid's largest bank lender, and these projects help correct externalities.		EIB - loans
Against	BritNed Interconnector: £300m. Similar projects (Eleclink) have reached financial close without the EIB and proceeded on a purely financial basis.		Commercial financing
	National Grid has highly financeable assets, sold stake in its U.K. gas distribution networks to long term investors at ~50% premium to regulated asset value		Commercial financing
	Thames Water: raised significant alternative debt finance. From 2006, equity of £4.8bn and debt of £3.2bn; by 2016 equity of £3.1bn debt of £10.1bn. Water utilities however mention stability/visibility of EIB long-term finance as beneficial		Commercial financing

Mixed evidence: The EIB have been additional in some areas where the private sector is less likely to invest however in many other areas may have overreached, and crowded out private finance.

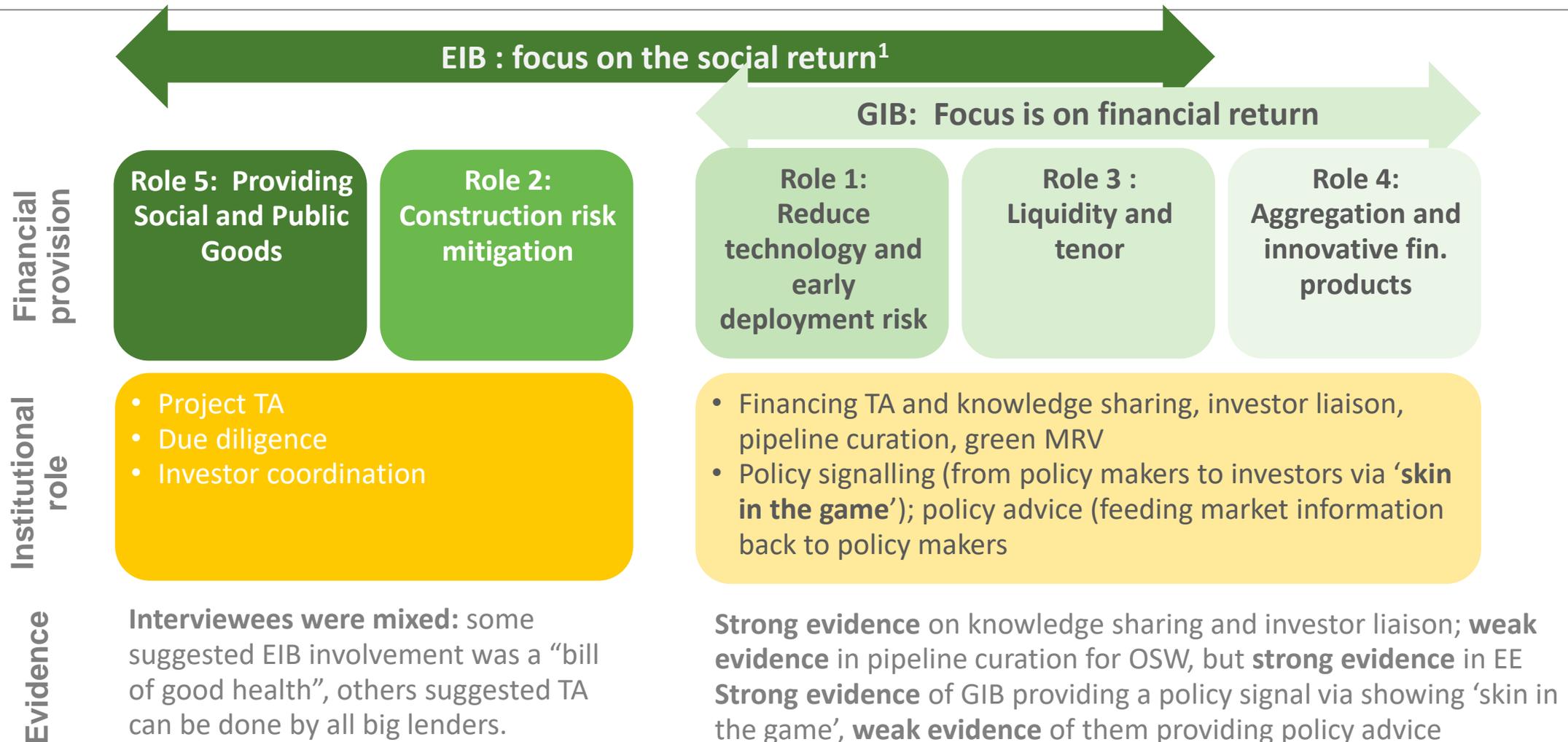
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Interviews and literature review suggest that EIB and GIB play an institutional role beyond the more obvious public funding provision



