



# Financing wind Energy

## An Industry Participant's view

# About Vestas

**17,000**

We employ more than 17,000 people worldwide from 85 nationalities and have more than 33 years of experience with wind energy.

**25,000**

We monitor almost 25,000 turbines, or 43,000 megawatts, day and night. The data is used for efficient service planning and to anticipate and fix problems before they occur.

**49,000**

We have installed more than 49,000 turbines in 73 countries on six continents.

**56 GW**

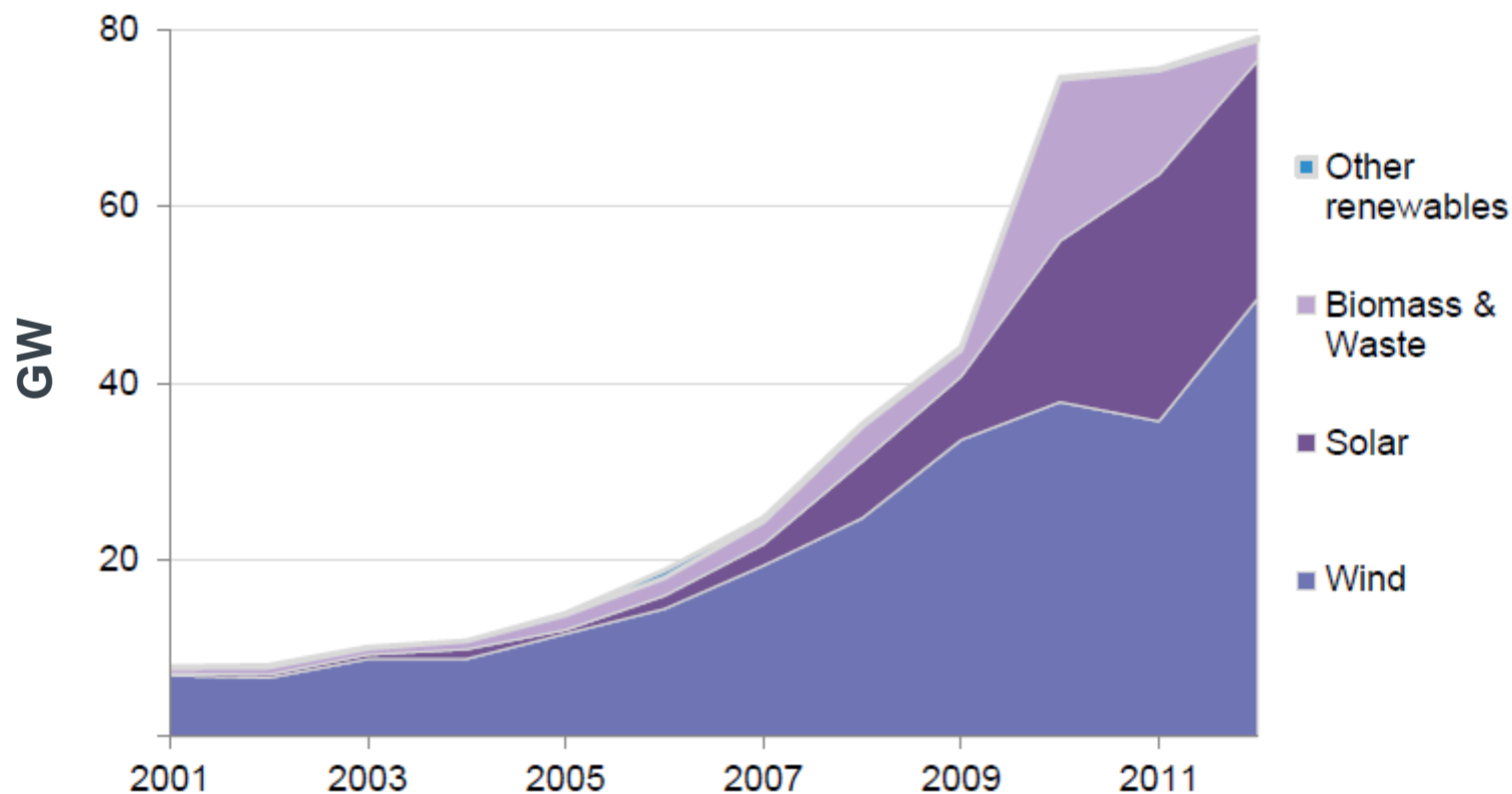
We have installed an industry-leading 56 gigawatts — 62% more than our closest competitor.

**€ 7.2b**

Vestas revenue at the end of 2012 was EUR 7.2 billion.



