



# Project finance for German offshore wind

Tallinn, 8 February 2017

# 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



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

### 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!**



**50+ professionals** in **4 countries**



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

# Project finance forum for offshore wind farms

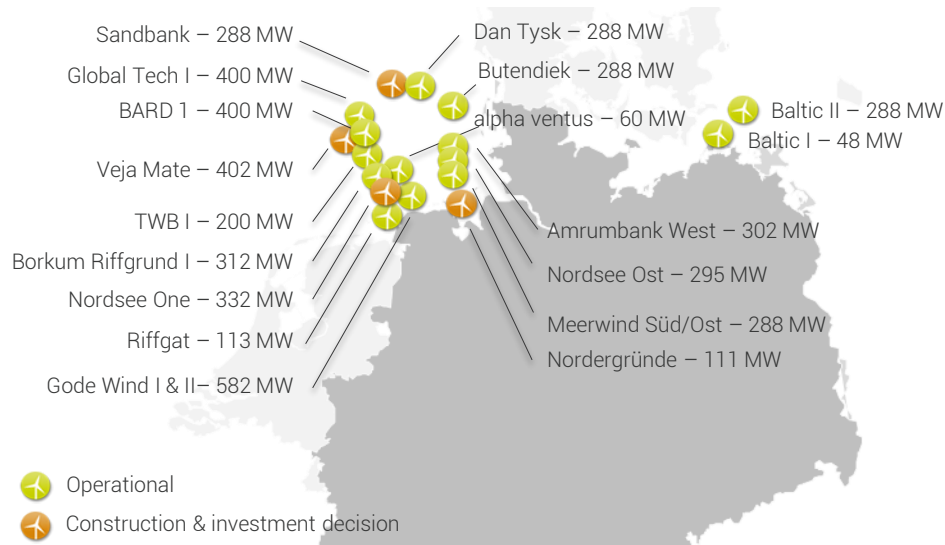
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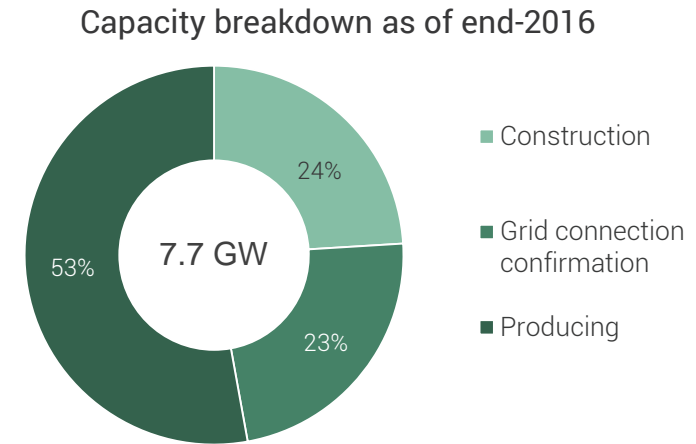


# Status current offshore wind market

## Map of the projects



## Current and forthcoming capacity



### Operational

- 15 projects fully operational (including Baltic Sea)
- 947 turbines – 4.1 GW installed capacity (as of end 2016)

