Green Giraffe
The renewable energy financial advisors

Offshore wind finance – evolution and outlook

Project finance and M&A (PFMA) forum for renewable energy

Berlin, 11 September 2017

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1. Green Giraffe – The renewable energy finance specialist

We get deals done

Deep roots in renewable energy finance

- Launched in 2010 by experienced finance specialists with a **strong and proven track record** in renewable energy
- 60+ professionals with offices in Hamburg (Germany), London (UK), Paris (France) and Utrecht (the Netherlands)
- Multi-disciplinary skill set including **project & structured finance, contract management, M&A, and legal** expertise

High quality, specialised advisory services

- Focus on projects where we can actually add value
- We can provide a holistic approach and are able to include sector-specific tasks in addition to traditional debt or equity advisory (such as contracting, strategic advisory and development services)
- Widening geographical reach with a burgeoning presence in the Americas and Africa in addition to Europe
- Priority given to **getting the deal done!**

Close to **EUR 15 billion** funding raised for renewable energy projects in **7 years**

60+ professionals in **4 countries**

Involved in over **80 renewable energy projects** with a capacity of more than **18 GW**

1. Green Giraffe – Consistently highly-ranked in league tables

2015 renewable energy – IJ Global

	Company	USD bn	Deal count
1	**Green Giraffe**	**5.5**	**5**
2	EY	4.4	7
3	BNP Paribas	3.1	2
4	Macquarie	2.9	4
5	Santander	2.4	19
6	Barclays	2.4	1
7	Alderbrook	2.0	2
8	Chatham Financial	1.8	3
9	Fieldstone	1.3	4
10	PwC	1.3	3

IJ Global league tables 2015 (website)

2016 renewable energy – Inspiratia

	Company	Deal count	USD bn
1	KPMG	22	17.8
2	**Green Giraffe**	**11**	**3.6**
3	PWC	10	1.5
4	EY	8	-
5	JLL	7	-
6=	Santander	6	4.9
6=	Elgar Middleton	6	-
6=	Augusta & Co	6	-
9	Crédit Suisse	5	16.1
10	JC Rathbone	4	2.3

Inspiratia Global league tables 2016 (website)

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2. Equity markets – funding options

"Balance sheet" (equity) vs "non-recourse" (debt)

Large projects are typically developed through a stand alone project company

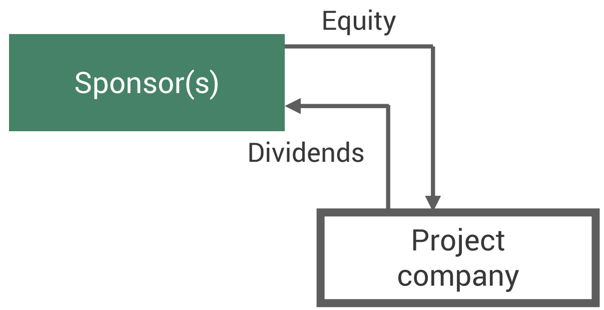
- Owned by the project investors
- With its own revenues & balance sheet and thus the ability to raise debt on its own merits

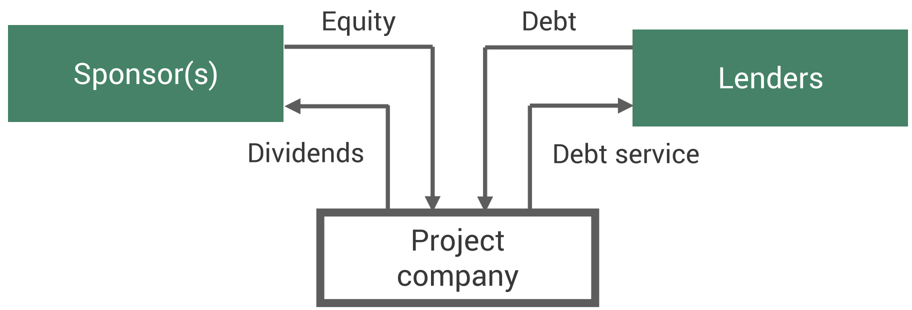
There are only two discrete sources of funding

- By the owners (directly via equity or shareholder loans, or indirectly via guarantees)
- By banks without recourse to the equity investors – this is "project finance"

The way a project is funded will have a material impact on how it deals with contractors

- In a project finance deal, you need to deal with the senior lenders' requirements!
- Tax, accounting, consolidation and rating issues





All parties have a direct incentive to understand who will be funding the project

