



# MAINSTREAMING RENEWABLES

**Renewable Energy Leaders**  
**From early-stage to global players**

25<sup>th</sup> May St Gallen

# Introduction

- Vestas – A Brief History
- An Overview of the Wind Market
- EU Energy Investment
- Finance – a Key Ingredient

# **Vestas** - a brief History

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- 1898** Founded by H.S. Hansen in Lem, Denmark making steel windows
- 1945** VEstjyskSTålteknik A/S – making household appliances & agricultural equipment.
- 1979** Vestas delivers first wind turbines.
- 1987** Vestas pioneering the wind industry, staff of around 60
- 2004** Merged with NEG Micon A/S
- 2007** No. 1 in Modern Energy, over 33,500 wind turbines in 63 countries
- 2012** 50 GW, 46.000 turbines in 69 countries

**Vestas**



- Nearly 25% of total global wind capacity
- Enough clean energy to power 19 million European households
- Avoiding 55 million tonnes of CO2 emissions every year.

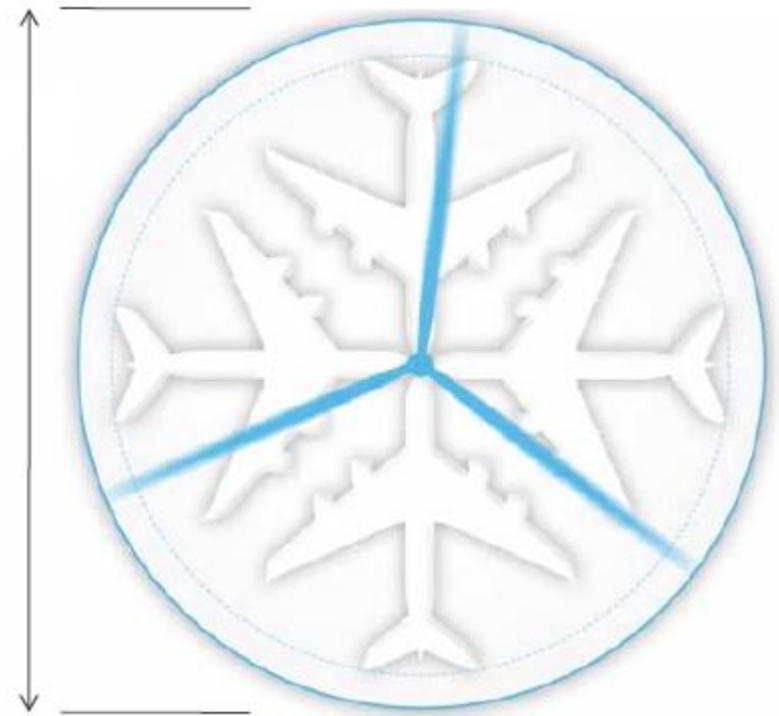
# Vestas - a brief History

## V164-7.0 MW turbine

**Compared to**  
four Airbus A380  
– the world's largest  
passenger airplane.

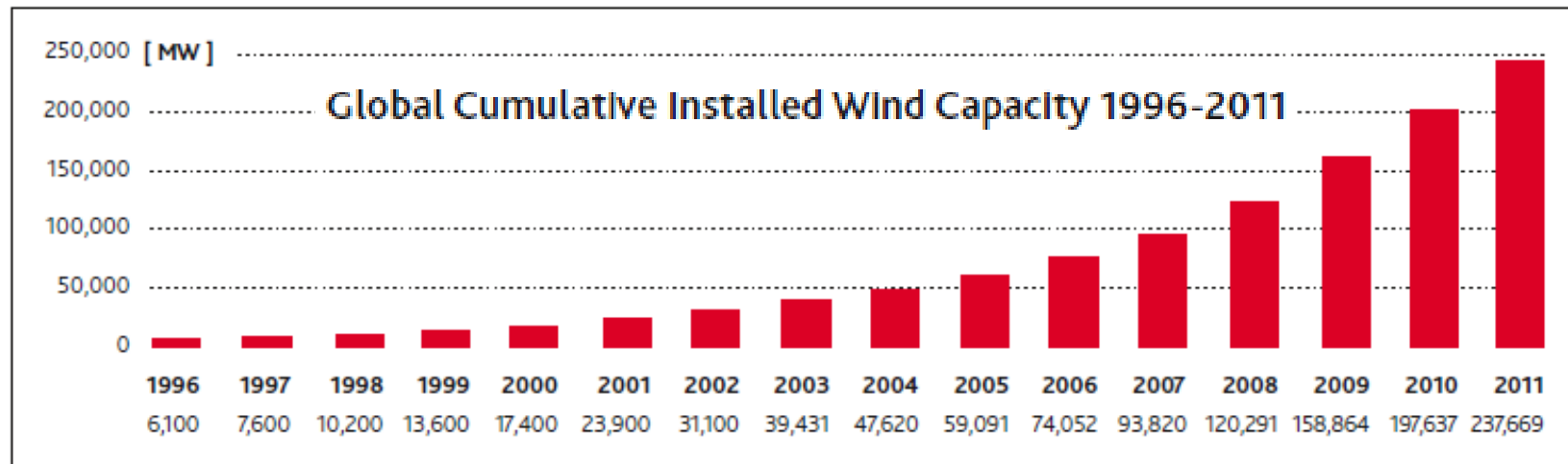
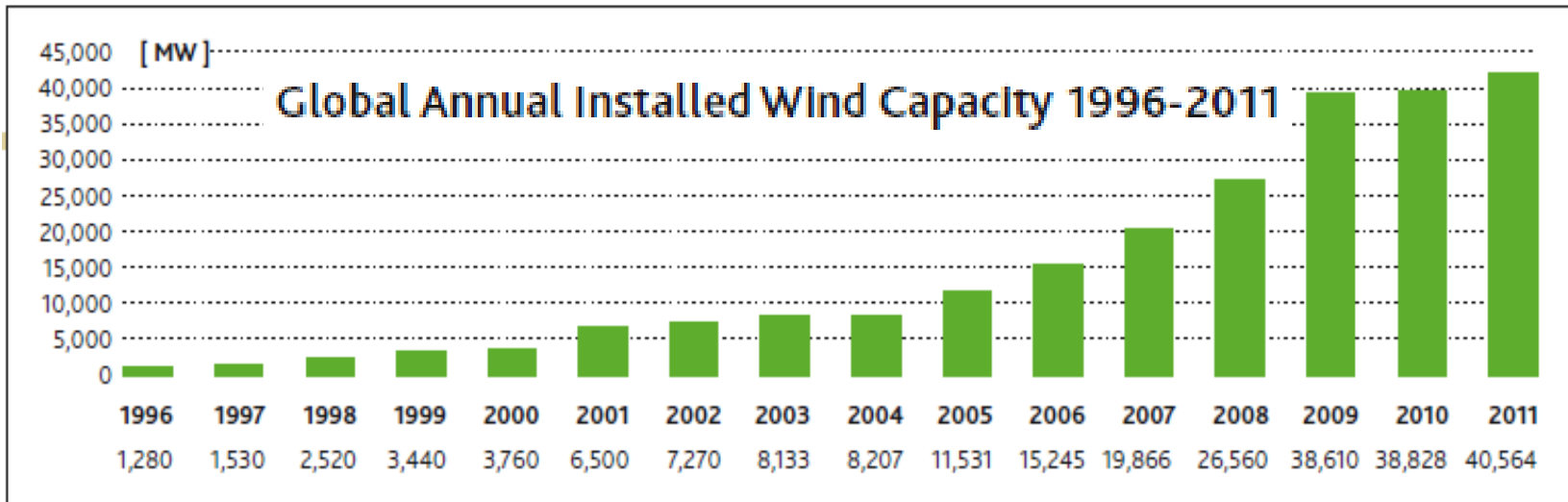


164 metres



**21,124 sq metres = 25,263 sq yards**

# An Overview of the Wind Market

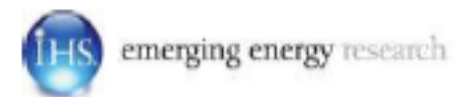
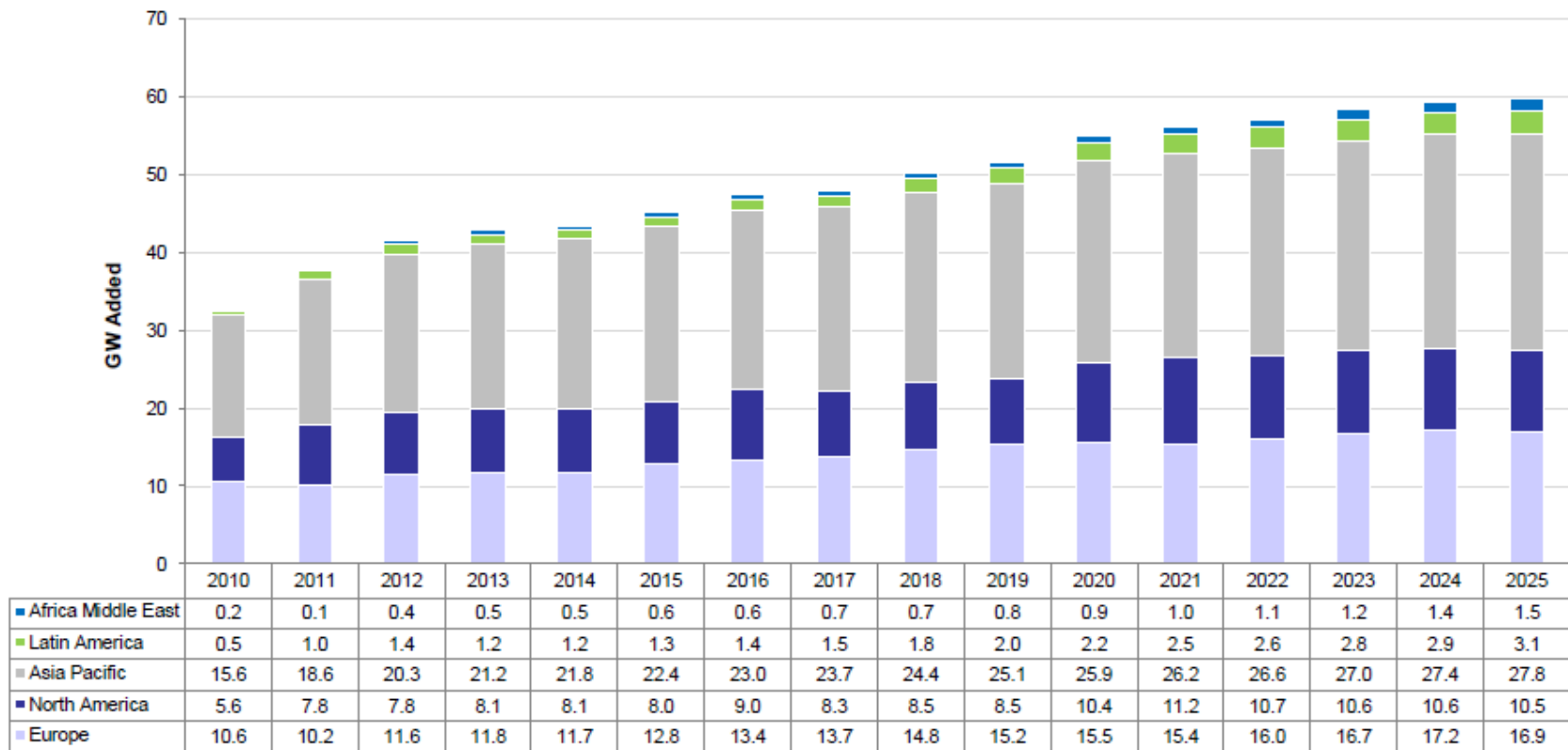