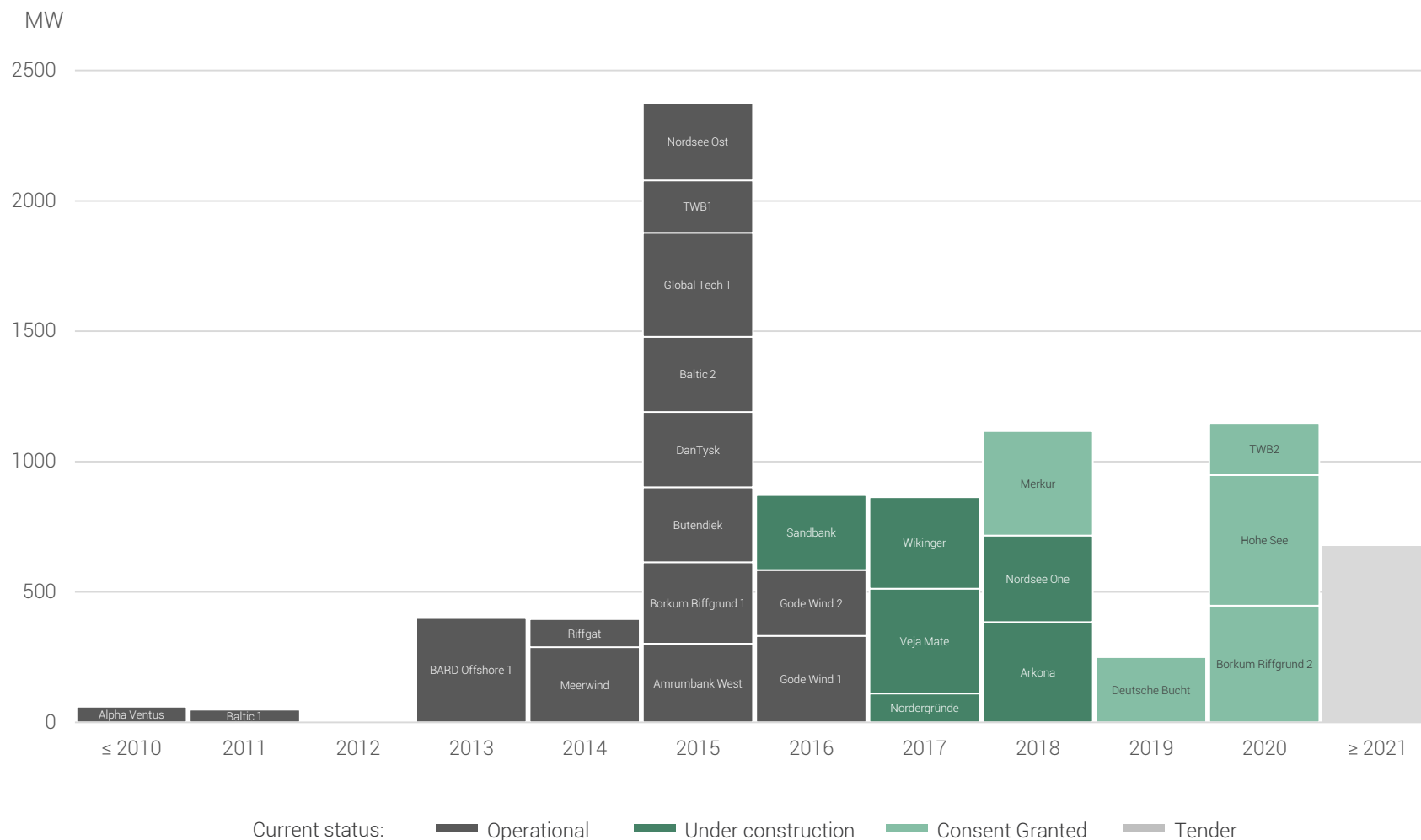
### Under construction

- Four projects with a total of 1.1 GW expected to be fully commissioned in 2017
- Another seven projects expected to commission by 2020