# Financing Wind Energy Issues - Demand



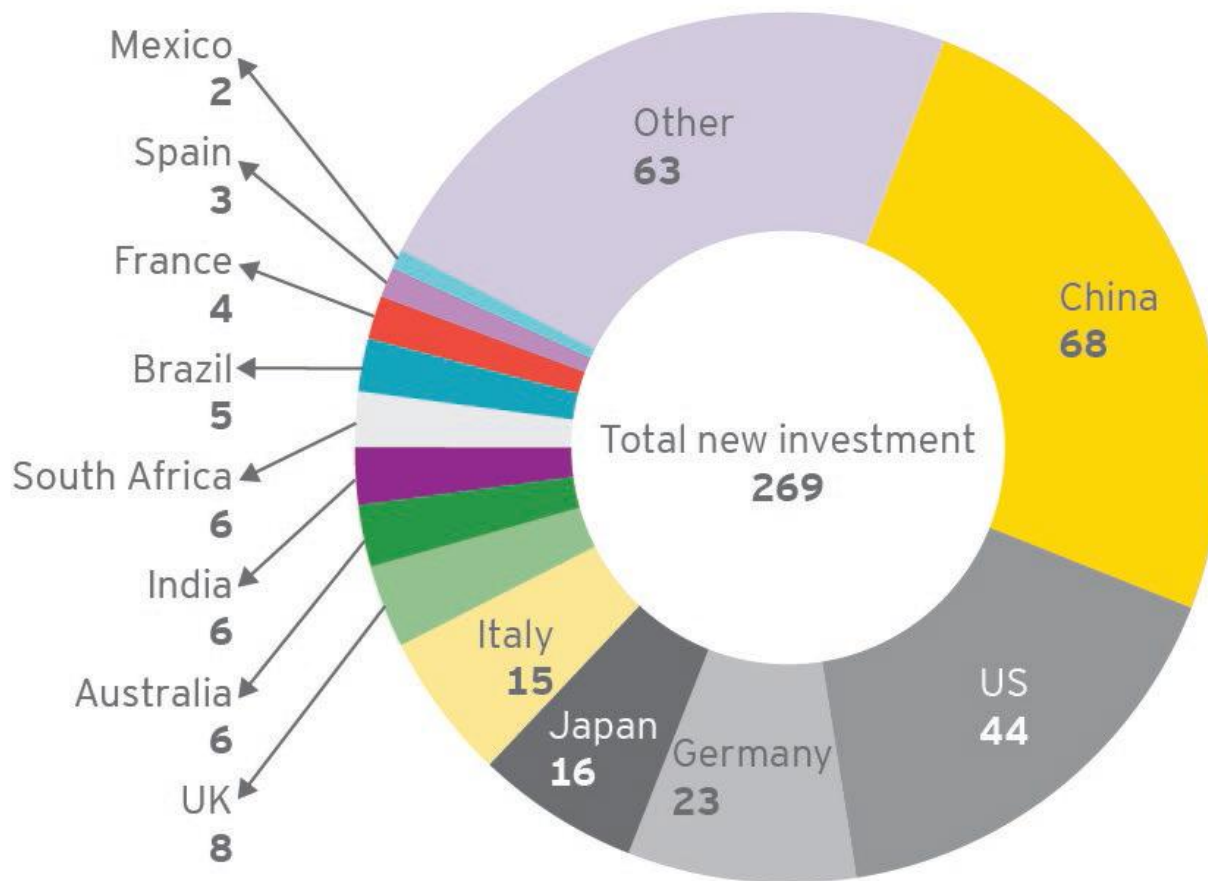
**Global Renewable Energy Additions (excluding Hydropower)**

