

Looking through the Project Finance Market for European Offshore Wind to form a basis for Turkish Offshore Wind Project Finance Structures (2)

*Research Memo by Ozlem Kildir, Profinstance©
Instructor of Energy Financing at the Sabancı University Graduate Program for Energy Management & Technologies
Financial Consultant for WindThink*



Özlem Kildir,
Instructor, Sabancı University
ozlem.kildir@wind-think.com

Project Finance Loan Terms & Conditions in the European Offshore Market and the evolution of Project Financing Structures

Lenders

Borrowers

Loan Facilities

Maturity

Pricing

Security

Financial Covenants

Project Finance Loan Terms & Conditions in the European Offshore Market and the evolution of Project Financing Structures

Lenders of Project Finance Loans of Offshore Wind Projects

Commercial banks, state banks, multilaterals, export credit agencies are well-placed in the global and mainly European offshore market. In the initial examples development bank and ECA structures were common, where commercial banks increased their risk appetite, for offshore wind financing. Over 30 international commercial banks with offshore financing experience, are active in the market. In general, when the project investment cost is over 50-150 million EUR a club loan or consortium lender group is formed, with an underwritten amount of 30-50 million EUR, in the European structures.

Looking at how onshore wind financing structures have evolved in the Turkish market it is acceptable to assume a development bank and ECA involvement at first. Also, the current market conditions would favor a lower interest rate capability in the financings.

Initial funds needed for wind measurements, geological surveys, designs and technical due diligences would be based on equity investments backed by corporate lines as the first Geothermal Project Financings have been done in the Turkish market.

COMMERCIAL DEBT PROVIDERS TO OFFSHORE WIND

Bank	Home market	Stage of lending	Example projects with location
National Australia Bank	Australia	Operation	Lynn and Inner Dowsing
Belfius (formerly Dexia)	Belgium	Construction stage	Northwind, Thornton Bank (Phases 2 & 3)
BNP Paribas	France	Construction, Operation	Lincs, Northwind, Lynn and Inner Dowsing
Crédit Agricole CIB	France	Operation	Lynn and Inner Dowsing
Natixis	France	Construction	Global Tech
Société Générale S.A.	France	Construction	Global Tech, Thornton Bank Phases 2&3
LBBW	Germany	Construction	Baltic 1
BayernLB	Germany	Construction	Butendiek
Bremer Landesbank	Germany	Construction	Butendiek
Commerzbank	Germany	Construction	Meerwind
Deutsche Bank	Germany	Construction	Borkum West II
HeLaBa	Germany	Construction	Butendiek
HSH Nordbank	Germany	Construction	Butendiek
Nord/LB	Germany	Construction	Global Tech
SEB	Germany	Construction	Butendiek, Global Tech, Borkum West II
Siemens Financial Services	Germany	Construction	Butendiek, Walney, Meerwind
Bank of Ireland	Ireland	Operation	Lynn and Inner Dowsing wind farms
Unicredit Bank	Italy	Construction	Butendiek
Bank of Tokyo-Mitsubishi UFJ	Japan	Construction	Lincs, Meerwind
Mizuho Corporate Bank	Japan	Operation	Gunfleet Sands
Sumitomo Mitsui Banking Group	Japan	Operation	Gunfleet Sands
ASN Bank	Netherlands	Construction	Blight Bank Phase I, Northwind
ING Bank N.V.	Netherlands	Construction	Northwind, Butendiek
NIBC Bank N.V.	Netherlands	Construction, Operation	Baltic 1, Global Tech, Borkum West II, Lynn and Inner Dowsing
DNB Bank	Norway	Construction	Lincs
Banco de Sabadell SA	Spain	Construction	Global Tech
Banco Santander	Spain	Construction and Operation	Walney, Lincs
BBVA	Spain	Operation	Lynn and Inner Dowsing
HSBC	UK	Construction	Lincs
Lloyds TSB	UK	Construction, Operation	Lynn and Inner Dowsing, Walney, Lincs, Meerwind

Source: Clean Energy pipeline VB, Infrastructure Journal

ECA AND MULTILATERALS INVOLVED IN OFFSHORE WIND

Lender type	Bank	Market	Example projects
State development bank	KfW	Germany	Butendiek, Meerwind, Thornton Bank, Borkum West, Global Tech 1, EnBW Baltic 1
Green state bank	Green Investment Bank	UK	Walney, Rhyl Flats (equity), London Array
ECA	EKF	Denmark	Blight Bank, Butendiek, Thornton bank, Prinses Amalia
ECA	GIEK	Norway	Northwind
ECA	ONDD	Belgium	Northwind
Multilateral	EIB	European	Blight Bank, Butendiek, Thornton bank, Borkum West, Global Tech 1, Thanet, EnBW Baltic 1, Northwind, London Array