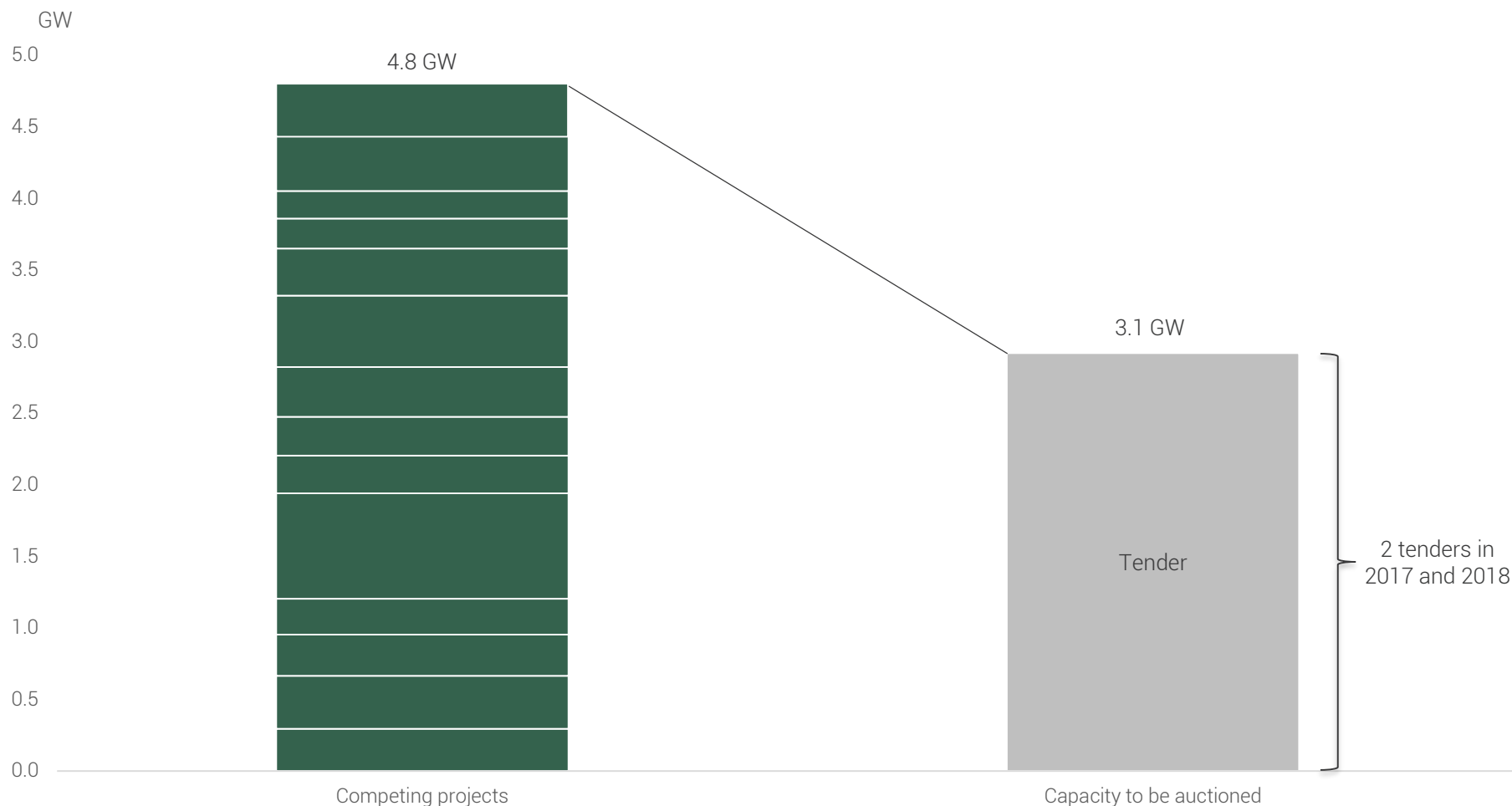
# Status current offshore wind market

## Project development pipeline as of January 2017



# Status current offshore wind market

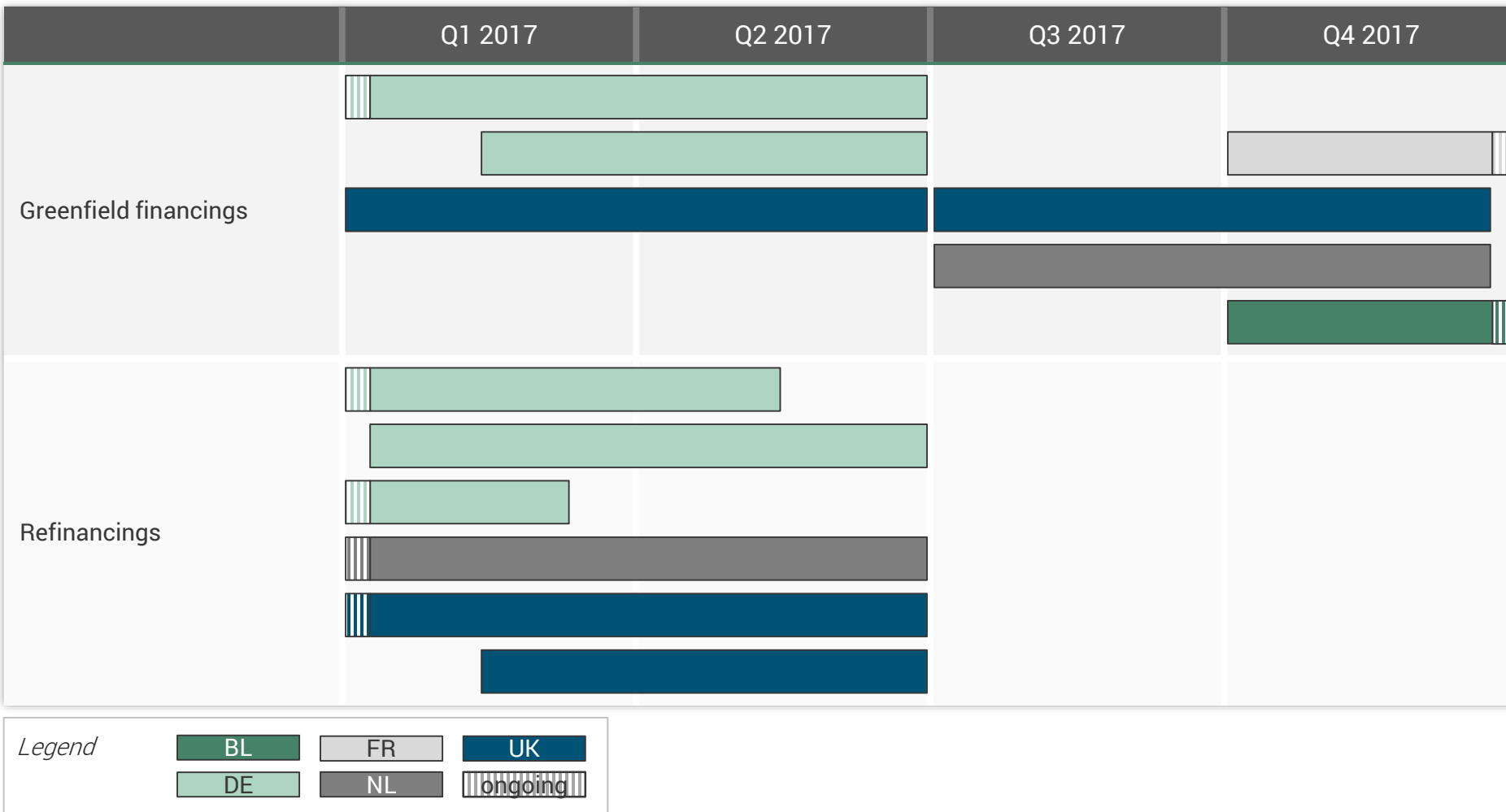
## Project development pipeline for the 2021-2024 period



\* Projects already in an advanced state of planning allowing them to compete for the two auctions

# Status current offshore wind market

2017 will be a busy year for offshore wind – a dozen greenfield projects and refinancings





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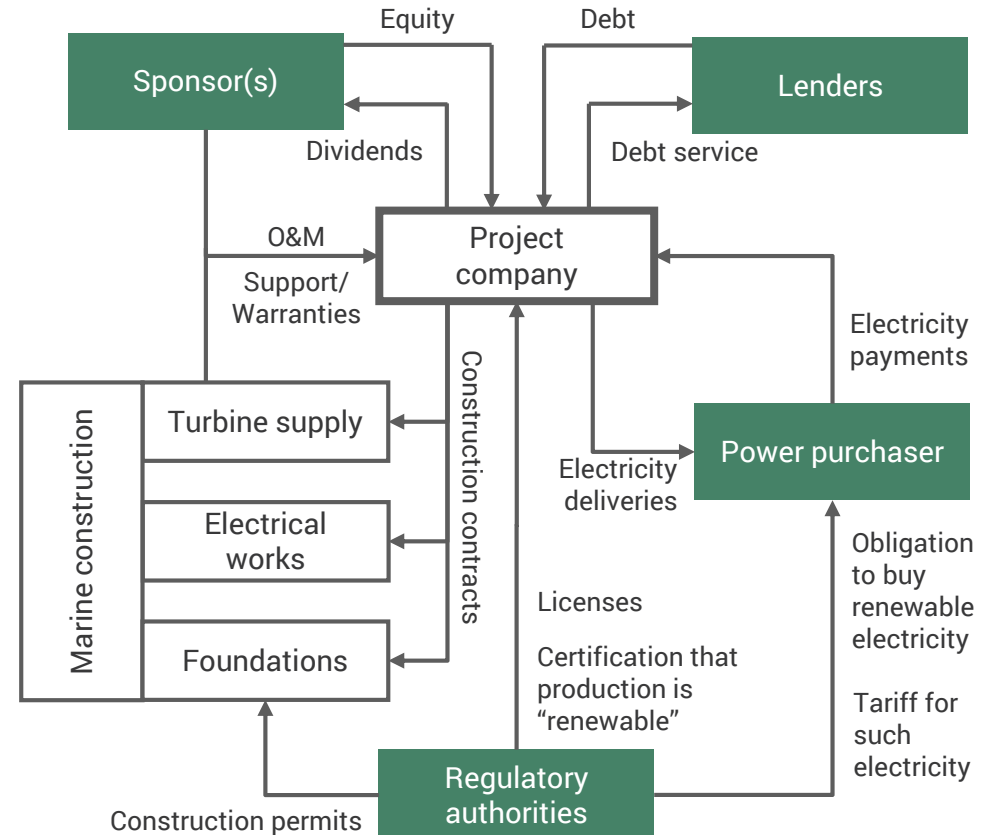