2. Evolution of the equity market

An active offshore wind market in 2017

A lot of recent regulatory changes

- Germany approved a new EEG regime mid 2014 and provided FiT clarity on volumes to be built by 2025, resulting in "zero bids" during the first auction in April 2017. The next auction will take place in H1 2018
- EMR (electricity market reform) in the UK up and running, although CfD auctions have been smaller and less frequent than expected; all old ROCs and feed-enabling projects now in operation or under construction
- Third Dutch tender (under new rules to treat zero bids specifically) by the end of the year
- In Belgium, the new "LCOE" regime has been implemented for two projects (Norther and Rentel, for which the financing is now secured) but the regulatory framework remains uncertain for the next three projects
- Projects from the first tenders in France have been delayed, but a tender for floating demonstrators has taken place and the third French tender is now ongoing under "competitive dialogue" process

An active equity market

- Renewable energy assets are trading at high prices as investors competitively chase yield, pushing down IRRs
- Such IRR compression makes onshore wind and solar assets less attractive to yield seeking investors and they are now switching their focus to offshore wind, with its higher, but increasingly understood, risks
- Continued high transaction volume in 2017 (both for projects and companies like GIB & A2Sea)
- Transactions for assets under development (Dogger Bank), at financial close (Deutsche Bucht) and operational (North Hoyle)
- Emergence of Chinese buyers (CTG, SDIC) and continued active presence of Japanese and Canadian investors