Source: BNEF



# Financing Wind Energy Issues - Demand

## 2012 Global clean energy investment (US\$bn)



## Global Project Finance

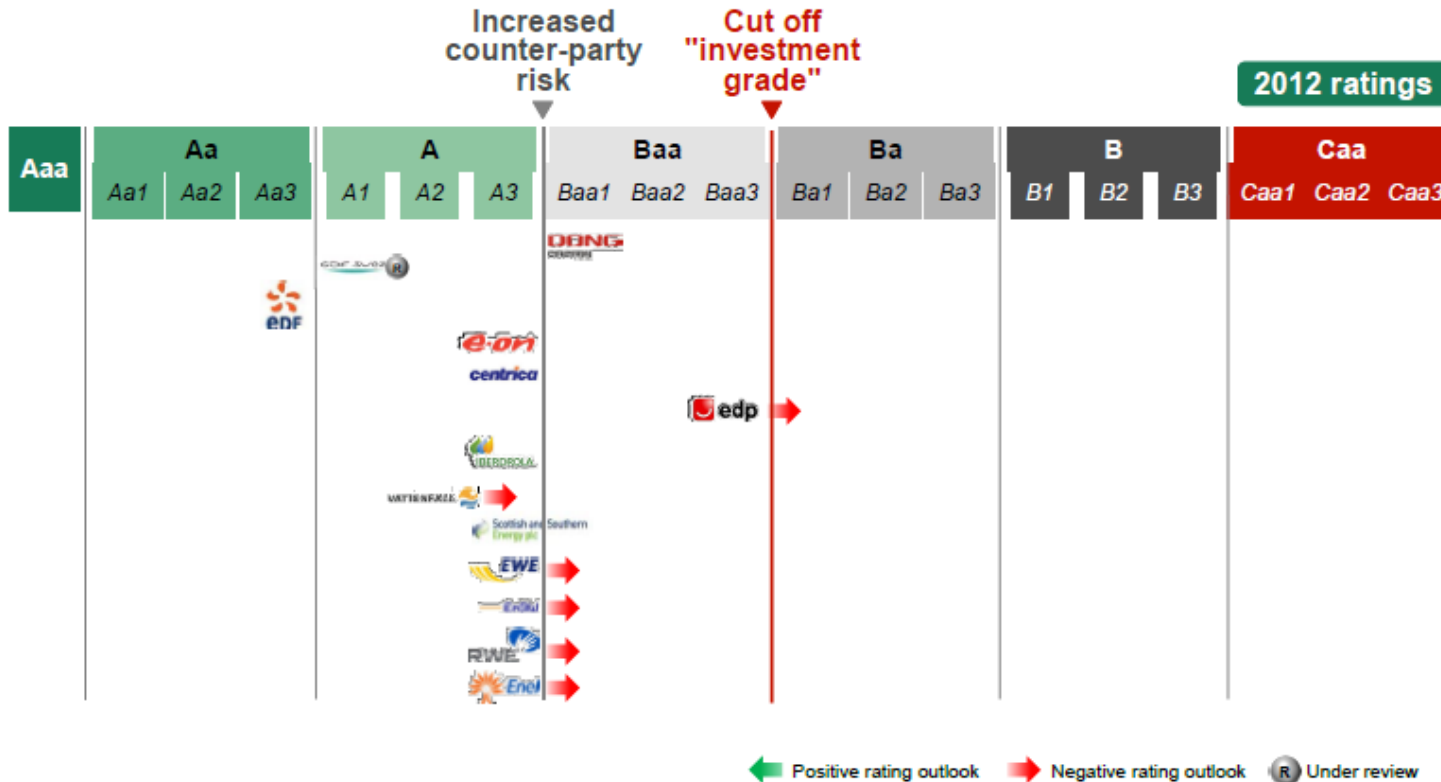
- ~US\$200 Bn
- ~ US\$66 Bn in Power
- Includes asset acquisitions & refinancings
- Financings Cover:-
  - Power*
  - Oil & Gas*
  - Transportation*
  - Mining*
  - Petrochemicals*
  - PPP/PFI*
  - Telecoms*
  - Waste & Other*