# How projects are financed

## Offshore wind transactions are always heavily contracted

### Major contracts include

- Permits, licenses, authorisations, etc...
- Construction/supply contracts
- Electricity sales contracts (and, if applicable, green certificates / RO contracts)
- O&M contracts
- Financing documents



## Offshore wind is a quintessential example of a comprehensive contractual structure

# How projects are financed

## How banks look at offshore wind – Terms and conditions

Typical project finance conditions - offshore	Leverage	Maturity post-completion	Pricing	Maximum underwriting
2009	70:30	15 years	300 bp	EUR 30-50 M
2010-2011	65:35	12-15 years	250-300 bp	EUR 50-75 M
2012	70:30	10-15 years	300-375 bp	EUR 30-50 M
2014	70:30	10-15 years	250-300 bp	EUR 100-150 M
2015	70:30	10-15 years	< 275 bp	EUR 200-300 M
2016	75:25	15 years	< 225 bp	EUR 100-200 M

### Debt is not expensive

- Margins have risen after the crisis (reflecting higher bank cost of funding), but the overall cost of debt has been stable
- Margins and base rates have both decreased recently and overall cost of >15-year debt is now well below 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

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# Veja Mate – Introduction

## From acquisition to Financial Close in only 10 months

### Ambition ran high...

- Veja Mate was acquired in September 2014 by a relative unknown sponsor (Highland) without an in-house team, from a bankrupt developer (Bard)
- It required re-permitting, re-engineering, re-contracting and execution of a full financing (equity and debt) process, and all would need to be done to a very high standard to not only satisfy investors but also the future lenders and their diligent advisors. Cutting corners was not an option
- The target was simple: achieve financial close by 30 June 2015 (only 10 months later) or risk losing grid connection

### ...but the target was achieved

- Quick decision making, ability to take calculated risks and a lot of work meant financial close was achieved on 29 June 2015 with one day to spare!
- This presentation gives an overview of how this was achieved, focussing on the contracting and financing aspects

# Veja Mate – Introduction

## SWOT analysis – what made this possible and what were the threats?

### Strengths

- Dynamic owner (Highland) able to take calculated risks
- Robust German regulatory framework
- Operational grid connection
- Excellent wind resource
- Highly motivated team of advisors
- Momentum from the development work done by the same team on Deutsche Bucht

### Weaknesses

- Highland was a relative unknown in the market
- Engineering & contracting work to be done from scratch
- Long distance to shore and relatively deep water created technical (and cost) challenges

### Opportunities

- Key contractors keen to get involved
- Increased interest in investing in offshore wind power
- Large volumes of relatively cheap debt available for offshore wind (for well structured projects)