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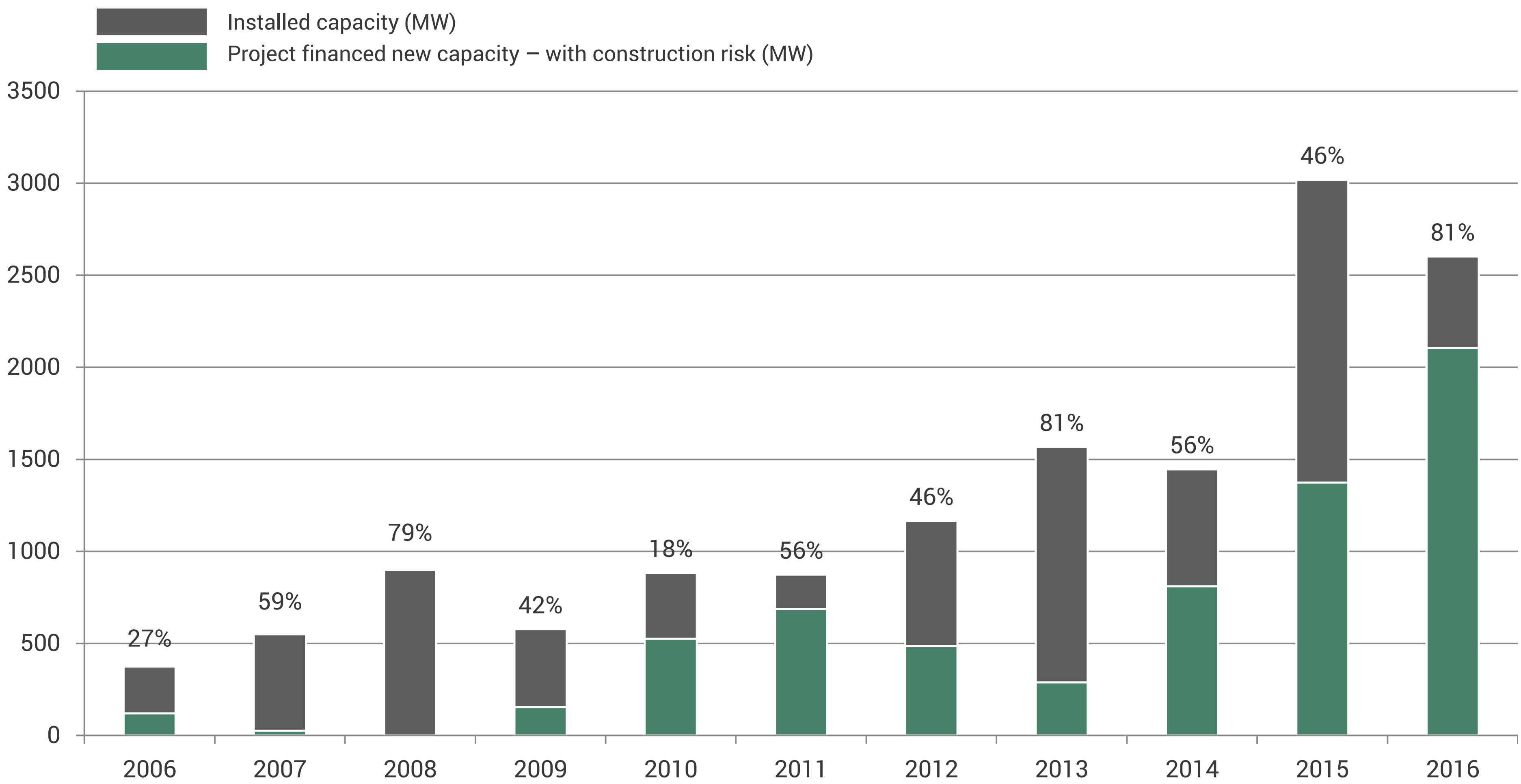
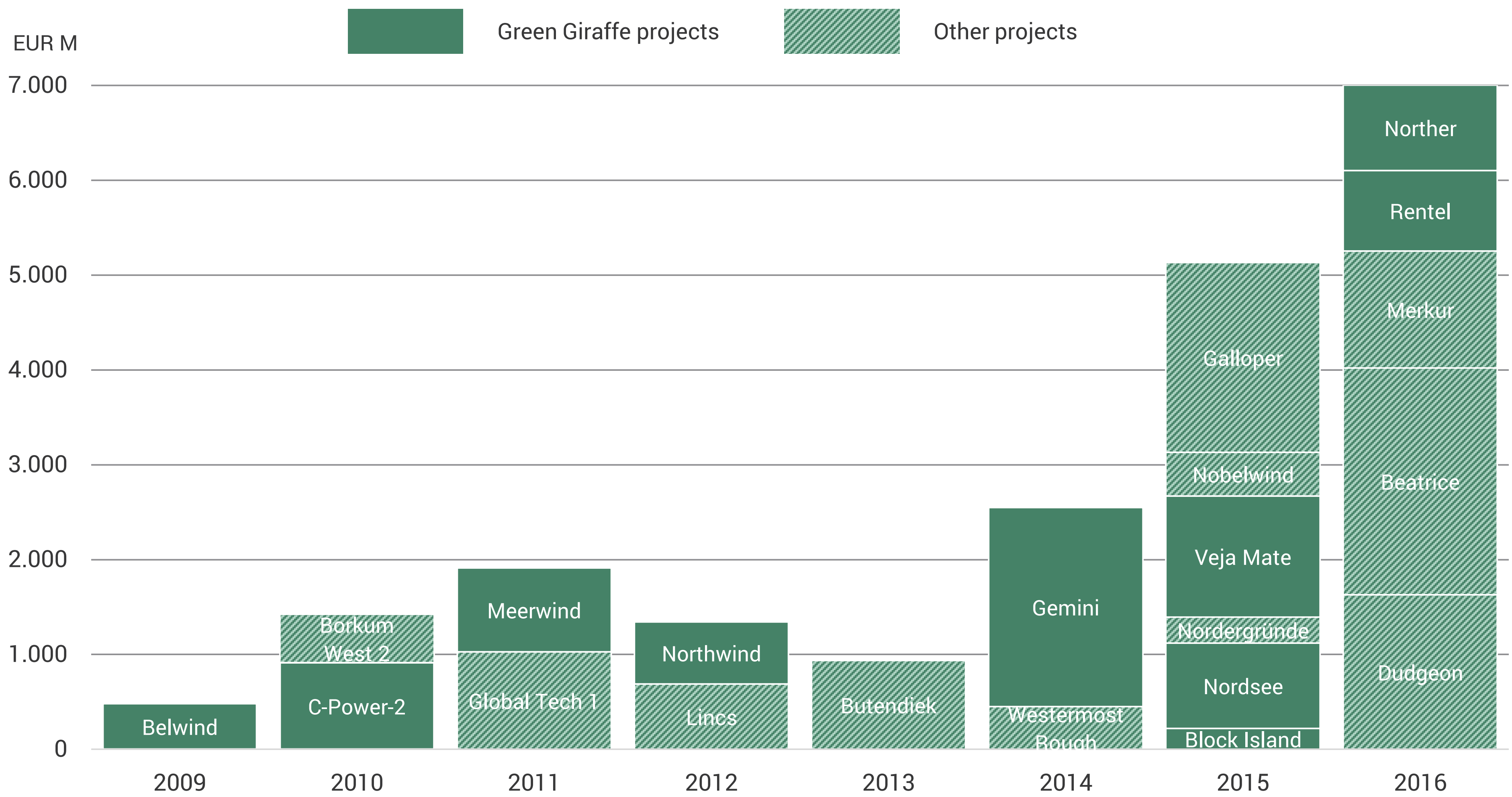
3. Debt market – with or without PF