Source : GWEC

# An Overview of the Wind Market

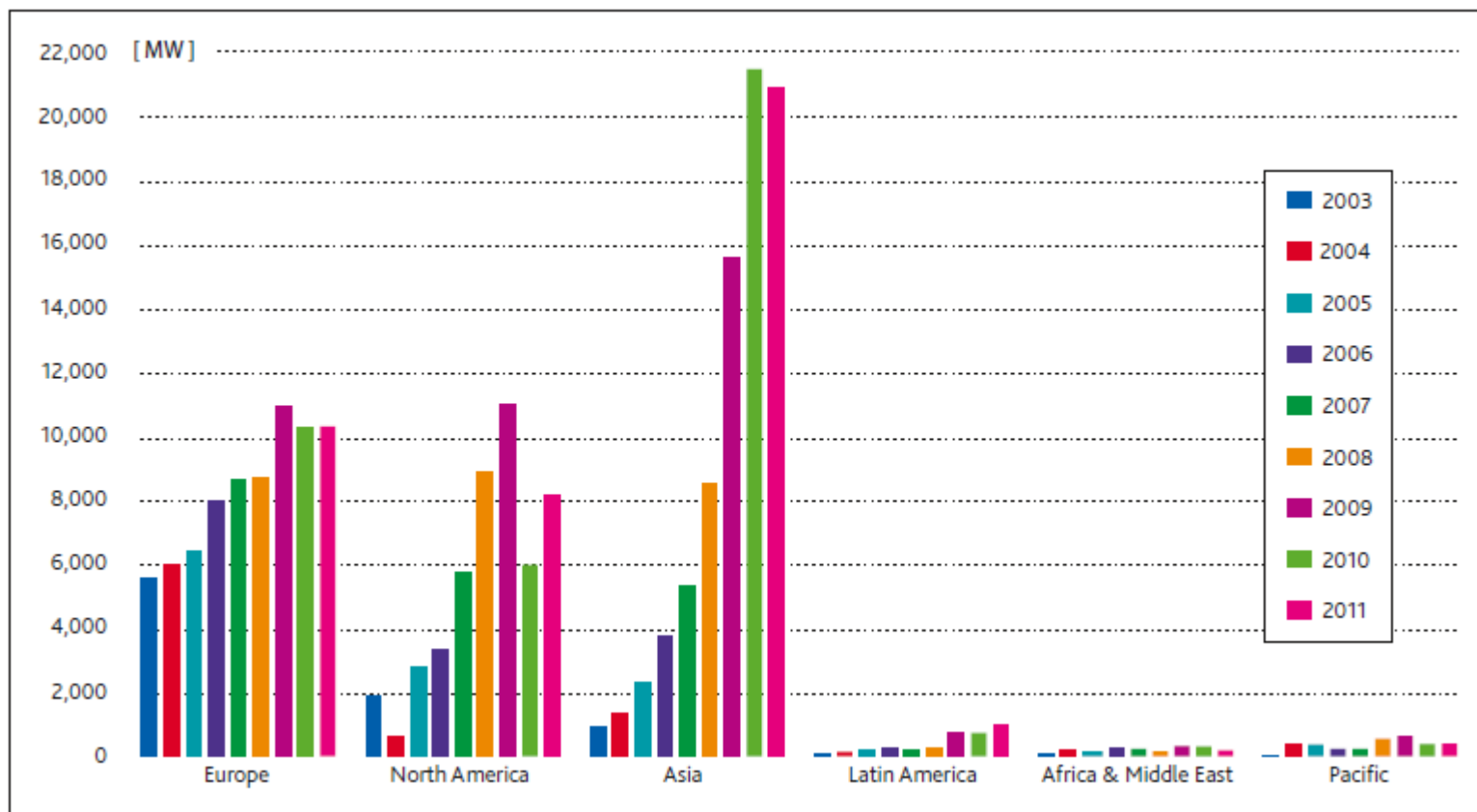
## Global Wind Energy Market Forecasts 2011 – 2025

### Global Wind Total : Base case Scenario by Region



# An Overview of the Wind Market

## Annual Wind Installations by Region (2003 – 2011)



Source : GWEC Global Wind Statistics

# An Overview of the Wind Market

## A Tale of Three Regions

### China

### USA

Presidential Election year

PTCs ??