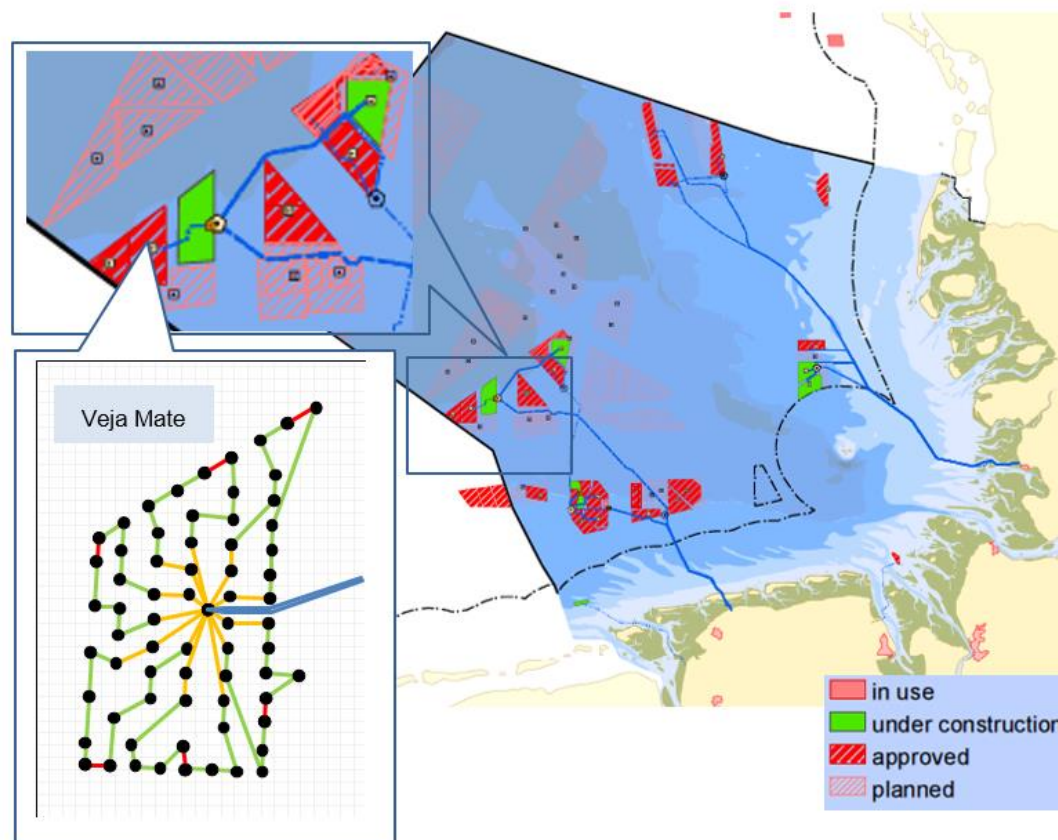
### Threats

- Extreme time pressure, linked to grid connection deadline and feed-in-tariff ramp down
- Permit would need updating
- Bard administration process

# Veja Mate – The project

## Project figures

	Veja Mate
Rated capacity	402 MW
Project life	25 years
WTG rated power	6 MW
Number of WTGs	67
WTG rotor size	154m
Zone area	BorWin
Foundation	Monopile
First power	H1 2017
Mean wind speed	10.1 m/s
Net capacity factor	~ 48%
Annual production	~ 1.6 TWh
Distance to shore	95 km – 131 km
Water depth	~ 39m LAT





# Veja Mate – The project

## Development organisation; a unique approach, but it worked...

Highland is a very small organisation and thus a substantial part of the development work was carried out by an advisory group acting in consort with day-to-day autonomy

Green Giraffe provided commercial / financial input, CMS provided legal and tax input and K2 provided technical input and package management

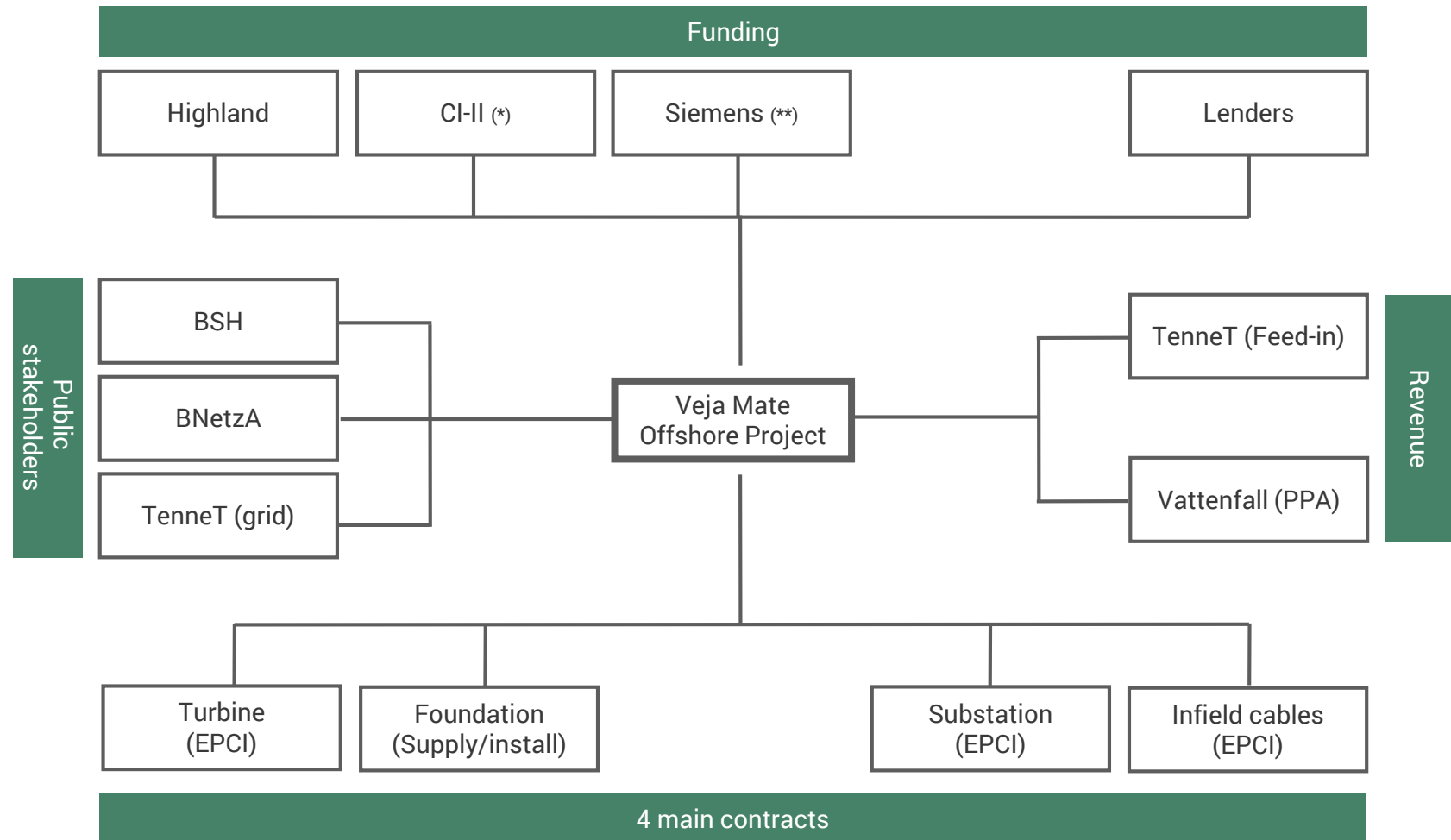
An example of how this worked was on each EPCI contract: each package had a technical package manager (K2), a commercial manager (Green Giraffe) and a lawyer (CMS) who worked together and reported as a unit to management



