

Do not try this at home:

*How the German discussion on FiT-
changes risks future investments*

*Achim Berge, wpd offshore
Offshore Wind 2013, Manchester*



wpd Group - Facts



2,500 MW / 1,500 turbines installed (2012)

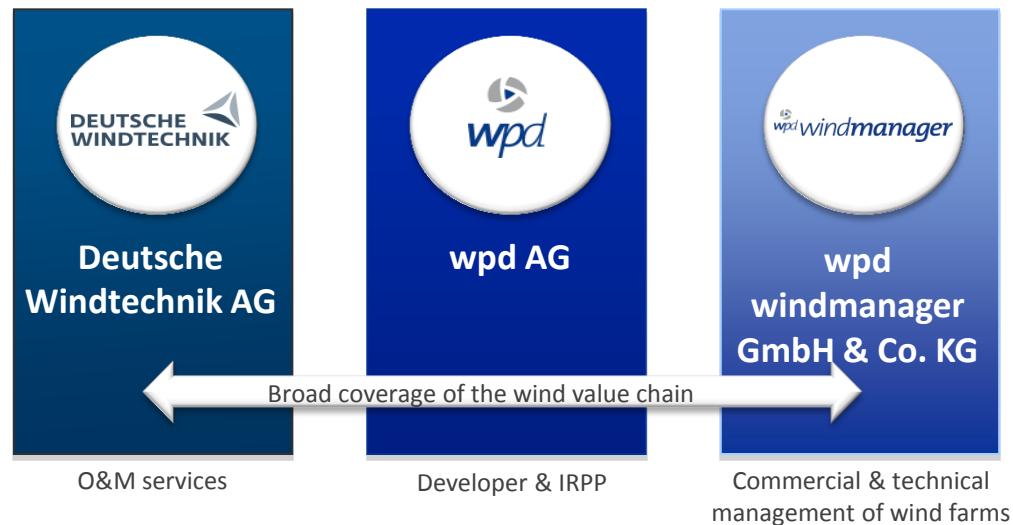
More than 860 employees in 20 countries

720 MW on own balance sheet (2012)

Commercial and technical management of 2,300 MW (>1,650 turbines)

Pipeline of more than 6.7 GW onshore and 10 GW offshore

Euler Hermes "A"-Rating (maintained since 2003)



wpd Group- References



	MunichRE <ul style="list-style-type: none"> Sale of portfolio of 11 German wind farms (72.7 MW, 40 WTG) to MunichRE
	Stadtwerke München, HSE, Mainowa <ul style="list-style-type: none"> Sale of 2 German onshore wind farms (50 +163 MW)
	Allco (portfolio later sold to DIF Renewable Energy) <ul style="list-style-type: none"> Sale of 3 German onshore wind farms (60 MW) Macquarie (portfolio later sold to Matifer) <ul style="list-style-type: none"> Sale of 2 German onshore wind farms (53.1 MW) Sale of one Taiwanese onshore wind farm (50 MW) Allianz Global Investors <ul style="list-style-type: none"> Sale of one German onshore wind farm (14 MW)
	Closed-end-funds (nearly 8,500 customers within the last years)
	Vattenfall <ul style="list-style-type: none"> Sale of Kriegers Flak II offshore project (640 MW) Co-operation agreement covering the further project development
	EnBW <ul style="list-style-type: none"> Sale of 4 fully consented German offshore projects (approx. 1,250 MW) Co-operation agreement covering procurement & construction
	EdF/ DONG/ Alstom <ul style="list-style-type: none"> Joint participation in French offshore wind tender process JV regarding 2 offshore wind projects developed by wpd
	Marguerite/ Siemens/ PKA/ Industriens Pension <ul style="list-style-type: none"> Equity financing (>€ 400 m) of the Butendiek offshore wind farm (288 MW) Construction and operational management by wpd wpd invests significant part of the project's equity

8 offshore wind projects fully consented

5 projects with 2 GW sold to major utilities

Procurement for 3 projects (total purchasing volume > € 2.5 bn)