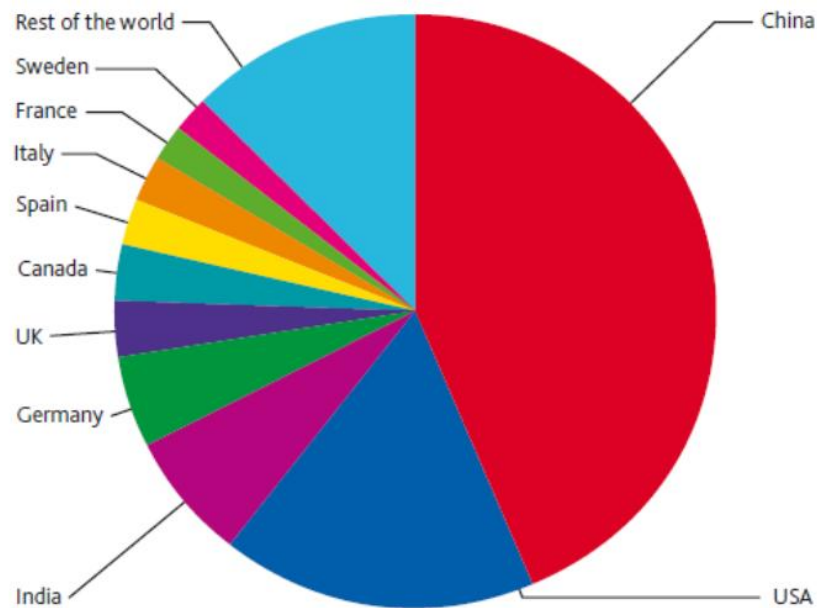
Shale Gas

### EU

Greece (and Portugal, Ireland, Spain etc) ?

Economic outlook for 2012/13 ?