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Three main areas of clear EIB/GIB additionality emerged from our study – fulfilling these roles would require different institutional features in place

Areas of additionality	Provide liquidity and tenor in times of tight credit conditions <i>(counter-cyclical role)</i>	Provide social and, in some instances, public goods <i>(e.g. large infrastructure projects with high externalities)</i>	
Key institutional features	<ul style="list-style-type: none"> • Flexibility: agile institution, adaptable to changing circumstances as tech matures • Commercial mindset and focus on profitability to build a track record of viable invest. • Private sector expertise 	<ul style="list-style-type: none"> • Large balance sheet to deploy significant amounts quickly • Flexibility: ability to withdraw as market conditions improve to avoid crowding out private investors • Private sector expertise helpful 	<ul style="list-style-type: none"> • Large balance sheet • Concessionality: ability to internalise externalities, ensuring funding at below market rate • Public procurement expertise
Role	Permanent, but varying	Temporary	Permanent
Potential instit. form	<ul style="list-style-type: none"> • Stand-alone investment vehicle, publicly capitalised (patience), with high degree of independence from gov't in investment decision making, e.g GIB-like 	<ul style="list-style-type: none"> • Gov't guarantee scheme (e.g. UKGS) on commercial terms; or • State bank with countercyclical as part of a broader mandate, e.g EIB/KfW-like • Direct procurement (Treasury) 	<ul style="list-style-type: none"> • Gov't guarantee scheme on non-commercial terms ; • Non-profit stand-alone public lender (concessional terms) • Direct procurement (Treasury)

Our interviewees identified a number of sub-sectors that would benefit from 'patient' public capital, mostly to help address early deployment and technology risk

Areas of additionality	<p>Reduce technology and early deployment risk in new, less well understood sectors</p>	<p>Provide liquidity and tenor in times of tight credit conditions (<i>counter-cyclical role</i>)</p>	<p>Provide social and, in some instances, public goods (<i>e.g. large infrastructure projects with high externalities</i>)</p>
Examples mentioned by interviewees	<p>Development stage tech with actual technology risk:</p> <ul style="list-style-type: none"> • R&D, VC stage technologies <p>Early deployment stage tech with high perceived technology risk:</p> <ul style="list-style-type: none"> • energy storage • marine power • CCS <p>Mature tech, but high perceived risk or inadequate fin. structures:</p> <ul style="list-style-type: none"> • Energy efficiency • Electric mobility and charging infrastructure 	<p>Across sectors with high upfront capital needs, slow to recoup return on investment, e.g. rail, road, energy</p>	<ul style="list-style-type: none"> • Social and public goods • Natural capital (adaptation) • Sustainable land use

The infrastructure pipeline suggests over £100bn of private investment by 2020/21, with substantial focus in projects with mixed to strong evidence of EIB / GIB additionality

		Privately held network infrastructure					Other infrastructure			
Roles \ Sectors		Electricity generation /balancing	Energy networks	Water	Comms	Airports /ports	Rail/roads	Social housing	Oil & gas	All other infra.
Reduce tech risk		Strong	Mixed	Weak	Weak	Weak	Weak	Weak	Weak	Strong
Reduce construction risk		Strong	Weak	Weak	Weak	Strong	Mixed	Weak	Weak	Weak
Liquidity and tenor		Strong	Strong	Mixed	Weak	Strong	Strong	Weak	Weak	Strong
Financial products		Mixed	Weak	Weak	Weak	Weak	Mixed	Weak	Weak	Weak
Public/ social goods		Mixed	Mixed	Weak	Weak	Weak	Strong	Strong	Weak	Mixed
Required private finance to 20/21		33	31	16	9	5	5	5	21	3

■ Strong evidence of EIB/GIB additionality
■ Mixed evidence
■ Weak evidence or non-applicable