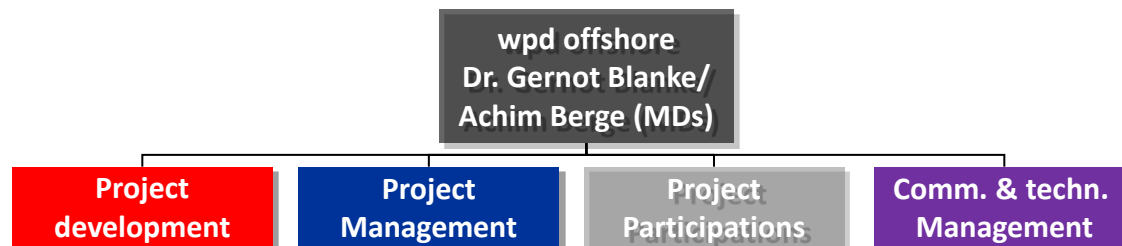
Construction management for 3 projects

Pipeline of 10 GW under development

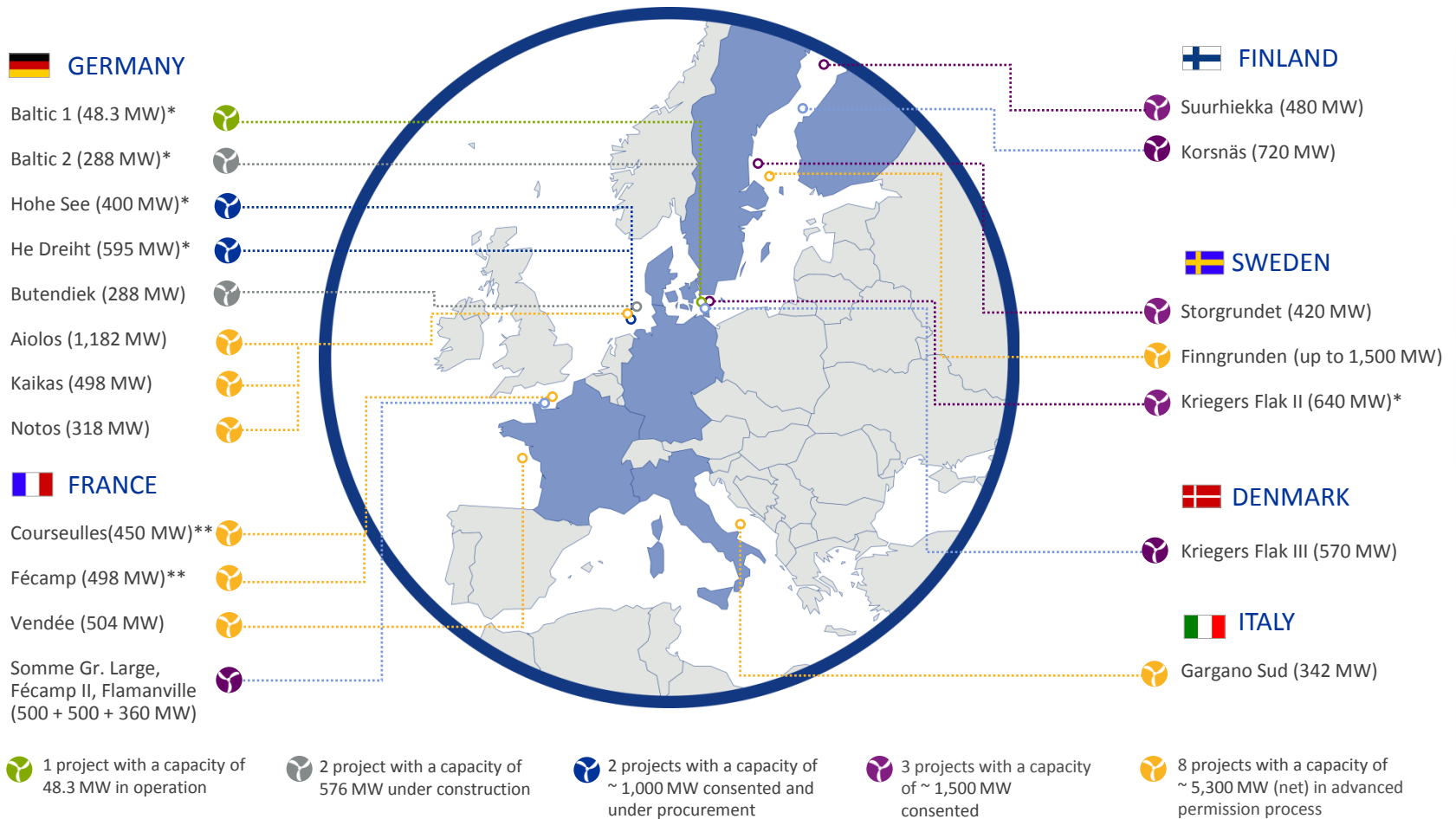
More than 70 project team members

Development of 18 projects in 6 countries

Team brings in experiences from 11 offshore projects



Project Development wpd offshore projects



* Sold – wpd was further involved by cooperation agreement

** minority, JV with EdF/ Dong/ Alstom

5 projects with a capacity of ~2,600 MW (net) in early stage of permission process