TOP 10 NEW INSTALLED CAPACITY JAN-DEC 2011



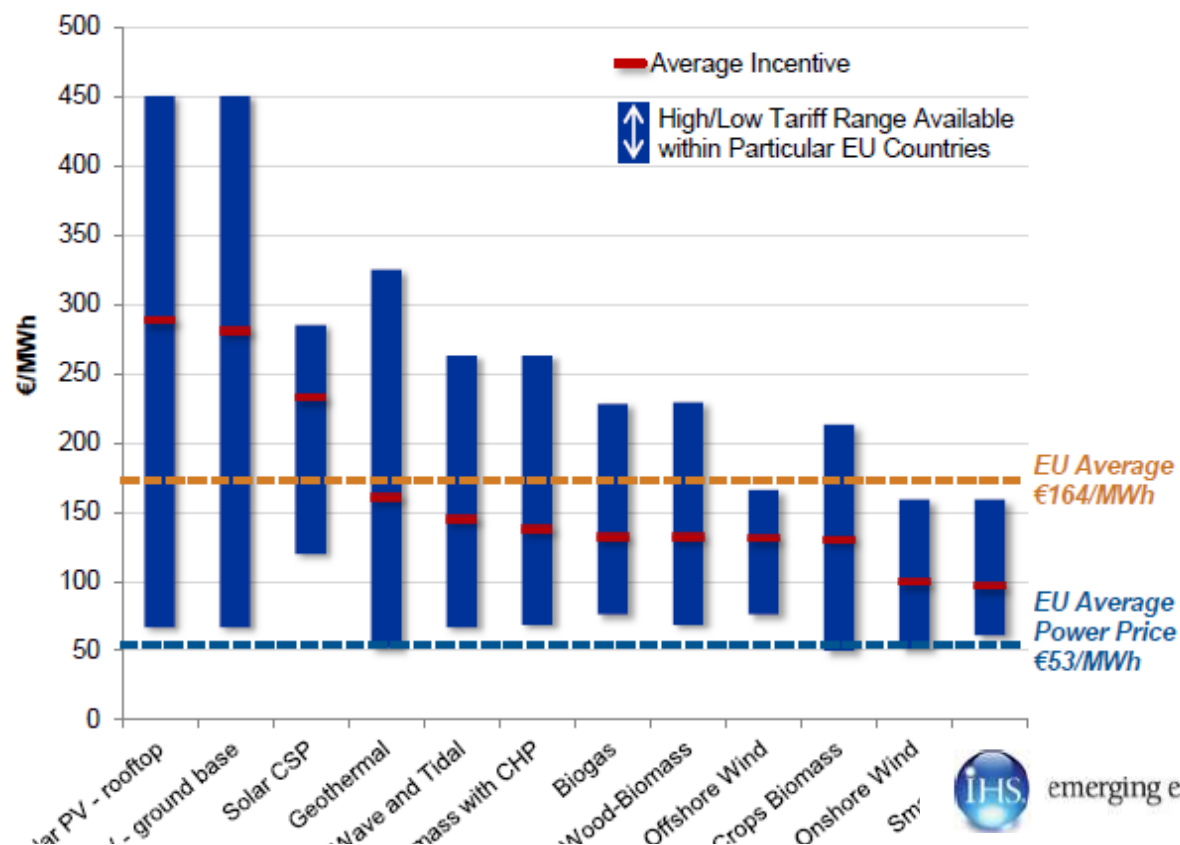
Source : GWEC Global Wind Statistics

***The wind Turbine market in 2011 is up from 2010 !!***



# An Overview of the Wind Market

## EU Support Levels for Renewables



Average Support Levels for Renewables by Technology in Europe



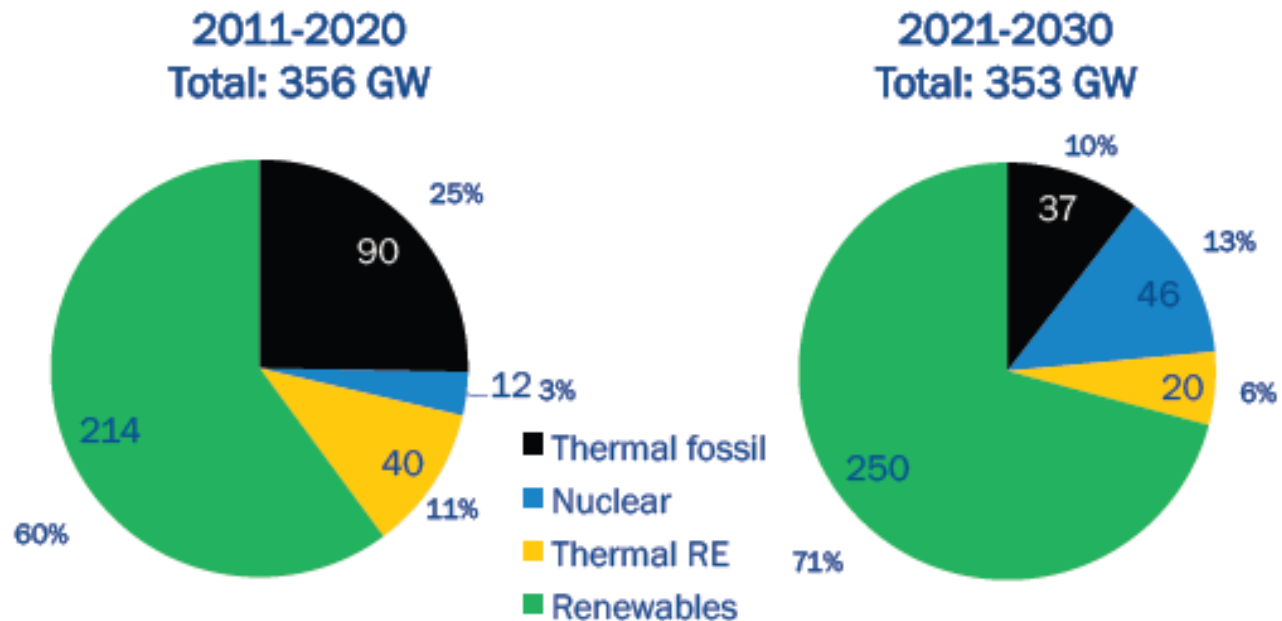
emerging energy research

# EU Energy Investment



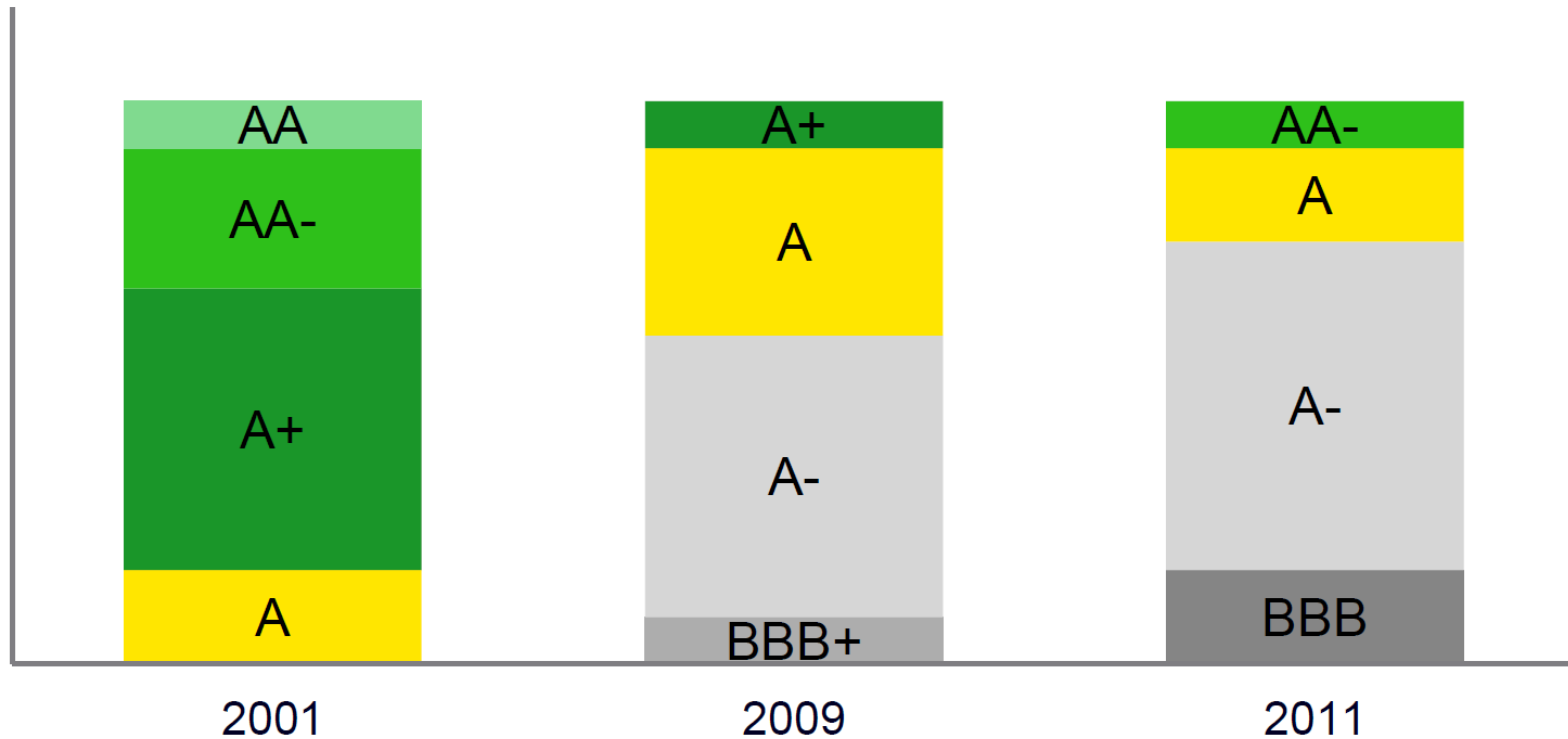