In specifying a new institution **several design elements are important**

Element	Description	Options
mandate and culture	institutional purpose, includes mission, targets, metrics and culture.	<ul style="list-style-type: none"> Narrowly focused on lowering risks in early deployment stage tech with high bankability: attracting private sector through investing on par Broadly focused social benefits orientation: complementing private finance to achieve broader socio-economic goals through lowering the cost of capital
focus on profitability	the degree to which focus is on institutional profitability (beyond financial self-sufficiency)	<ul style="list-style-type: none"> commercially oriented, targets profitability (e.g. UK GIB) cover costs (non-for profit)
market orientation	GIB-like; market-oriented and flexible, a mobilization vehicle for private finance EIB-like; social goods-oriented	<ul style="list-style-type: none"> high market orientation: invest at market terms lower market orientation: leveraging private capital through lowering the cost of investment for public and social goods
sectoral focus	the sectors in which the institution works	<ul style="list-style-type: none"> narrow (e.g. clean energy) wide (multiple sectors – energy, water, waste, transport etc.)
institutional form	type of incorporation	<ul style="list-style-type: none"> new purpose built institutions by legislation, regulation or administrative action re-formed existing institution or division of existing institution; under ministry
governance and independence	management board, executive roles and committees, structures and policies that ensure the mandate is fulfilled	<ul style="list-style-type: none"> more independent: accountable to government but no need of approval less independent: government heavily present on board, overseeing major decisions, but still with a reasonable degree of latitude in decision making
financing team capabilities	toolset to address the specific barriers in catalysing infrastructure investment; team expertise and capacity in deploying toolset	<ul style="list-style-type: none"> focused on leveraging the private sector: private sector expertise; knowledge of project finance, energy markets, policy and marketing focused on efficient deployment of public funds: oversight, due diligence, guarantees
capital structure and scale	sufficient capital to address an initial set of barriers in a confident and consistent way	<ul style="list-style-type: none"> Fully public, and can't raise capital in market Fully public, and can raise capital in market; Mixed public and private

The suite of tools used by EIB/ GIB

Hard tools	Description	Soft tools	Description
Equity	Direct/co-investment in projects or corporate equity at early stage (e.g. construction phase)	Project TA to developers	Tech. assistance to project developers to identify, assess risks, structure green projects
Concessional loans/credit lines	Loans at more generous terms than market loans, through below-market rates and/or grace periods	Due Diligence	Project technical and financial appraisal to better assess expected RoI and ex ante risks
Credit enhancement	Assurance to repay via collateral, insurance or third-party guarantee	Green MRV	Measurement, reporting and verification systems for low carbon impacts, green definitions & standardisation
Subordinate debt & mezzanine finance	Funding that ranks after senior debt if a company falls into liquidation	Pipeline curation	Gathering portfolio of upcoming and early stage green projects in need of finance
Senior debt & refinancing	Long term senior lending and 'capital recycling' at market rates	Financing TA for investors	Knowledge sharing and capacity building in the financial sector with regards to new tech(e.g. sharing transaction information)
On-bill financing	Repayment programs through utility or tax bills; or through service charge	Investor liaison	Roadshows, 1-on-1 meetings, presentations, workshops to bring private sector participants around the table to co-invest
Aggregation & Securitisation	Financial engineering to match ticket size and other instrument requirements of institutional investors	Policy signalling	Signalling market maturity and policy credibility e.g. by showing 'skin in the game'

Contact us:

26-28 Ely Place
London
EC1N6DT

Author contact details:

Thomas Bligaard Nielsen, Engagement Manager
T: +44 (0) 7553 540636
E: thomas.nielsen@vivedeconomics.com

Company Profile

Vivid Economics is a leading strategic economics consultancy with global reach. We strive to create lasting value for our clients, both in government and the private sector, and for society at large.

We are a premier consultant in the policy-commerce interface and resource and environment-intensive sectors, where we advise on the most critical and complex policy and commercial questions facing clients around the world.

The success we bring to our clients reflects a strong partnership culture, solid foundation of skills and analytical assets, and close cooperation with a large network of contacts across key organisations.

List of attachments (to be provided w/c 30th April)

—Database

—Interview minutes (anonymised)

—Bibliography

Supporting charts

Private capital mobilisation of GIB

Role 1: Reduction of technology and early deployment risk

- Offshore wind projects where the EIB / GIB financed construction and financing type
- Potential role in innovation

Role 2: Reduction of construction risk

- Thames tideway

Role 3: Provision of liquidity

- Wakefield Waste timeline to financial close with the GIB

Role 4: Aggregation and innovative financing

- Greencoat IPO and Offshore Wind Fund

Mobilisation rate of GIB: 3.4 overall. This differed across sectors and projects: highest in biomass and waste (5.6) and lowest in non domestic energy efficiency (1.0). Offshore wind is 2.6.