Key role	Party
Steering committee	Highland, Green Giraffe, K2
CEO	K2 (initially), Green Giraffe (later on)
CFO	Green Giraffe
Package managers	K2
Commercial managers	Green Giraffe

# Veja Mate – The project

## Project stakeholders



(\*) The investment will be made by Copenhagen Infrastructure II ("CI-II") a fund managed by Copenhagen Infrastructure Partners. To simplify, the term CI-II is used synonymously throughout the document  
(\*\*) the legal entity is Siemens financial services

# Veja Mate – The contractual framework

## A solid contractual structure with 4 supply and install packages

	Wind turbine	Foundations	Substation	Cable
	SIEMENS EPCI	OFFSHORE WIND FORCE	FICG EPCI	SIEM EPCI
Design	<ul style="list-style-type: none"> <li>Certified tower / foundation design prior to financial close</li> </ul>	<ul style="list-style-type: none"> <li>Design with bolted connections</li> </ul>	<ul style="list-style-type: none"> <li>Fabricom, Iemants &amp; CG JV (joint &amp; several)</li> <li>Design, supply, installation</li> <li>Provision of the installation vessel (Hermod)</li> </ul>	<ul style="list-style-type: none"> <li>33 kV XLPE 3-core submarine power cables with copper conductors</li> </ul>
Supply and installation	<ul style="list-style-type: none"> <li>67 x Siemens 6.0-154</li> <li>5 plus 2 year DNP</li> <li>Provision of the installation vessel</li> </ul>	<ul style="list-style-type: none"> <li>Volker Stevin &amp; Boskalis JV (joint &amp; several)</li> <li>Installation vessel by SeaJacks</li> <li>Monopile fabrication by EEW/Bladt</li> </ul>		<ul style="list-style-type: none"> <li>SIEM with JDR as cable supply subcontractor and Seaproof as cable protection system</li> <li>Design, supply, installation incl. installation vessels (Moxy and Amery)</li> </ul>

Wind O&M
SIEMENS
<ul style="list-style-type: none"> <li>15 year O&amp;M agreement with Siemens</li> <li>Guaranteed availability, minimal lead times, high cost certainty</li> <li>Scheduled and unscheduled O&amp;M</li> </ul>

Direct marketing
VATTENFALL
<ul style="list-style-type: none"> <li>Low pricing and no basis risk (reference price is equal to index used to calculate market premium)</li> <li>On first-demand parent company guarantee from Vattenfall AB</li> <li>100% compensation in case of curtailment</li> </ul>

# Veja Mate – Financing

## The standard Green Giraffe approach to debt, with some twists

### The package brought to the market was still partly “open”

- All contracts were still being negotiated and the due diligence reports had a number of material open points
- No issue was expected to derail the process, but the time pressure on all parties was intense
- This was offset by the banks' trust in their advisors, conservative debt conditions and a detailed term sheet

### Strict discipline in the bank selection

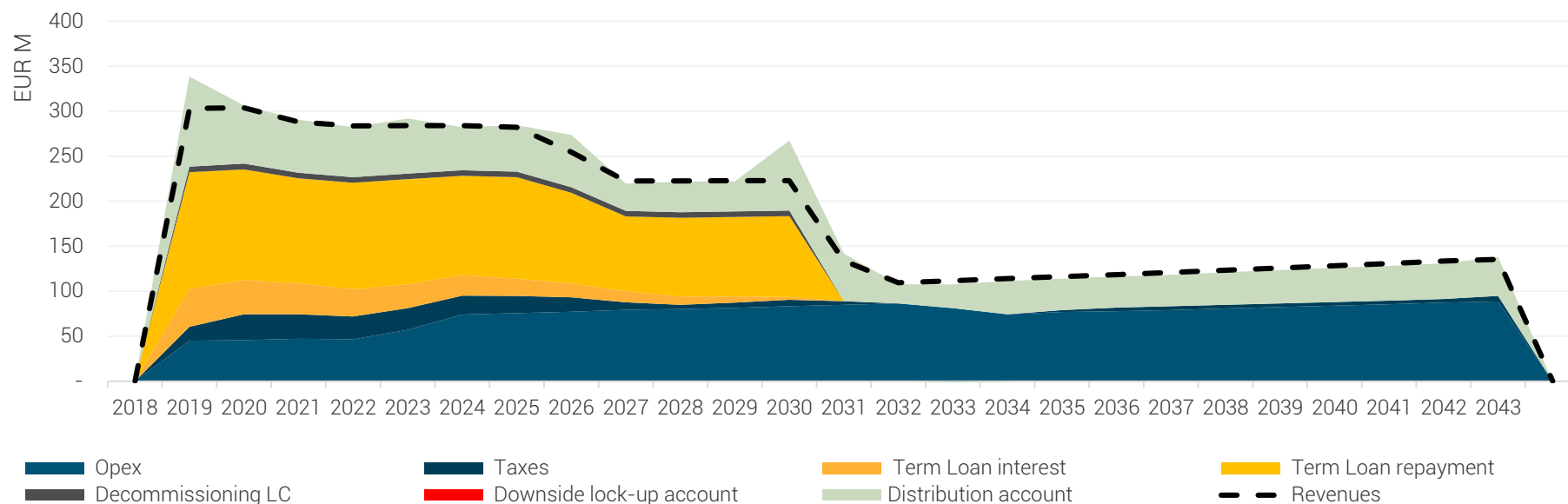
- The project received 13 offers out of the 14 banks approached (one bank said it could not meet the proposed timelines)
- The deal was oversubscribed six times
- All the lenders complied with the points set out in the RfP and with the financing term sheet. This is a first in Green Giraffe's experience and demonstrates the quality of the project, the conservative financial structuring and the prevailing liquidity
- The banks were mandated on the basis of explicit acceptance of the term sheet and available due diligence
- 6 banks were mandated, allowing for up to 3 “spares”, ensuring discipline during final documentation phase