## New EU power capacity installations 2011-2030 (GW)

Energy Roadmap 2050 – Diversified Supply Scenario



# EU Energy Investment

How much Balance Sheet capacity is there for EU Utilities ?



Source: Standard & Poor's

Ratings of EU's top Utilities

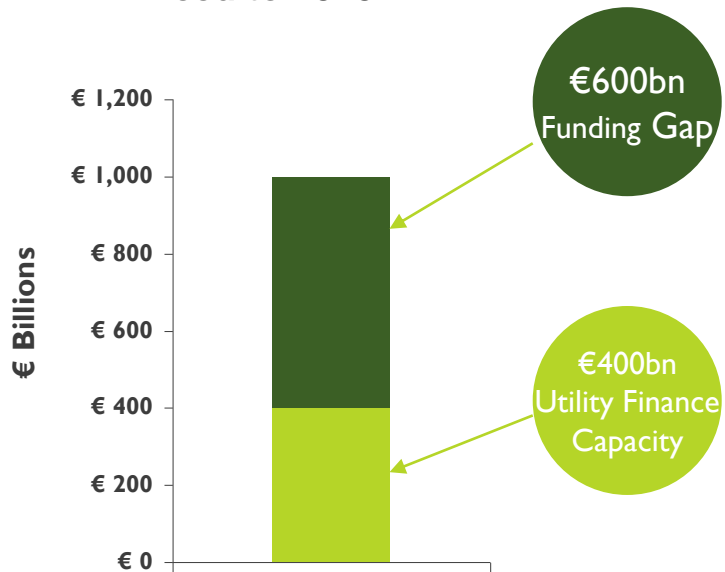
October 2011

## Ongoing Country and Utility downgrades

# EU Energy Investment

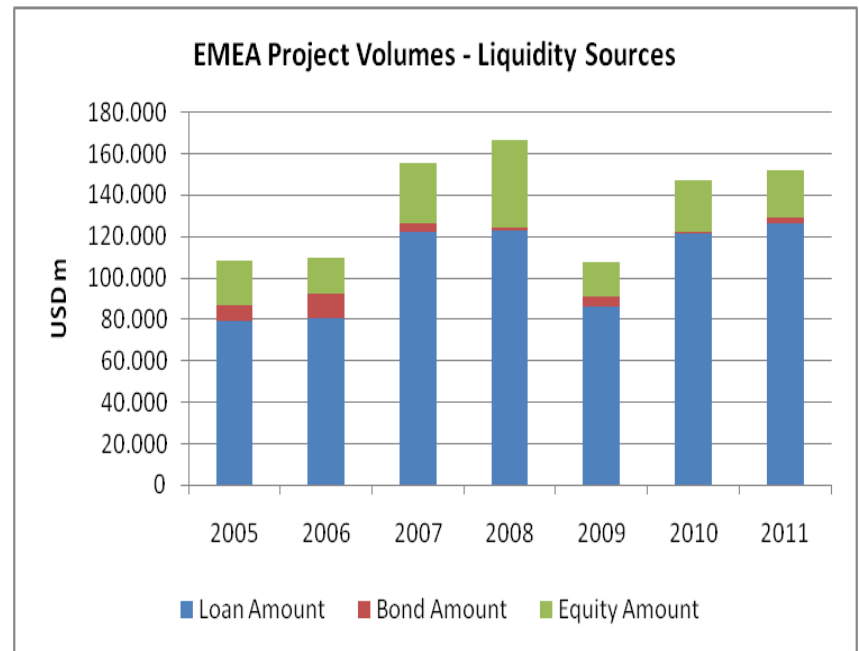
## Bridging the EU electricity finance gap