GIB investment activity between October 2012 and March 2017, by sector					
Sector	Offshore wind	Waste & bioenergy	Energy efficiency	Onshore renewables	Total
Number of projects	11	37	35	17	100
GIB capital committed (£ millions)	2,211	756	292	150	3,409
Private capital mobilised (£ millions)	4,660	3,479	286	150	8,575
Average total transaction size (£ millions)	625	114	17	18	120

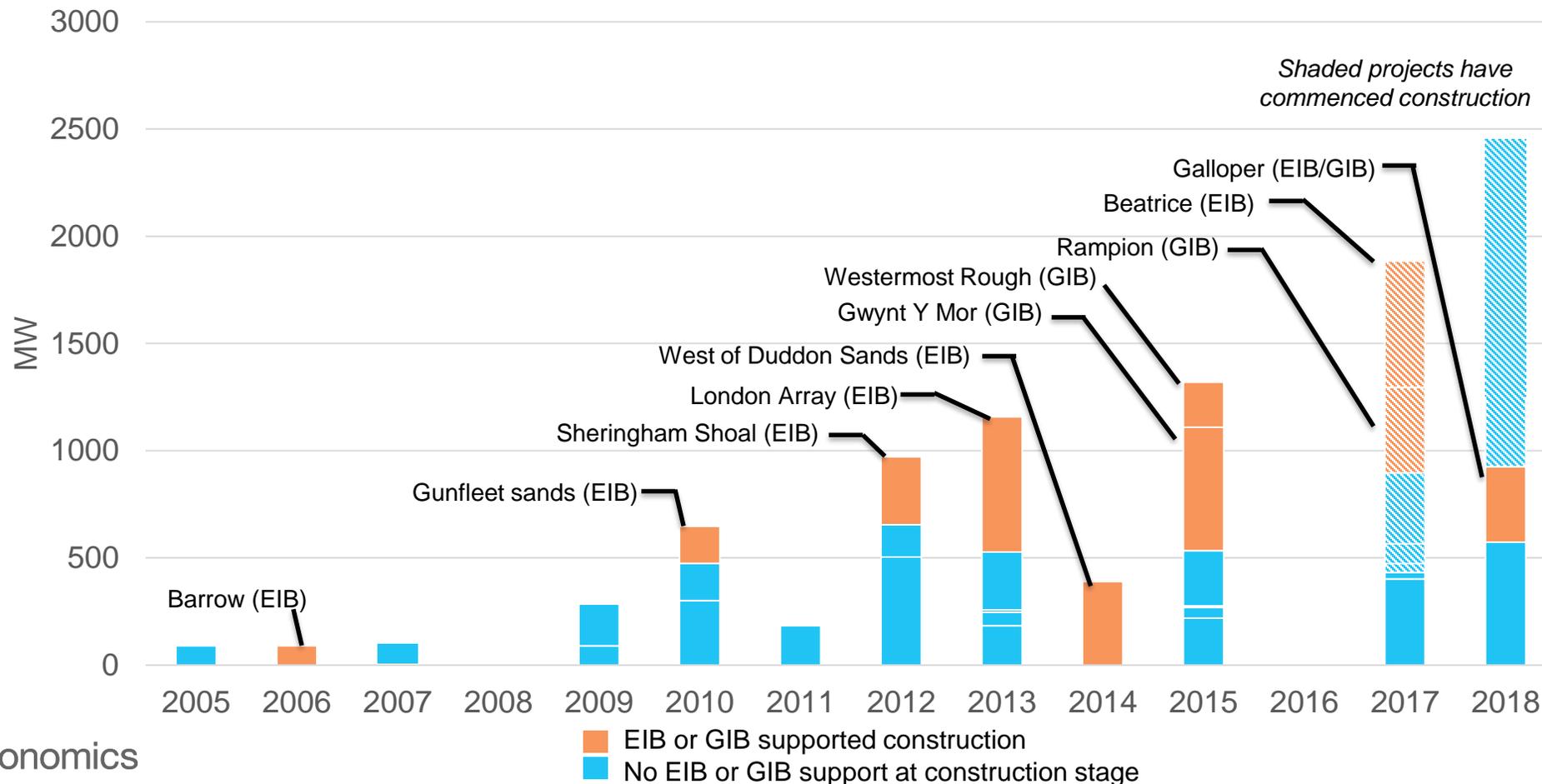
Mobilisation rate: £ of private capital for each £ the GIB invests

Source: http://greeninvestmentgroup.com/media/144426/gib_transaction_table_140617.pdf

The mobilisation rate implied by these figures over estimates the actual rate. In practice, the GIB/EIB involvement interacts with other interventions (e.g. credit guarantees) which may be more critical to the success of the project.