Project finance already finances a significant fraction of overall new capacity



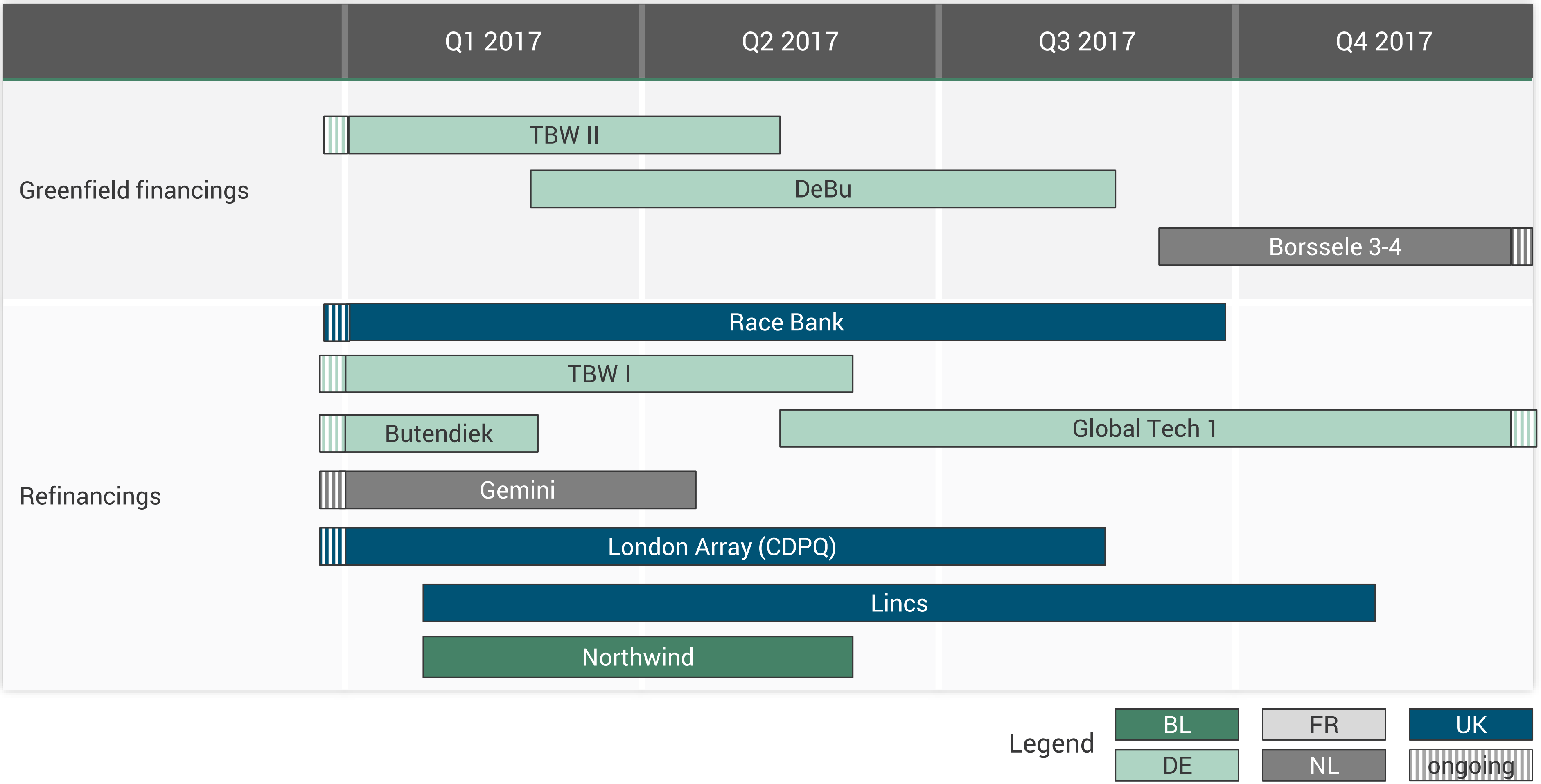
3. Debt market – deals and players

Projects financed to end 2016 with construction risk



3. Debt market – current projects

2017 is a busy year for offshore wind – especially on the refinancing side



Operational projects have taken advantage of favorable market conditions to improve terms