EU Electricity CAPEX  
Need to 2020



Source: Rothschild, KPMG, CitiGroup, Goldman Sachs, HgCapital Research

EMEA Project Volumes - Liquidity Sources



Source: Projectware

# EU Energy Investment



terra firma



Brookfield

RIVER  
STONE

Walmart

Microsoft

INFRARED  
CAPITAL PARTNERS



PLATINA  
PARTNERS

HgCapital

John laing  
making infrastructure happen

FIRST RESERVE  
CORPORATION

MITSUI & CO., LTD.

UPC  
Renewables™

Blackstone

مبادلة  
MUBADALA



Marguerite

OMERS  
Plan for the Future

DIF

ACS  
ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS

BARCLAYS  
Private Equity

Santander

Google Absolute Energy  
CAPITAL

PleniumPartners



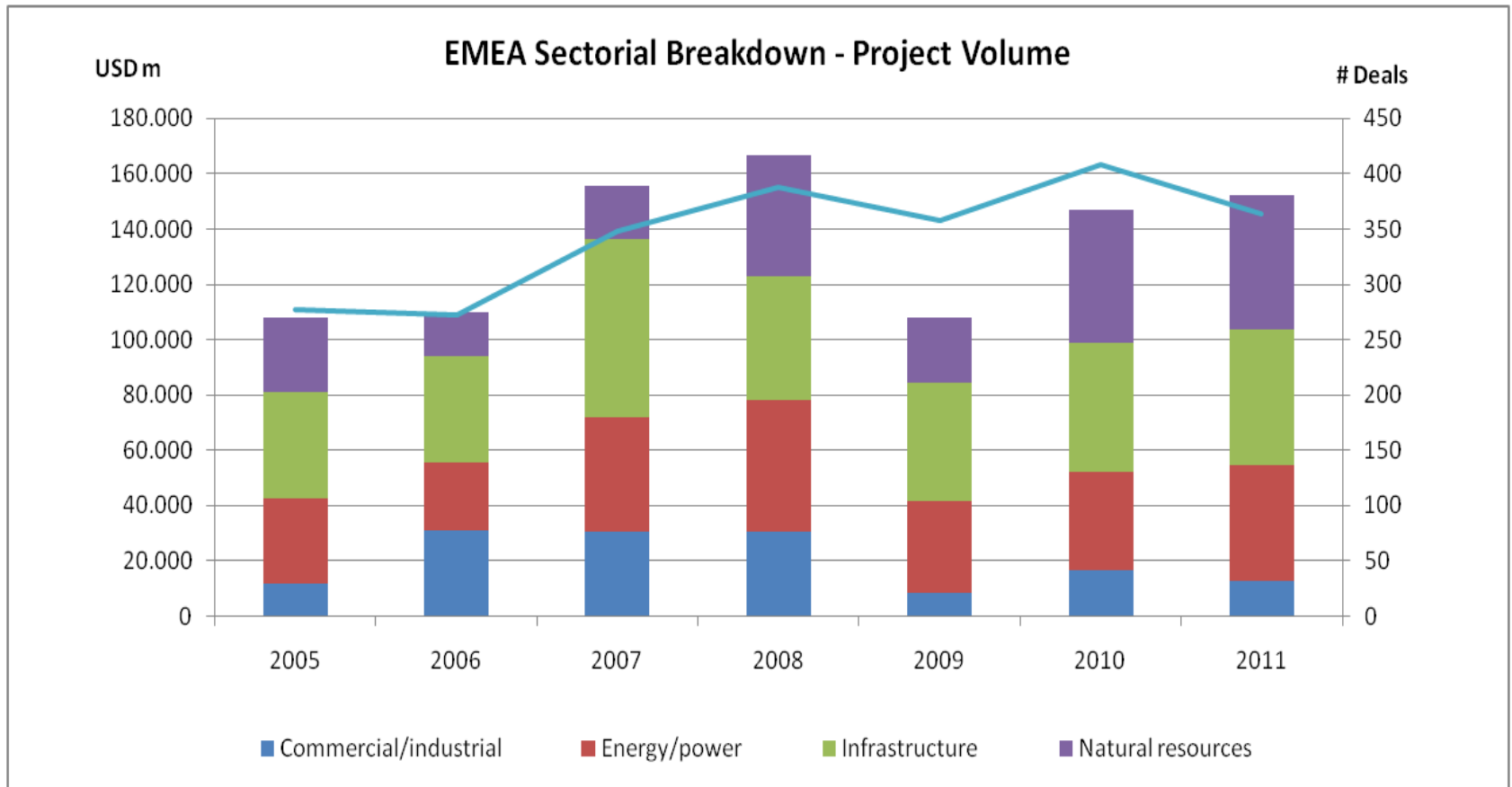
POLAR ENERGY



TilburyPartners  
"Rewarder of every one of your virtues"

# Finance – a key ingredient

## EMEA PF Volumes – Sectorial Breakdown 2005 - 2011



Source: Projectware

# Finance – a key ingredient

... there is global Competition for Long Term funding !!!