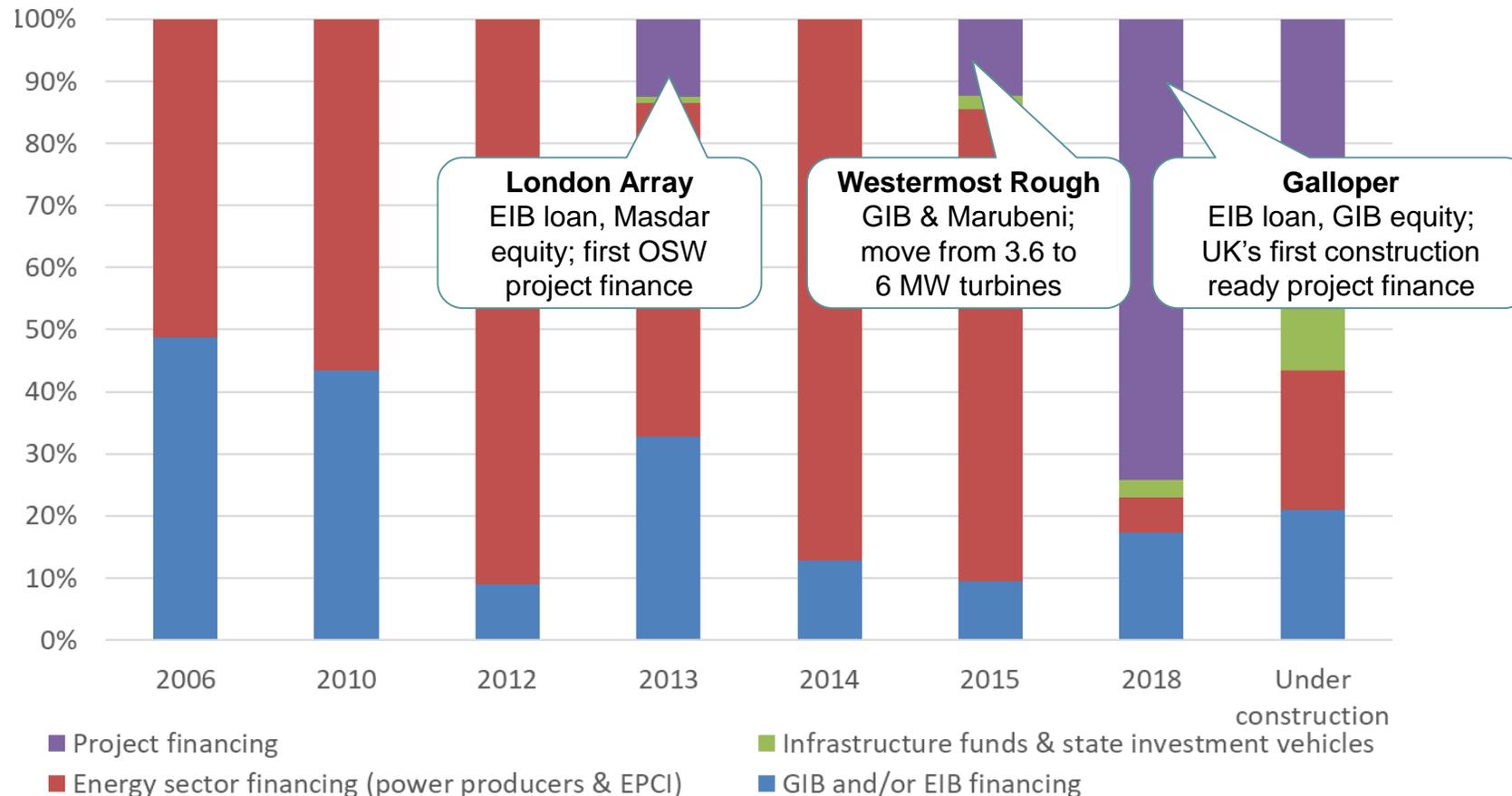
Enhanced involvement from EIB and GIB post-2010 supported accelerated investment in project development

Size of offshore wind projects (MW) and GIB/EIB involvement at the construction stage



Evidence suggests the EIB and GIB played a role in drawing new investors to the sector and moving off balance sheet towards project finance