Sources: BNEF and PFI

# Financing Wind Energy Issues - Utilities

*Can/will Utilities be able to fund on Balance Sheet ?*

## Ratings of EU's large Utilities

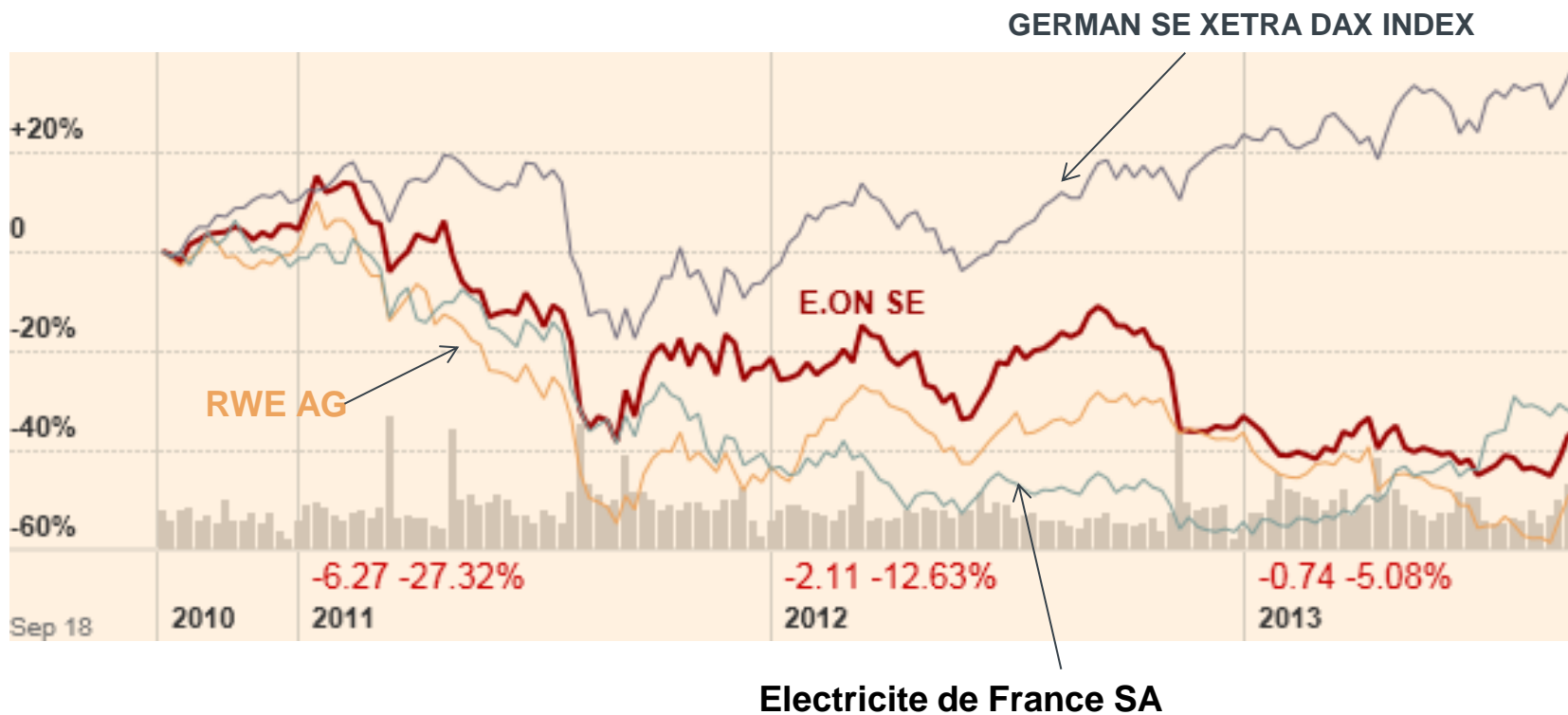


Ratings from Moodys

Source : BCG

# Financing Wind Energy Issues - Utilities

## A Few Utility Share price movements over 3 years



# ***Financing Wind Energy Issues - Banks***

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## **Credit Crunch has changed the Banking landscape**

- Fewer active PF Banks
- Country & Relationship Focus
- Weak syndication market
- Bank Capital & Basel III issues
- Regulatory support/changes ?
- Multilateral and Bilateral funding
- Requirement for new Investors & Funding Sources



## ***Competition for Available Funding Resources***

# ***Financing Wind Energy Issues - Banks***

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## ***The impact of the Credit Crunch***

**PRE**

**Trinergy Ltd Refinancing** November 2006

648MW Onshore Italian & German Assets

**€1.13bn Senior Debt**

**10 year debt tenor**

**RBS Sole Underwriter**

**€100m max syndication tickets**

**BBVA, BayernLB, Dexia, HBOS, HSH  
Nordbank, Mizuho, Natixis, UniCredit, Banca  
Mobiliare, Aletti Merchant, Commerzbank,  
Fortis, IKB, ING, Interbanca, Bank of Ireland,  
Centrobanca, SMBC and KBC**

**POST**

**Boreas Refinancing** November 2009

220MW Onshore and Offshore UK

**£325 million Senior Debt**

**Full cash sweep after 9 years**

**Club of 14 Banks ('take & hold')**

**Bank of Ireland, Bayern LB, BBVA,  
BTMU (financial adviser), Calyon, Dexia,  
Fortis, Lloyds, HSBC, KfW-Ipex, NAB,  
NIBC Bank, Raiffeisen and Santander**



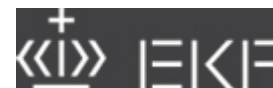
# ***Financing Wind Energy – some recent examples***

## Jädraås Windfarm – Sweden

Sponsors: Platina Partners  
Arise Windpower  
Size: 200MW  
Turbines: Vestas V112  
Finance: €336 million (including equity Bridge)  
50% from Banks and 50% from EKF  
Banks: DNB Nor, SEB and EKF Guaranteed  
Closing date: October 2011



EKF tranche funded by PensionDanmark, guaranteed by EKF.