■ 2011 saw 19 “Jumbo” deals (above \$ 2bn) financed, for an aggregate amount of \$ 67.7bn, including:

■ Barzan Gas Project - Qatar	\$ 9.8 bn
■ Tour-Bordeaux HSR - France	\$ 9.1 bn
■ Nord Stream Phase 1 Refinance - Russia	\$ 5.4 bn
■ Nord Stream Phase 2 - Russia	\$ 4.9 bn
■ Tullow Oil RB Facility - Ghana	\$ 3.0 bn
■ London Gateway Port - UK	\$ 2.2 bn

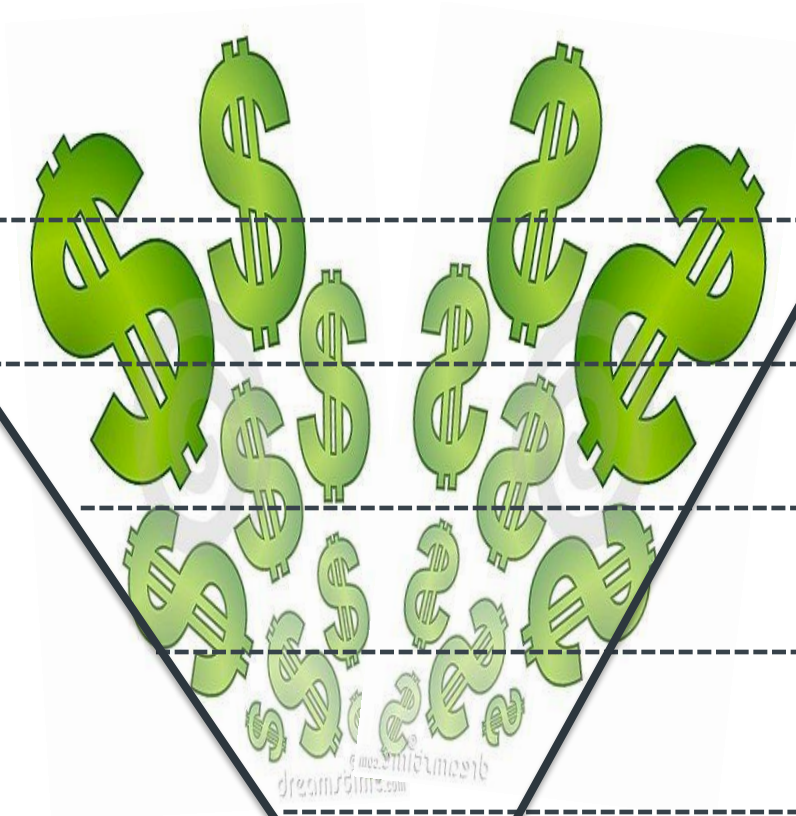
■ Volume up 23% from 2010 (14 jumbos) and 130% from 2009 (11 jumbos).

■ Strong growth in financing demand - increased flow of “Jumbo” projects

Source : LMA Presentation 2012

# Finance – a key ingredient

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- Subprime crisis
- Risk Caution
- Regulatory Requirements
- Sovereign Debt Issues
- Bank Ratings and Capital

**There is still finance for ‘good projects’**



# Finance – a key ingredient

Large pool of long term Funds/Assets looking for a good home ....

## Largest global investment management centres

\$bn, end-2010	Pension funds	Insurance assets	Mutual funds	Total conventional	% <i>share</i>
US	17,371	6,431	11,821	35,623	45
UK	2,926	2,736	854	6,516	8
Japan	1,388	3,958	786	6,132	8
France	232	2,509	1,617	4,358	6
Germany	171	1,384	334	1,889	2
Netherlands	1,057	508	86	1,651	2
Switzerland	551	427	262	1,240	2
Other	6,241	6,681	8,939	21,861	27
Total	29,937	24,634	24,699	79,270	100

<sup>1</sup> figures are for domestically sourced funds regardless where they are managed. No reliable comparisons are available for total funds under management by country

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

# Summary

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- Wind very much a Global Business
- EU requires significant energy upgrade investment
- Developing Renewable activity in Emerging Markets
- Government support variable
- Bank liquidity issues remain
- Competition for Bank funding from other Infrastructure
- Involve wider universe of Investors and debt providers
- Solid track record of sustained Wind growth

The Vestas logo is positioned in the top left corner of the slide. It features the word "Vestas" in a bold, blue, sans-serif font, with a registered trademark symbol (®) to its upper right. The background of the slide is a photograph of an offshore wind farm at sunset or sunrise, with the sun low on the horizon and its light reflecting on the water. The sky is filled with dramatic, dark clouds. The wind turbines are silhouetted against the bright horizon line. A large, semi-transparent blue triangle is overlaid on the left side of the image, partially covering the sky and the turbines.

**Vestas**®

**Wind.** It means the world to us.™

# Thank you!

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