3. Debt market – deals and players

Market size and trends – available volumes

Commercial banks

- EUR 75-150 M exposure per bank per project, and 1-4 deals per year
- More than 50 banks have taken offshore wind risk today, at least 30 have construction exposure
- A dozen banks have the experience to lead an offshore wind financing
- At least EUR 5-8 billion in risk commitments available per year from the commercial market
- Additional appetite from debt funds and institutional investors

Public financial institutions

- Can typically bear approximately a third to half of the risk and/or funding of a transaction
- Some geographical / national restrictions (ECAs linked to exports, KfW and GIB only act in Germany, resp. the UK)
- Will only do deals alongside commercial banks, so cannot be tapped on their own (other than for corporate loans)
- Small deal teams, so availability is a constraint
- Can contribute as much as the commercial banks in any given deal
- Are no longer indispensable in the market, so have improved their commercial approach to projects

Altogether, there is debt funding available for several utility size projects (400 MW) per year

3. Debt market – current terms and conditions

Market trends – history

Typical project finance conditions - offshore	Leverage	Maturity post-completion	Pricing	Maximum underwriting
2006-2007	60:40	10-15 years	150-200 bps	EUR 50-100 M
2009-2011	65:35	10-15 years	300 bps	EUR 30-50 M
2012-2013	70:30	10-15 years	300-375 bps	EUR 50-75 M
2014-2015	70:30	10-15 years	200-250 bps	EUR 100-200 M
2016-2017	75:25	15-17 years	150-225 bps	EUR 100-150 M

Debt is currently extremely cheap

- Margins rose after the crisis (reflecting higher bank cost of funding), but have been trending down since 2014
- With low underlying rates, the overall cost of >15-year debt is now around 3%

Structures (ratios, maturity, covenants) have actually been quite stable since 2007

- Debt terms fundamentally driven by regulatory framework (duration, merchant risk, public financing opportunities)
- Commercial fights are rarely about debt sizing or pricing
- General improvement in commercial terms over the past two years

3. Debt market – current terms

New balance between lenders and borrowers needs to be found

Since the crisis, banks have refocused on known clients, core countries and strategic sectors of activity

- The good news is that offshore wind is unambiguously “strategic” for many banks today
- Countries where offshore wind is developing are seen as “safe” (Northern Europe) and core for most banks

In 2017, there is (again) more funding available than there were bankable deals

- Slightly fewer deals brought to the market than banks were expecting, along with weak activity in other sectors
- Increased capacity does not translate into lower standards, so weak projects will not be financed
- Excellent liquidity for good projects

Increased diversity of structures

- Post-construction refinancing (Baltic 2, Luchterduinen)
- Minority stake financings (Gunfleet Sands, Walney, London Array, Westermost Rough, Baltic 2)
- Construction risk capacity available in all jurisdictions (Norther, Gemini, Deutsche Bucht, Deepwater, Beatrice)

Continued high level of activity expected

- More refinancings (GT1, N1, Veja Mate, etc)
- Borssele 3-4
- French and new Belgian projects once appeals and regulatory issues are sorted out

3. Debt market - a good project find its funding

.. if it is structured well!

The obvious – a stable and appropriate regulatory framework

- Stable, consistent, reliable legal framework
- No volume risk (certainty about grid connection)
- Incentive & support mechanism that makes the economics acceptable

The developer's job

- Be clear about your financing structure early on - it will impact your contractual structure
- The debt market is consistent in its requirements –structures are predictable and you can prepare for that
- When using project finance, do extensive risk analysis and expect (intrusive) due diligence
- Use the lessons learnt (sometimes the hard way!) by hiring experienced advisors

Increased liquidity does not translate into lower standards, weak projects will not be financed!