# Financing Wind Energy – some recent examples

## Northwind Project – Belgium

<b>Sponsors:</b>	Colruyt Group and Aspiravi Offshore										
<b>Project Size:</b>	216 MW										
<b>Turbines:</b>	72 X Vestas V112 -3 MW										
<b>Project Cost:</b>	€850 million (€596 m debt)										
<b>Debt:</b>	<table><tr><td>Banks &amp; <b>EIB</b></td><td>€266 million</td></tr><tr><td><b>EIB (covered)</b></td><td>€200 million</td></tr><tr><td><b>KfW-IPEX</b></td><td>€ 60 million</td></tr><tr><td><b>PensionDanmark</b></td><td>€ 35 million</td></tr><tr><td><b>Norway (Min T&amp;I)</b></td><td>€ 35 million</td></tr></table>	Banks & <b>EIB</b>	€266 million	<b>EIB (covered)</b>	€200 million	<b>KfW-IPEX</b>	€ 60 million	<b>PensionDanmark</b>	€ 35 million	<b>Norway (Min T&amp;I)</b>	€ 35 million
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<b>Norway (Min T&amp;I)</b>	€ 35 million										
<b>Banks:</b>	ASN, Belfius (was Dexia Belgium), BNP Paribas Fortis, ING and Rabobank										
<b>Guarantee Providers:</b>											
<b>EKF</b>	PensionDanmark, EIB (partial), KfW –IPEX										
<b>ONDD</b>	EIB (partial)										
<b>GIEK Norway</b>	Nowegian Ministry of Trade & Industry										
<b>Cash Sweep</b>											

Closing date: June 2012



# ***Financing Wind Energy – some recent examples***

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## **Butendiek Wind Farm, Germany**

### **Sponsors:**

wpd Offshore Solutions  
Marguerite Fund  
Industriens Pension  
Pensionskassernes Administration A/S; and  
Siemens Project Ventures



**Size:** 288 MW  
**Equity** €360 million  
**Project Debt** €940 million  
**Debt:** 10,5 years post construction (Compression FIT)  
**Banks:** **EIB (€450 million with €300 million EKF guaranteed)**  
UniCredit, KfW-IPEX, Bremer L/B  
Rabobank, ING, SEB, HSH Nordbank, Bayern L/B, & Helaba

Closing date: February 2013

# ***Financing Wind Energy – Potential Funding Sources***

## **CONVENTIONAL INVESTMENT MANAGEMENT ASSETS**

<b>\$bn, end-2011</b>	<b>Pension funds</b>	<b>Insurance assets</b>	<b>Mutual funds</b>	<b>Total conventional</b>	<b>% share</b>
US	17,575	7,100	11,622	36,297	46
UK	3,050	2,755	817	6,622	8
Japan	1,470	3,878	745	6,093	8
France	219	656	1,382	2,257	3
Germany	195	1,384	293	1,872	2
Others	8,991	8,662	8,932	26,585	33
Total	31,500	24,435	23,791	79,726	100

*Source: TheCityUK estimates based on UBS, OECD, SwissRe, Investment Company Institute data*

# ***Financing Wind Energy – Potential Funding Sources***

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## **SELECTED SOVEREIGN WEALTH FUNDS**

<b>Norwegian Government Pension Fund</b>	<b>US\$ 715 Bn</b>
<b>Saudi Arabian SAMA Foreign Holdings</b>	<b>US\$ 538 Bn</b>
<b>UAE</b>	<b>US\$ 716 Bn</b>
<b>Singapore</b>	<b>US\$ 405 Bn</b>
<b>Kuwait</b>	<b>US\$ 342 Bn</b>

Source: MoneyWeek

## **Recent IPOs for Renewables Investment (Unleveraged)**

- **March 2013:** Greencoat UK Wind (£260m), investor in UK Wind assets
- **July 2013:** Bluefield Solar (£150m), investor in Solar assets  
The Renewables Infrastructure Group (£300m) IPO  
All now listed on LSE



# ***Financing Wind Energy***

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## ***A few Closing thoughts***

- **Significant Renewable Opportunities but also ‘Challenges’**
- **Utilities addressing Balance Sheet and Rating issues**
- **Bank Capital issues and prefer shorter loan tenors**
- **Significant support from ECAs and Multilaterals**
- **Institutional Investors playing have increasing presence**
- **Long term Equity & ‘Yield’ Opportunities for Institutional Investors**
- **‘Traditional’ Equity & Debt providers need help with ‘heavy lifting’**

***Growing evidence ‘Institutional Investors’ can/will play important role in Renewables financings***

Thank you for your attention

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