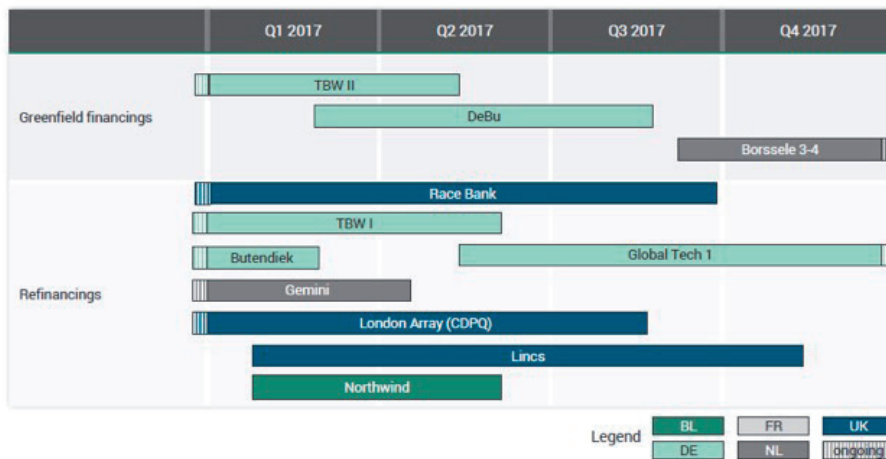
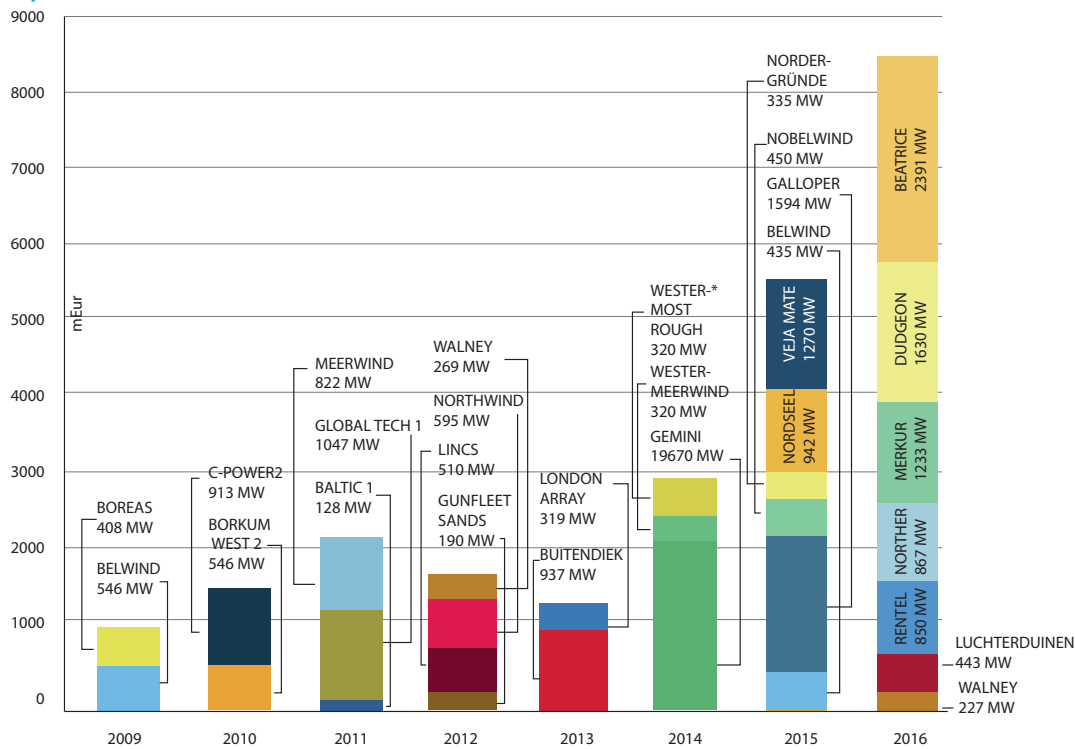
Source: Offshore wind survey 2013, Infrastructure Journal

Borrowers of Project Finance Loans of Offshore Wind Projects

SPV funding common for project finance. In offshore wind financing since the structure itself is complex, lenders prefer simple structures & SPV formation. SPV structures have to include