# Veja Mate – Financing

## Project economics

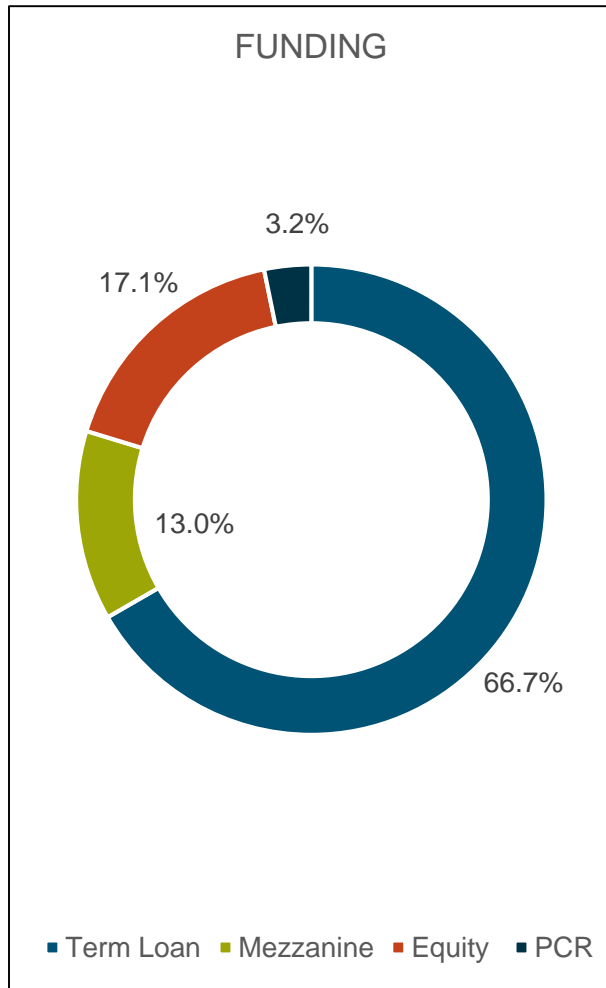
Key data	
Gearing constraint	66.67% of total uses
Sizing DSCR ratios	1.30x @ P90 energy yield
Maturity	12 years (within FiT period)
Contingent facilities	5 year repayment, if drawn, under capped cash sweep
PCR	~3.2% of total uses
Decommissioning LC	Linear cash collateralised between installation and final maturity
Pricing	Competitive margins (200-225 bps), an all-in cost of debt of ~3.4%

Main figures	
Tenor	12 years
Average DSCR	~ 1.4
Min LLCR	~ 1.45
Min PLCR (20 years)	~ 1.6
Average loan life (COD)	5.8 years



# Veja Mate – Financing

## A conservative financing structure



### Debt sizing

- 67:33 leverage, DSCR > 1.30
- Debt sized over 12 years based on P90 project cash-flow

### Equity contribution and PCRs

- Base equity funded at FC
- Standby equity backed by acceptable credit support
- Pre completion revenues (PCR) calculated based on conservative p99 1-year uncertainty energy estimate and capped at 3.3% of total uses

### NER300 revenues not taken into account for debt sizing

- EUR 112 M subsidy scheme set up by the EU

### Contingencies

- EUR 210 M contingent budget of which EUR 84 M is assumed to be used and part of the base case (and thus part funded upfront by equity)

# Veja Mate – Financing

## Debt funding

Uses	EUR M	%	Sources	EUR M	%
Capex (including planned reserves)	1,700	89%	Equity & Mezzanine	577	30%
Financing costs & DSRA	192	10%	Agreed PCR	62	3%
Working capital	24	1%	Term loan facility	1,277	67%
<b>TOTAL USES</b>	<b>1,916</b>	<b>100%</b>	<b>TOTAL SOURCES</b>	<b>1,916</b>	<b>100%</b>
Standby budget	126	100%	Standby equity	42	33%
			Standby loan	84	67%