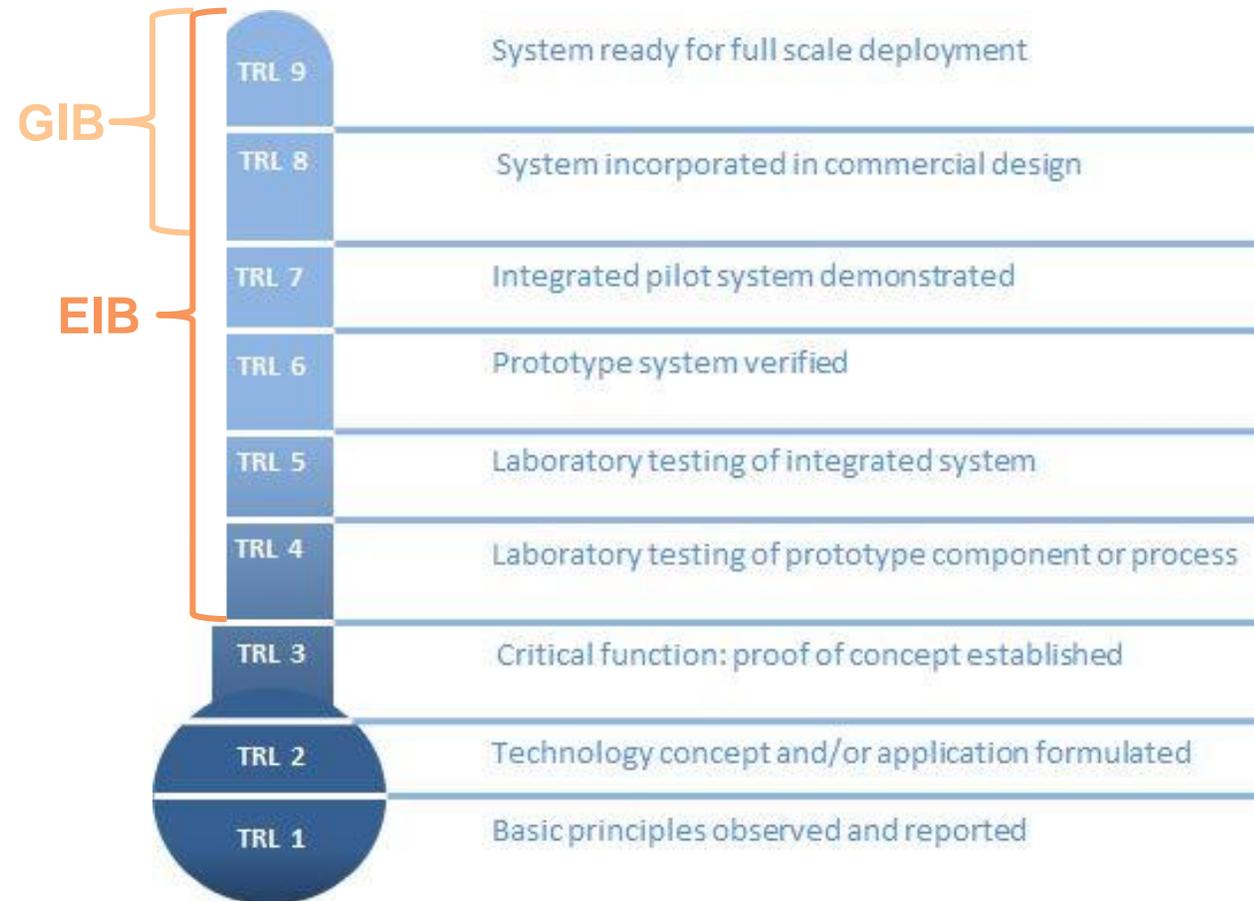
Share of construction financing provided by energy sector, EIB/GIB or other financiers



EIB may have played an additional role in financing **technology development stages**.

