Green Giraffe
The renewable energy financial advisors

Offshore wind finance – 2016 update

Energy Talk

London, 8 December 2016

Project finance forum for offshore wind farms

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A specialist advisory boutique focused on renewable energy

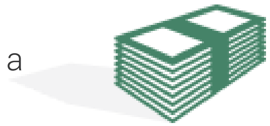
We get deals done

Deep roots in renewable energy finance

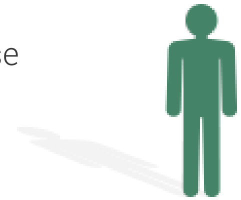
- Launched in 2010 by experienced finance specialists with a **strong and proven track record** in renewable energy
- 50+ professionals with offices in Hamburg (Germany), London (UK), Paris (France) and Utrecht (the Netherlands)
- Multi-disciplinary skill set including **project & structured finance,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

High quality, specialised advisory services

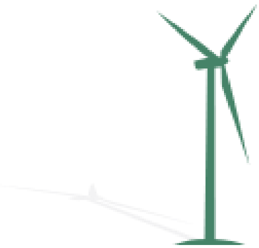
- Focus on projects where we can actually add value
- We can provide a holistic approach and are able to include sector-specific tasks in addition to traditional debt or equity advisory (such as contracting, strategic advisory and development services)
- Widening geographical reach with a burgeoning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



More than **EUR 11 billion** funding raised for renewable energy projects in **6 years**



50+ professionals in **4 countries**



Involved in over **75 renewable energy projects** with a capacity of more than **15 GW**

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2. Equity strategies – funding options

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

Large projects are typically developed through a stand alone project company:

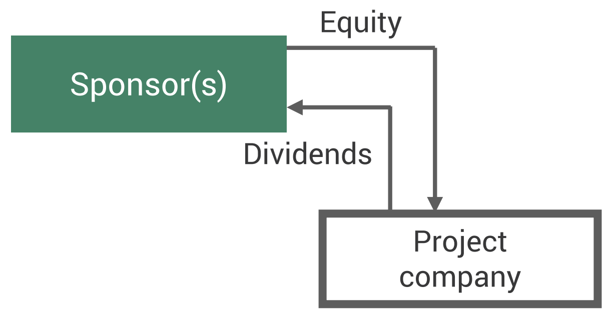
- Owned by the project investors
- With its own revenues & balance sheet and thus the ability to raise debt on its own merits

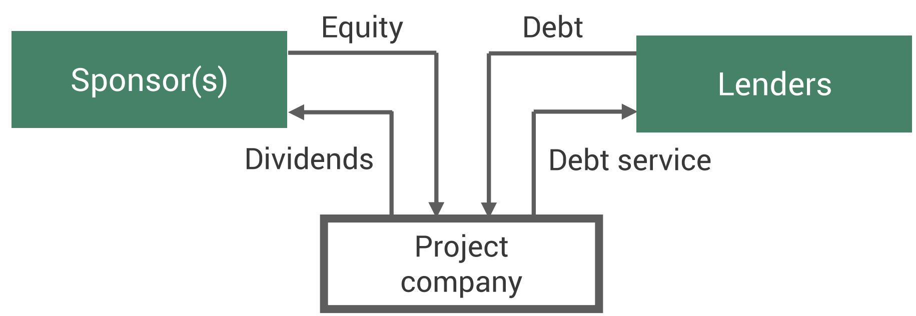
There are only two discrete sources of funding:

- 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 banks' requirements!
- Tax, accounting, consolidation and rating issues