Reference Baltic I

- Comprehensive co-operation agreement with EnBW in line with sale of the project in 2008
- wpd engaged as project manager for the realization of the project.
- wpd negotiated all work packages with suppliers (turbines, foundations, substation and cabling) including installation equipment and harbor infrastructure and was deeply involved in pre-construction monitoring and construction management.

Main Work Packages	Turbine:	21 x Siemens SWT 2.3-93
	Foundation:	Monopile, Design & Installation Ballast Nedam, Manufacturing EEW
	OSS:	Electric Construction by ABB, Transformer by Etra, Steel construction by Weserwind
	Cables:	nkt cables

- Installation of Baltic I started in April 2010 and was completed at the end of 2010.
- **Construction was on time and within budget.** The wind farm was inaugurated on May 2nd 2011.



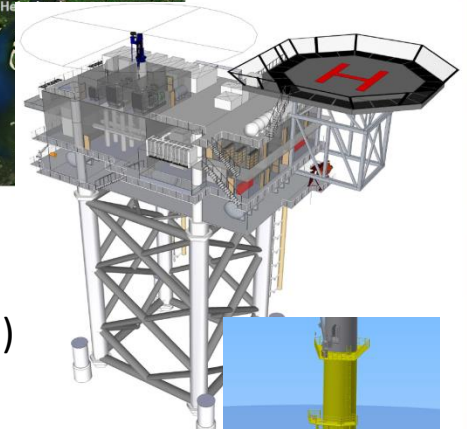
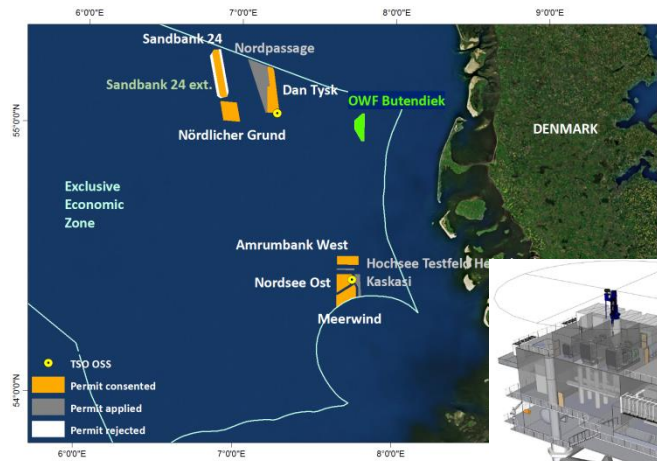
Reference Butendiek

Project was acquired by wpd in 2010 from SSE & “Butendiekers”

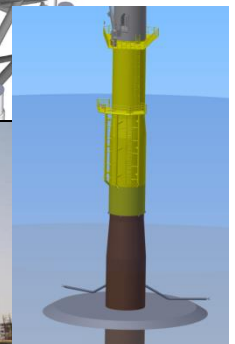
- Total capacity of 288 MW
- Located 32 km west of the island of Sylt
- Low water depth (17 - 22 m)

Experienced,
solvent suppliers

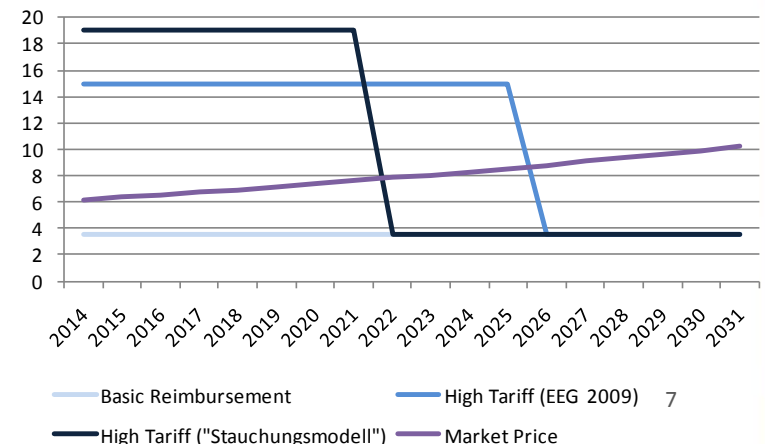
- Turbines – Siemens
- Foundations – Ballast Nedam
- Substation – Fabricom GdF Suez
- Cabling – Visser Smit