While GIB focused on commercially ready technologies, EIB has a number of initiatives financing earlier development stages:

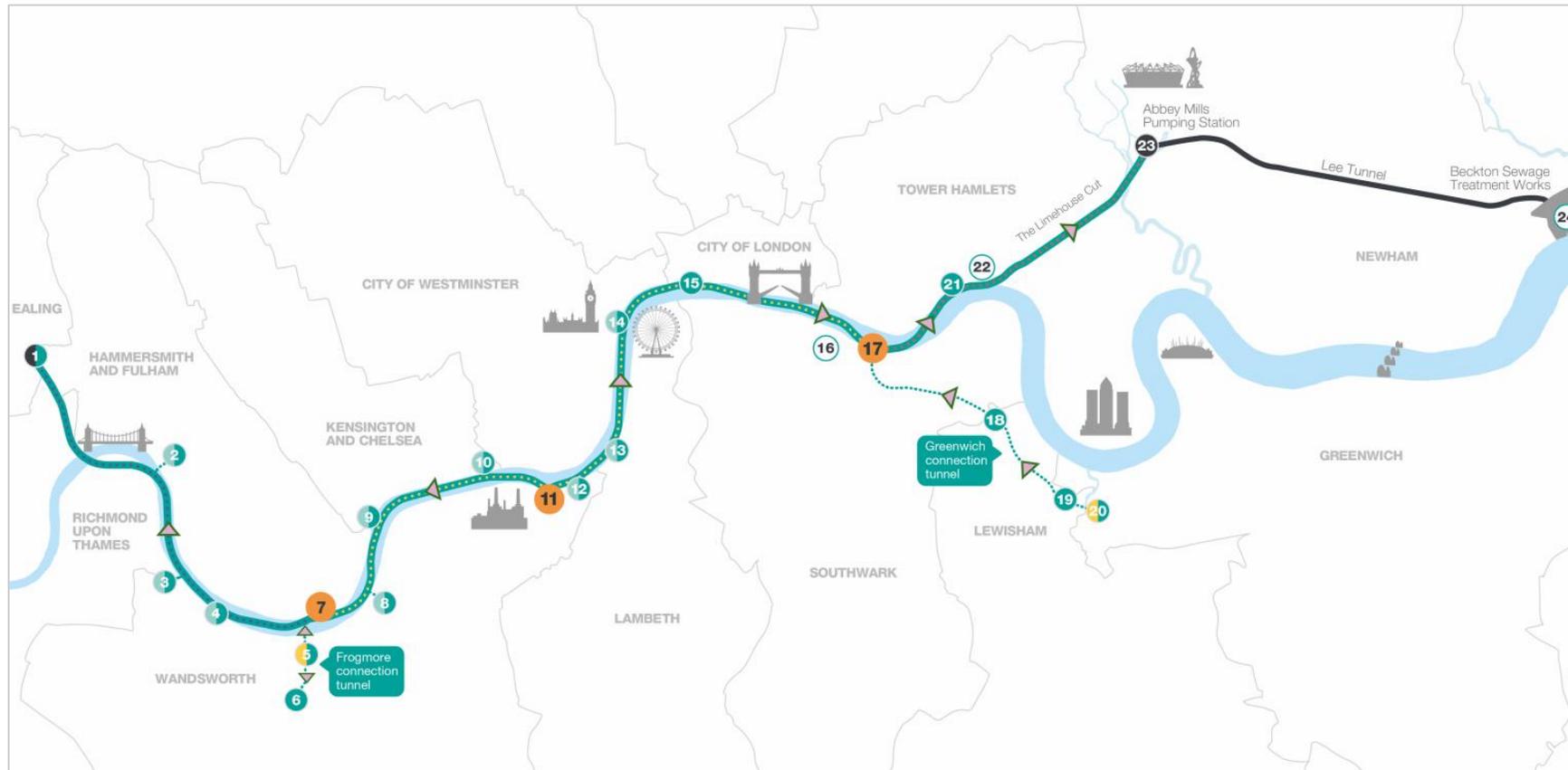
- **Long term venture debt** (EUR750m in 2017, largest venture debt lender in Europe)
- **Loans to research and innovation**
- **Indirect investment** in innovation through VC and PE funds
- **Blended finance** for innovation (InnovFin): loans, guarantees and equity-type funding, either directly or indirectly, via a financial intermediary, financial advisory (TA)