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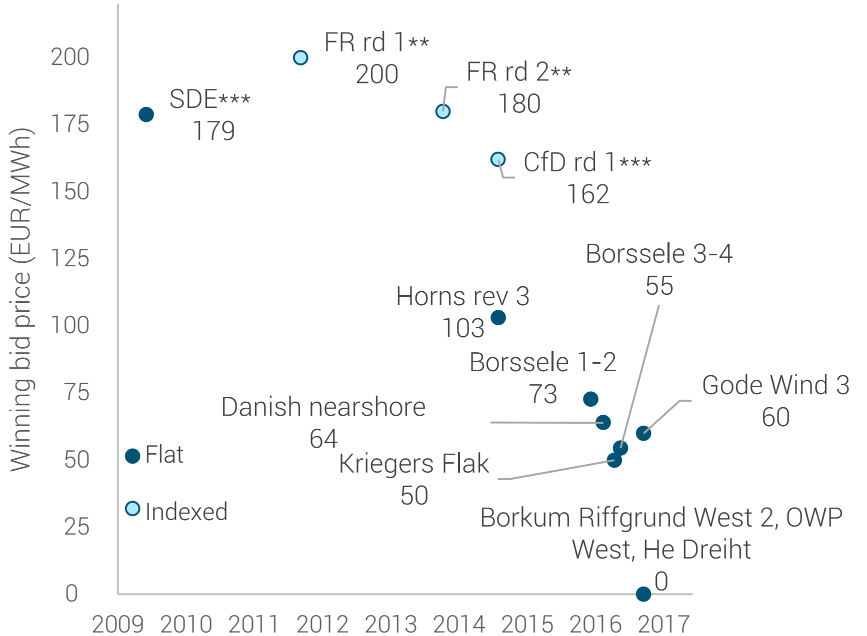
4. Considerations on recent tenders

Tenders have brought prices down surprisingly fast

While headlines prices are not always comparable between countries, the overall downward trend is spectacular

Recent tender results



* Bid prices exclude interconnection costs
** Based on estimates made in public statements (bid results are confidential)
*** Based on weigthed MW-average for all projects awarded

Tenders have brought focus on price

- Previously the focus was on mitigating risks; priority is now on lowering LCOE/bid prices
- Investors and contractors have the experience to better understand risks and assess them more precisely

Competition across the value chain helped decrease prices

- Real competition amongst turbine suppliers with several contractors available with good turbines
- Utilities are natural contenders in auctions given the level of integration, expertise and cost of capital and have dominated recent auctions – but not all

Another factor is the favourable financial context

- Industry perceived as maturing, attracting record low cost for equity and debt
- Perception of offshore wind risk is improving as experience and track record builds up

4. Considerations on recent tenders

A maturing market – rapid progress towards price reduction

More experience and more competition across the value chain

- Competitive funding for all phases of projects – development, construction and operation, with multiple willing investors
- The supply chain is getting more comfortable with the risks and both costs and "buffers" are going down
- The consolidation of the sector has actually helped build strong competition amongst a small number of credible players for all core tasks (turbine suppliers, marine construction companies with "wrap capabilities", suppliers for cables, offshore substations, foundations, and installation vessels)

Developers are also willing to be more aggressive, especially in the context of tenders

- Build up of experience and know-how translates into more willingness to take construction and long term operation risks
- Knowledge of the potential upsides from projects (improved performance, lower costs, and sale/refinancing potential)
- The move to tenders for pre-developed sites reduces the need to commit high-risk (and thus expensive) devex

Finance

- General trend towards IRR compression as risks are better understood and more players invest in the sector (but nobody has done anything stupid to date)
- Low underlying cost of money is also favourable today to this capital-intensive industry

The auctions accelerated the downward movement of tariffs but the industry was ready

4. Considerations on recent tenders

Zero bids brought an increased focus on the stability of revenues

The zero bids experienced in the German offshore tender result in a specific focus on risk exposure to market prices and offtake agreements

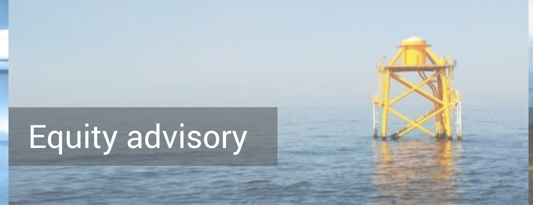
Yet unclear what structures will emerge and what will be the role of the offtakers

- A few renewable projects in Europe have already been financed with corporate PPAs, following the USA
- Special attention should be given to counterparty risk, role and responsibility the offtakers and the intermittent nature of the electricity production versus the electricity demand pattern of the corporate
- Allocation of price risk (via fixed prices, floors or other) is the key question
- Synthetic PPAs (or financial hedging) through financial institutions
- Other out of the box solutions (Deepwater/Tesla)

Two of the questions to find out if project finance can remain competitive are:

- Against which revenue structures are banks willing to lend money? Which minimum requirements do they have?
- What is the impact on financial structuring?

New solutions are needed to allocate risks efficiently amongst banks, offtakers and developers



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