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

2. Equity strategies – the different profiles

Investors and appetite for risk

Investor	Perm.	Dev.	Constr.	Ops.	Notes	PF
Utility	Yes	Yes	Yes	Yes	A proven solution. Requires good cooperation to manage projects jointly as few are willing to take passive stakes. Many are "full"	If possible
IPP	Yes	Yes	Yes	Yes	A few developers reaching that stage (PNE, wpd), some outsiders entering the scene (NPI, Deepwater, Highland). Flexible & pragmatic	Yes
Private equity	Some	Some	Some	Yes	Require high returns and typically either involvement in dev. phase and/or aggressive long term assumptions. Control & exit are issues	Yes
Municipal utility	No	Maybe	Some	Yes	Have small but strong balance sheets. Can be part owners. Slow decision process. Stringent risk requirements. Required IRR is low	Probably
Sovereign wealth funds	No	Maybe	Some	Yes	Require simple contracting structure, long term O&M agreements and controlling partner. Masdar took on construction risk	Not necessarily
Infra funds	No	No	Maybe	Yes	A large universe of potentially interested parties. Most still require construction risk mitigation and long term O&M agreements	Probably
Corporations	No	No	Maybe	Yes	Invest to hedge power price risk or for strategic/marketing reasons. Happy (or require) to be minority shareholder strategic investor	Not necessarily
Pension funds	No	No	Maybe	Yes	Generally do not like construction risk. Some have shown interest to step in at FC (done on Butendiek). Need long term O&M agreements	Not necessarily
Contractors	No	Maybe	Yes	Yes	Are taking stakes or providing subordinated vendor loans to secure project pipeline. Often need a clear perspective on exit after COD	Not necessarily

2. The equity market

An active offshore wind market in 2016

A lot of recent regulatory changes

- Germany voted new EEG regime mid 2014 and provided FiT clarity on volumes to be built by 2025
- 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
- 2.5 GW awarded through the Dutch and Danish tenders in the second half of 2016
- 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 a new round for fixed offshore is being prepared

An active equity market

- Multiple transactions in 2016 in several countries (UK, France, Germany)
- Appetite for assets under development (Beatrice, Inch Cape, EMF, Global Tech 2), assets under construction (Rampion) and operational assets (Burbo Bank, LID, Meerwind)
- Emergence of Chinese buyers (CTG, SDIC) and continued active presence of Japanese and Canadian investors
- Expectations of continued high transaction volume in 2017 (sale of GIB, exit of Statkraft, etc.)