Source: Innovation Seeds

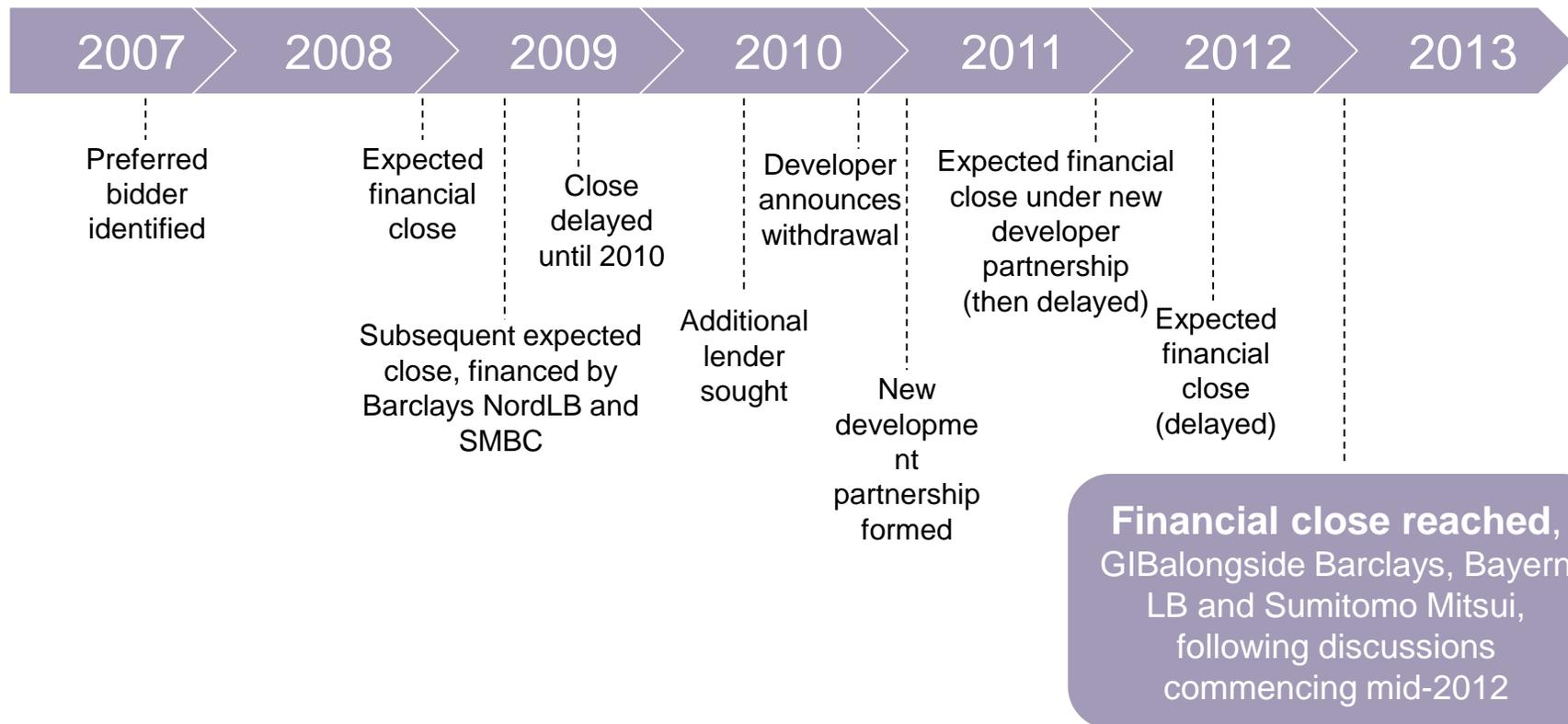
The Thames Tideway Tunnel is the largest (£4.2bn) wastewater project in the UK, with risks too great for Thames Water

EIB provided a loan of £0.7bn over 35 years which alongside government guarantees helped deliver a bid weighted average cost of capital of $\approx 2.5\%$ *



GIB provided long term finance to Wakefield Waste after repeated delays, largely stemming a lack of liquidity

After a long period of seeking financial support, financial close was reached with GIB providing senior debt and bridging equity



GIB assisted in the creation of innovative financing mechanisms to mobilise capital

Greencoat IPO: the first renewable YieldCo (Q1 2013): GIB was a cornerstone investor, helping create a new asset class:

- 6 UK-listed YieldCos with total funds raised of \$1.7bn by Q1 2014
- Onshore wind M&A deals more than doubled in 2013 (from \$2.2bn to \$4.6bn). YieldCos cited as major reason (1/5th volumes, 1/3rd of number of deals (*Santander*))

UK OSW Fund (Q2 2015) aggregated 6 OSW stakes in a portfolio (£1.12bn AUM); attracted new and different investors to offshore wind:

- UK's Strathclyde Pensions with **no prior experience in OSW** and Sweden's AMF pension fund with **no previous investments in UK OSW**; 1 large Middle-Eastern sovereign wealth fund, 4 other local authority pensions, USS and Macquarie's MEIF5