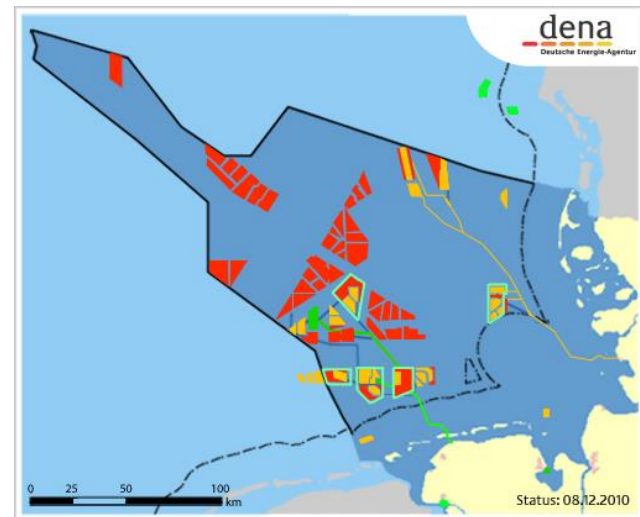
- EPCI –contracts (incl. design, manufacturing, transport & installation)
- Proven technology (Siemens SWT 3.6-120 turbines with 10 year full service maintenance contract; monopile foundations)
- Start of construction: Q2 2014
- Final commissioning: first half of 2015



- Attractive and stable regulatory system:
 - Regular tariff of € 150.00/ MWh for the first 12 years
 - Alternatively higher **tariff of € 190.00/MWh** for the first 8 years according to “compression model”
 - Extension of initial tariff period (based on e 150./MWh remuneration) depending on water depth and distance to coast
 - **Free grid access** (to be provided by grid operator; cost of grid connection transferred to consumers)
- High level of political support (offshore wind essential to reach 2020 targets and the government’s energy change strategy „Energiewende“)
- Political initiative by the government to secure current and future grid connection:
 - Master plan for offshore grid development („Offshore Netzentwicklungsplan“)
 - Compensation measures in case of delayed grid connection



- Industrial market structure
 - wide range of equipment and services available (OEM's plus second level suppliers)
 - Industrial offshore infrastructure established e.g. at Bremerhaven & Cuxhaven ports
 - Established industry networks (e.g. „WAB“ with more than 300 corporate members)
 - About 7.000 new jobs created
- Economies of scale due to large number of projects in forthcoming years



German Market Developments

Political Support for Offshore Wind



In 2012 the government launched a **political initiative to secure current and future grid connection**, seen as an additional evidence for the high level of political support for offshore wind: 1.) New rules for grid connection and 2.) Measures in case of failure or delay of grid connection

New rules for grid connection

- Instead of an individual right for a single grid connection now the project gets certain rights in a planning procedure which deals with several projects.
- As an advantage the grid connection is more predictable and reliable and as a result major delays should be avoided for the future.
- The new law is already in place since 1st of January 2013, but the important detailed rules are expected to be published in the beginning of March.
- Of special interest is a scenario plan (“Szenariorahmen”) which is anticipating dates for each project to be connected in the coming years and how a project can accelerate from a later date to an earlier. Expected criteria include status of the projects in terms of engineering (drilling campaigns), signed supply agreements and financing of the project. The status of neighbouring projects will be important as well.