- ▶ Clarity on income flows
- ▶ Clarity on ownership of asset and obligations
- ▶ Ability to obtain solid security structure
- ▶ Clarity of contractual structure and counterparty

Project Finance Transactions



Facilities & Maturity under Project Finance Loans of Offshore Wind Projects

Long-term Term Loan & Contingency Loan is needed to cover the construction period with a 15 year debt repayment profile after 3 years of construction interest capitalization. The debt repayment term should be commensurate with the support regime term, providing a 5-year tail for refinancing. Term loans should include semi-perm structures to tap into refinancing opportunities. Since Refinancing options would be available after construction and at an operational financing level. The structure should have quasi equity permissions. These conditions are generally common in onshore wind financings in Turkey's project finance market. The main analysis point should be the contingency loan which should be structured above 20% of project cost with a similar debt/equity ratio of the project finance loan. The point to consider is that the Turkish financial market is keen on providing upfront contingency loan commitments in the structures.

Market Trends History

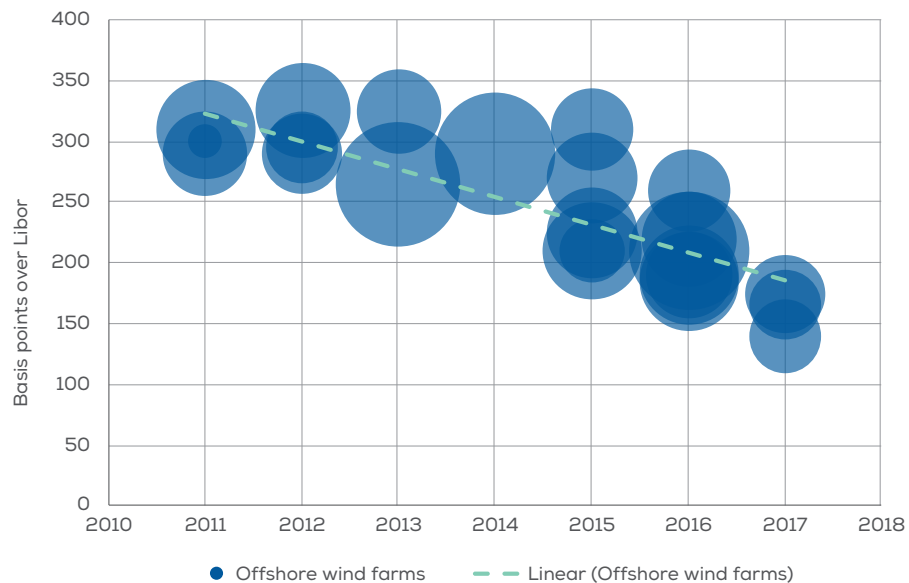
Typical project finance conditions-offshore	Leverage	Maturity post-completion	Pricing	Maximum underwriting
2006-2007	60:40	10-15 years	150-200 bps	EUR 50-199 M
2009-2011	65:35	10-15 years	300 bps	EUR 30-50 M
2012-2013	70:30	10-15 years	300-375 bps	EUR 50-75 M
2014-2015	70:30	10-15 years	200-250 bps	EUR 100-200 M
2016-2017	75:25	10-15 years	150-225 bps	EUR 100-150 M

Pricing of Project Finance Loans of Offshore Wind Projects

Construction risk is priced 300-400bps and operational difference is 50 bps currently in the European offshore wind financing models. The maturity is above 10 years, with an average of 15 years stretching up to 20 years. Commitment fee for offshore wind financings is %40 of the spread.

The current risk profile and pricing levels in the Turkish market would favor an ECA backed structure to obtain favorable project financials.

Interest rates: basis points per MW financed 2010-2017 (size of the bubble represents project capacity)



Security of Project Finance Loans of Offshore Wind Projects

Contractors' contractual obligations and liquidated damages should be strong, and guarantees should be security wise acceptable. O&M availability payments should be in place for weather & wind. Supplier contractual obligations and guarantees should be strong. Same conditions would be looked for in the Turkish market.

Model Data for Project Finance Loans of Offshore Wind Projects

Price risk should be limited, O&M assumptions should be conservative, upfront equity should be required. Same conditions would be looked for in the Turkish market with a greater focus on the percentage of upfront equity.

Financial Covenants of Project Finance Loans of Offshore Wind Projects

The most important financial covenant and the ratio used for debt sizing is Debt Service Cover Ratio.

Debt Service Coverage Ratio

When deciding the appropriate amount to lend a renewable energy project, term lenders will often look at the expected production of the project in the form of exceedance probabilities. The lender will evaluate a set of probability scenarios where energy production would exceed forecasts in any given year (Fitch 2016). Typically, that will look at a 50%, and 99% exceedance probability scenario (denoted as P50, P90 and P99, respectively).