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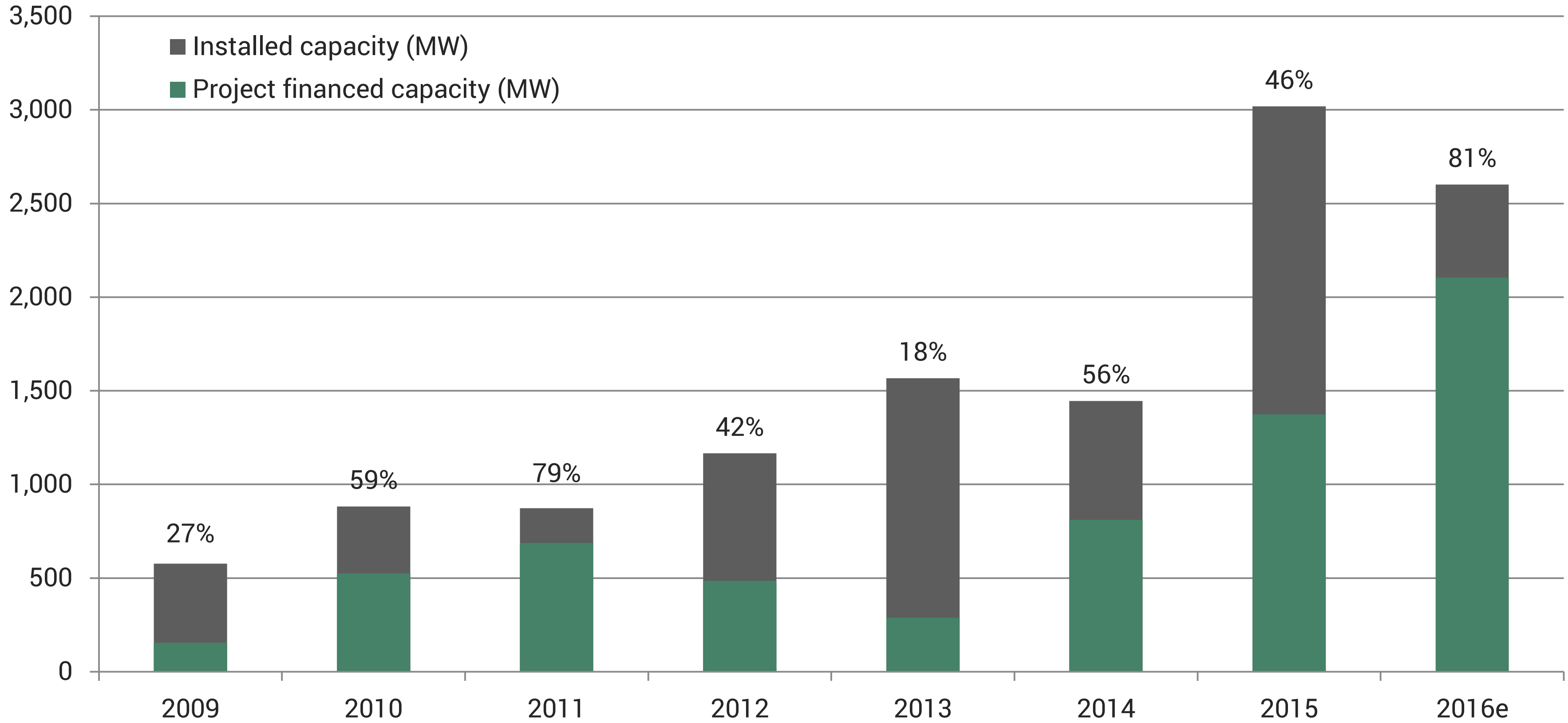
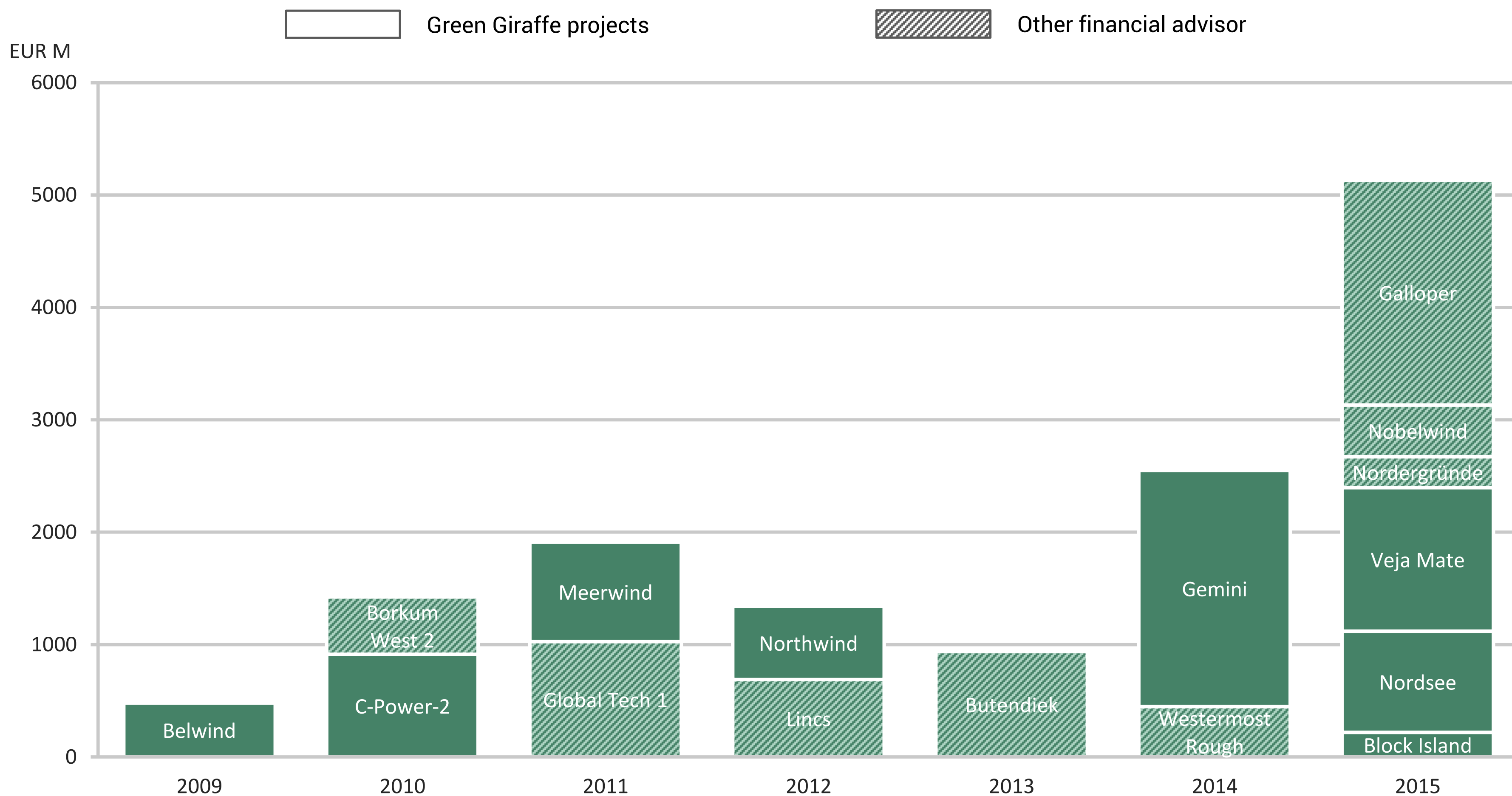
3. Offshore wind project finance – with or without PF