German Market Developments

Political Support for Offshore Wind

Measures in case of failure or delay of grid connection

- Compensation in favour of the project (§ 17e EnWG 2013):
 - 90% of the lost remuneration will be compensated by the grid operator
 - a) if a delay of start up is longer than 10 days or
 - b) if a failure of operation is longer than 10 connected days or occurs in one year at more than 18 individual days
- Reimbursement and liability caps in favour of the grid operator (§ 17f EnWG 2013):
 - Total liability cap for each loss of property event of 100 mio. EUR
 - Compensation to be paid can be passed over to the consumers
 - However, an own contribution of between 5 to 20 percent stays with the grid operator, depending on the total amount and the level of negligence



Butendiek financing



First German offshore deal to close since 2011:

- Equity of more than € 400 m secured by institutional investors and wpd
- Non-recourse project financing
- In total, the participating banks have provided more than € 900 m in debt capital.
- Third financing under the KfW Offshore Wind Energy Programme
- Equity Ratio of approx. 1/3



Home EMEA Western Europe Germany

Germany

Butendiek brings back offshore

PFI Issue 498 - February 13, 2013

Butendiek is the first German offshore deal to close in nearly 18 months. A strong equity partnership of financial investors brought the deal back from the brink. By Robert Smith.

Initiative by German ministers to cut EEG costs

- Federal election autumn 2013
- Since February, both Minister of Environment Altmaier (CDU) and Minister of Economy Rößler (FDP) try to position themselves and their parties with a popular statement („Strompreisbremse“ = electricity price stop)
- The popularity of the statement makes it necessary for the opposition to react and changes in the EEG would require the votes of the opposition
- During the next months steps to be taken by the politicians are aimed to influence the election but not necessarily to change the law

Details of the proposal

Category	Affected sectors	Measure	Estimated savings (EUR millions)
New EEG projects (connected after 1 August 2013)	All renewables except PV	For the first five months of operation, projects will receive the electricity market price only. After the initial five months, a relevant market premium will be awarded.	500
	All renewables	<p>From the sixth month of operation, the reference tariffs (or strike prices) will be lowered:</p> <ul style="list-style-type: none"> Onshore wind: reference starting tariff reduced to EUR 80/kWh (from the current EUR 88/MWh) The repowering bonus for onshore wind will be scrapped The reference yield model for onshore wind (determining the tariff level after the starting period of five years) will be adjusted No change for PV (monthly cuts will continue) All other projects - a one-off cut of 4% 	100
	All renewables	<p>Feed-in tariffs for large projects abolished</p> <p>Projects larger than 150kW can no longer opt for a feed-in tariff. All projects have to sell directly to the market and benefit from the market premium mechanism. However, the management fee paid as a part of this mechanism will be scrapped, as projects no longer need an incentive to choose this market-based mechanism.</p>	60
Existing EEG projects (connected before 1 August 2013)	All renewables	Radical reduction in damage compensation for curtailment to reduce pressure on the grid in peak times.	
	Biogas using liquid manure	From 1 August 2013 the special bonus for using liquid manure will be abolished. This retroactive cut affects all projects commissioned after 2004.	150
	All renewables	A one-off cut of 1.5% in 2014, effective for one year, affecting all existing projects commissioned before 1 August 2013.	350
EEG cost distribution	Energy-intensive industry and auto-consumption	<p>"EEG Surcharge" regulation:</p> <ul style="list-style-type: none"> The minimum levy for exempted energy-intensive companies will be increased on 1 January 2014 Industries not facing fierce international competition will not be benefiting from the EEG surcharge exemption Projects used for auto-consumption will be included under the EEG Surcharge, with an exception for CHP and projects <2MW 	700

Merkel tried to limit the disaster – or is all this part of a master plan?

- On 21th of March the German government including chancellor Angela Merkel met with the federal Heads of States in order to discuss the recent debate on the EEG remuneration system.
- As a result the parties agreed on the necessity of reviewing the EEG after the election in autumn. This is in line with the review schedule incorporated in the EEG anyway. In addition there will be an immediate working group to discuss general saving potential. After the meeting participants and industry experts are quite sure that there will not be any major changes in the EEG system before the election.
- The most important message of the meeting was instead the commitment to the validity of the EEG remuneration for running projects (“Bestandsanlagen”). In order to avoid misunderstandings the chancellor herself made clear during the press conference that “Bestandsanlagen” includes projects which already are subject to legally binding obligations. This commitment is confirmed by the official written announcement after the meeting and the protocol of spoken word.
- It has been made clear from the very top (“Kanzlerwort”) that the projects as Butendiek shall not be effected by future changes.
- However, the remuneration for future projects remains unclear. No new investments decisions have been taken since start of the debate.