### EUR 1,436 M senior debt facilities

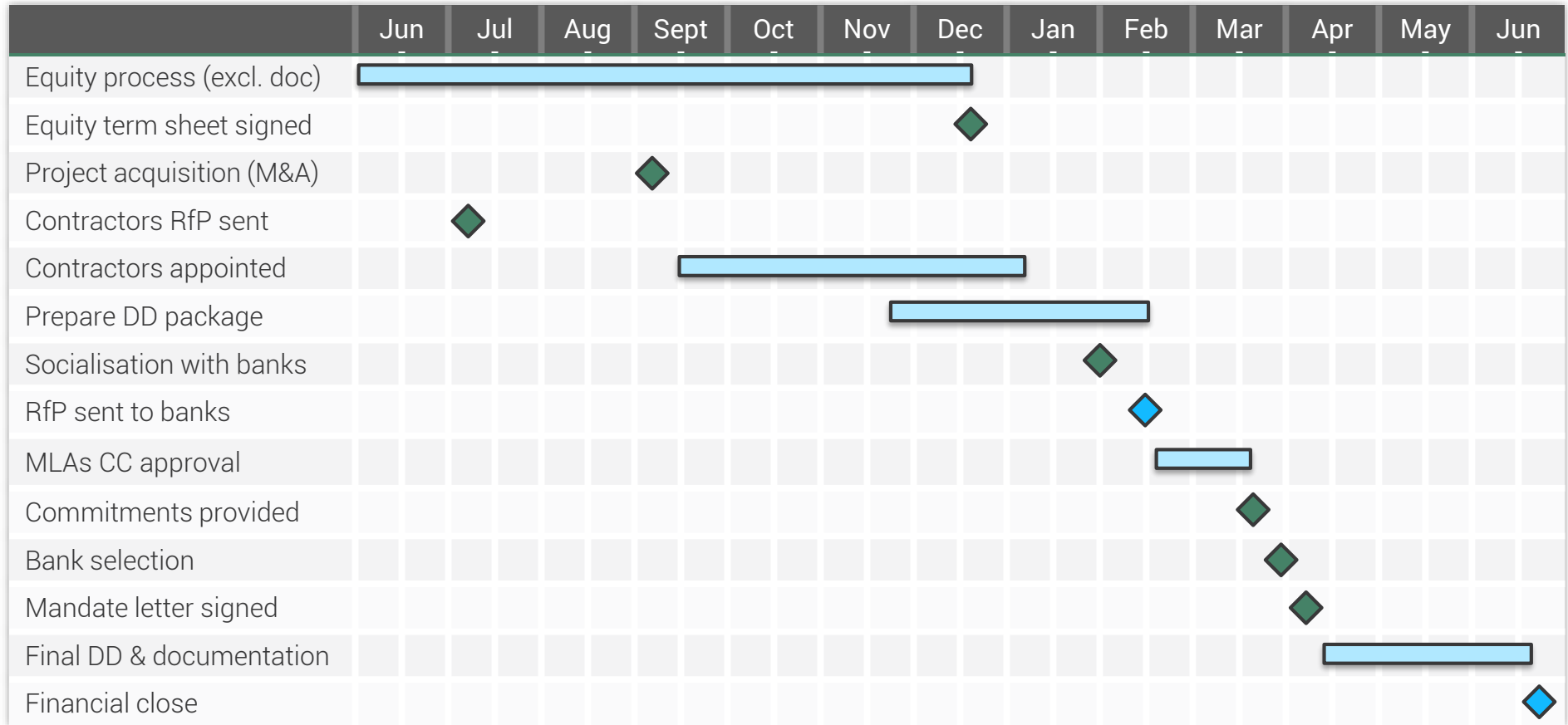
- EUR 691 M commercial term facility shared equally amongst Commerz, Deutsche, Santander, IpeX, SMBC and Natixis
- EUR 186 M EKF guaranteed term facility funded by Santander and KfW IPEX
- EUR 400 M KfW term facility available under the KfW offshore programme
- EUR 84 M contingent loan
- EUR 75 M decommissioning facility

### EUR 173 M of cash collateralised LCs



# Veja Mate – Financing

Financial close was achieved just over 4 months after bank launch



We started the equity process and the contractors tendering process before owning the Veja Mate project  
 We used all the development work done on Deutsche Bucht to jump start Veja Mate (copy/paste technique)  
 The banks were given very little time to submit an offer : 1.5 months between bank launch and commitment

# Veja Mate – Conclusions

## An achievement we are proud of

### Fast track late stage development is possible in offshore wind

- A dynamic management team able to make very quick decisions and take calculated risks is essential
- Key contractors are willing to (constructively) support the fast track process if they see real progress being made and the likelihood of a signed contract (and money...)
- Investors are increasingly willing to look at offshore wind construction risk, including pension funds. Development risk remains a special case

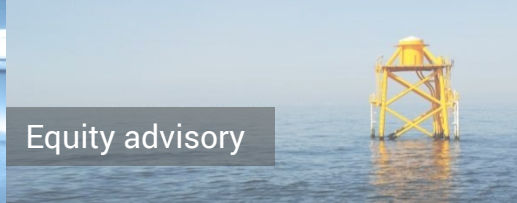
### Banks have not lowered their standards

- Veja Mate was able to approach the market early and still close quickly and effectively because the project was surrounded by people banks know and trust (Green Giraffe, CMS, K2, Sgurr, Watson, Farley & Williams, KfW, EKF etc.).
- The conservative terms also helped but the financing could not have happened without the trust
- In a highly liquid environment, public finance institutions and export credit agencies continue to play a valuable role, albeit not purely in the sense of helping to provide or attract liquidity

All in all this project shows the industrialisation of this sector continues at pace and that all sides of a project can come together to achieve financial close in a short period of time without compromising on quality.



Debt advisory



Equity advisory



Modelling



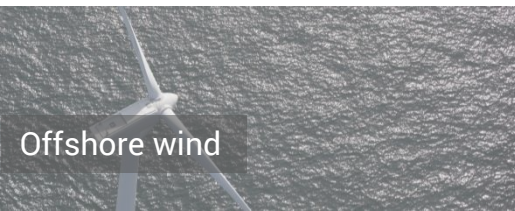
Strategic advisory



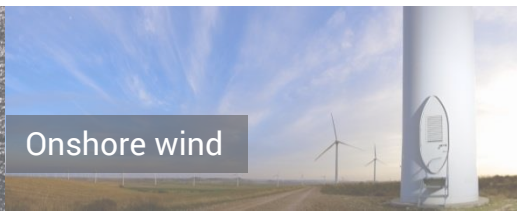
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Offshore wind



Onshore wind



Solar



Other renewables