Project finance already finances a significant fraction of overall new capacity



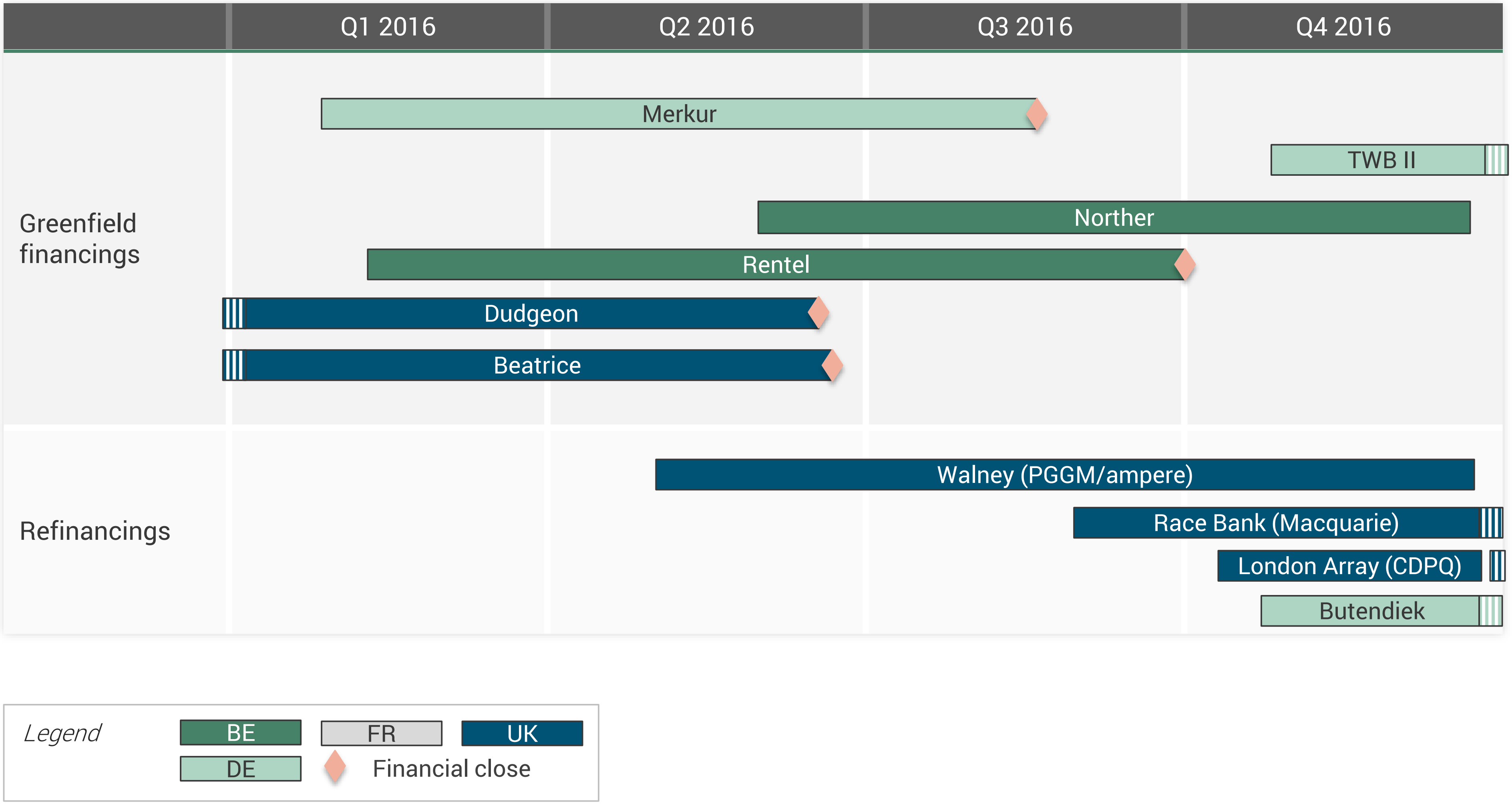
3. Offshore wind project finance – deals and players