Exceedance probabilities will also determine the debt service coverage ratio (DSCR), which is the measure of a project's cash flow to its debt obligations. A DSCR of 1.25 means that the project is anticipated to generate 25% more cash flow available for debt service (revenue less operating expenses) in a period than is required for debt service. Lenders will often require certain DSCRs at certain exceedance probabilities to afford themselves sufficient cushion in case energy production and therefore the cash flow falls below a specified amount in a certain timeframe or expenses are higher than anticipated.

For Offshore wind financings, DCSR of 1.30 for p90 wind measurements and 1.50 for P50 wind measurements are used. With a DCSR of 1.50 revenues after all operating costs and taxes are expected to be 50% higher than the debt service. Although wind is highly predictable in the long term, in the short term highly volatile can be present. For the Turkish market early examples of financings would be requiring p90 debt sizing with acceptable levels of 1.40-1.45.

For debt/equity ratios, although typically the European market is at most 70:30 ; with ECA structures 50/50 debt/equity, with the recent commercial bank interest rates and competition in the sector debt/equity has increased to 75:25 with a recent single deal of 79:21. With the evolution of the European market, recent deals have been negotiated on 80:20 debt/equity. The risk appetite for the Turkish Offshore wind financing will be the main driver of debt/equity ratios, expecting to have 60/40 levels commensurate with earlier onshore models, and the blended debt/equity with ECA structures. Debt/Equity levels will be affected by Return on Equity expectations, IRR calculations, and equity costing of Sponsors.

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 50-199 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	10-15 years	150-225 bps	EUR 100-150 M

Case Study

288 MW Butendiek offshore wind project – financial close June 2013

An example of attracting institutional equity into a significant offshore wind project is the financial close of the 288 MW Butendiek offshore wind farm, consisting of 80 Siemens 3.6 MW turbines. It will be located 32 km offshore from the island of Sylt in the German North Sea.

The wind farm has been project financed with equity contributions of around €75 m each from Siemens (as co-developer), one infrastructure fund (Marguerite) and two pension funds (Industriens Pensionsforsikring A/S and PKA Group). The developer, wpd, contributed a further €30 m of equity.

The financing terms of the project are:

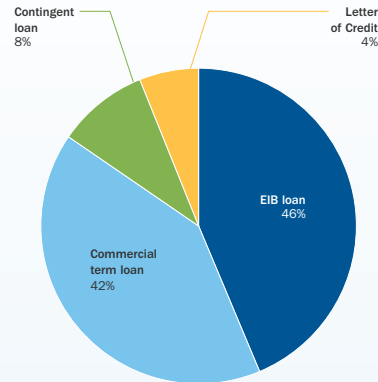
- Debt: +/- €994 m
- Equity: +/- €330 m
- Debt/Equity ratio: 75:25

The debt is comprised of:

- An EIB development bank loan (€457 m, 46%);
- A commercial term loan (€413 m, 41.5%);
- A contingent loan (€82 m, 8%);
- A Letter of Credit (€41 m, 4%).

The term loan, letter of credit and contingent loan were all provided in equal share through a club of commercial banks (Helaba, HSH Nordbank, ING-DiBa, Rabobank, SEB, UniCredit), state banks (BayernLB, Bremer Landesbank, KfW-IPEX) and an ECA (EKF).

FIGURE 5 DEBT FINANCING TERMS - BUTENDIEK OFFSHORE WIND FARM



Source: EWEA

The term loan has a 14-year tenor with a floating rate at EURIBOR + 325 basis points (bps) and a commitment fee of 130 bps.

Key to gaining institutional investment in the project was wpd's success in securing commitments from a solid club of commercial and state banks alongside significant multi-lateral support, coupled with the benefit of the project finance compression model available for German projects. Sponsors obtain a higher tariff in the early operational period of German projects which permits faster amortisation of the debt, thereby allowing for debt with shorter maturity. Shortening the maturity results in cheaper debt, thereby enhancing equity returns.

The above case study has been selected as an example for the initial Offshore wind financing models in Turkey, to give a general idea among the many deals analyzed for the market.

REFERENCES

- Financing offshore wind - Green Giraffe - 2013- 2017*
- Financing & Investment Trends - Wind Europe, 2015- 2017*
- Financing Offshore Wind Farms - EWEA, 2013 - 2017*
- Financing Considerations for Offshore Wind Projects - Deutsche Bank, 2017*
- Offshore Wind Finance - KPMG, 2017*