Projects financed to date (with construction risk)



3. Offshore wind project finance – current projects

2016 was a busy year for offshore wind – a dozen greenfield projects and refinancings



The market has absorbed the funding demand to date, but with tensions on the GBP deals

3. Offshore wind project finance – 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

Altogether, there is debt funding available for 10+ industrial size projects (400 MW) per year

3. Offshore wind project finance – 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	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. Offshore wind project finance – 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 2016, there was (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 (Luchterduinen)
- Minority stake financings and refinancings (Race Bank, Walney)
- Construction risk capacity available in all jurisdictions (in 2016: UK, DE, BE)

Terms are more competitive

- Margins below 200 bps, on top of very low base rates gave all-in rates close to 3% in the eurozone
- Long term debt is available, gearing has finally broken the 70% limit and financial structures have been further optimised

A good project finds 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. Offshore wind – a mature 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 gong down
- The consolidation of the sector has actually help 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. Conclusion

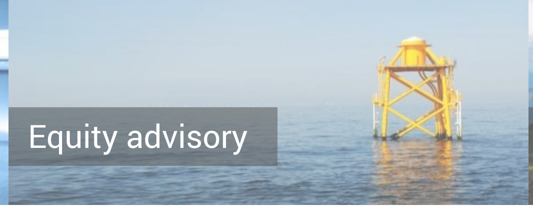
It's never going to be "plain vanilla"

Risks are still there however and will always require careful management

- The sector offers a uniquely difficult combination of risks (multiple suppliers from very distinct industries with no natural coordinator, unavoidable weather uncertainty, ongoing technological change, rapid industrial build-up) to which there is no obvious, or single, mitigation route
- The leading players have built up an impressive body of knowledge but this is not necessarily something easy (or that they are willing) to share

What next?

- The German auction will be "interesting" to watch
- Floating foundations as a game changer? Will they match the same downward cost trend?
- Cost of the next UK offshore wind tender?
- What happens to nuclear (Hinckley Point) in a world of 50-70 GBP/MWh offshore wind power?



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