

4th South East Europe Energy Dialogue

Dr. William Vikatos
Area Sales Manager

Vestas[®]

WIND. IT MEANS THE WORLD TO US.[™] | vestas.com



- **Energy Security**
- **Sustainable Development**
- **Climate Change**

VESTAS STARTED THE WIND INDUSTRY AND WE ARE HERE TO STAY

- We installed our first wind turbine in 1979

A dark blue square graphic with a white circular arrow pointing clockwise. Inside the circle, the word "WIND." is written in large white capital letters. Below it, in smaller white text, are the lines: "It's what we do.", "It's all we do.", and "And it's all we've ever done."/>

WIND.
It's what we do.
It's all we do.
And it's all we've ever done.

WE ARE MORE THAN 20.000 EMPLOYEES COMMITTED TO WIND



Vestas Hellas

- Established in 2000
- > 50% market share
- 130 employees
- 8 regional Service offices

WIND, OIL AND GAS

Our vision is to put wind on a par with oil and gas.



OUR MAIN TASK IS TO SERVE OUR CUSTOMERS

- Business Case Certainty
- Cost of Energy
- Easy to Work With



WE ACT AS GREEN AS IT GETS

- Vestas' production and products must be as green as it gets.
- 80% of a V90 3.0 MW turbine can be recycled.
- Vestas has a green building policy, a green car policy and a green energy policy.



OUR QUALITY IS CONTINUOUSLY IMPROVED

- The generating effect of Vestas turbines has grown 100-fold in 30 years.
- In 2010 our aim is to reach Five Sigma



WE ARE OFFERING OUR CUSTOMERS THE BROADEST PRODUCT RANGE

WIND TURBINES

V52-850 kW

V60-850 kW

V82-1.65 MW

V80-2.0 MW

V90-1.8/2.0 MW

V90-1.8 MW

V100-1.8 MW

V80-2.0 MW GridStreamer™

V90-1.8/2.0 MW GridStreamer™

V90-3.0 MW

V100-1.8 MW GridStreamer™

V112-3.0 MW onshore

V112-3.0 MW offshore

AOM = ACTIVE OUTPUT MANAGEMENT

AOM 1000

AOM 2000

AOM 3000

AOM 4000



WE KNOW HOW TO GET THE MOST OUT OF EACH TURBINE

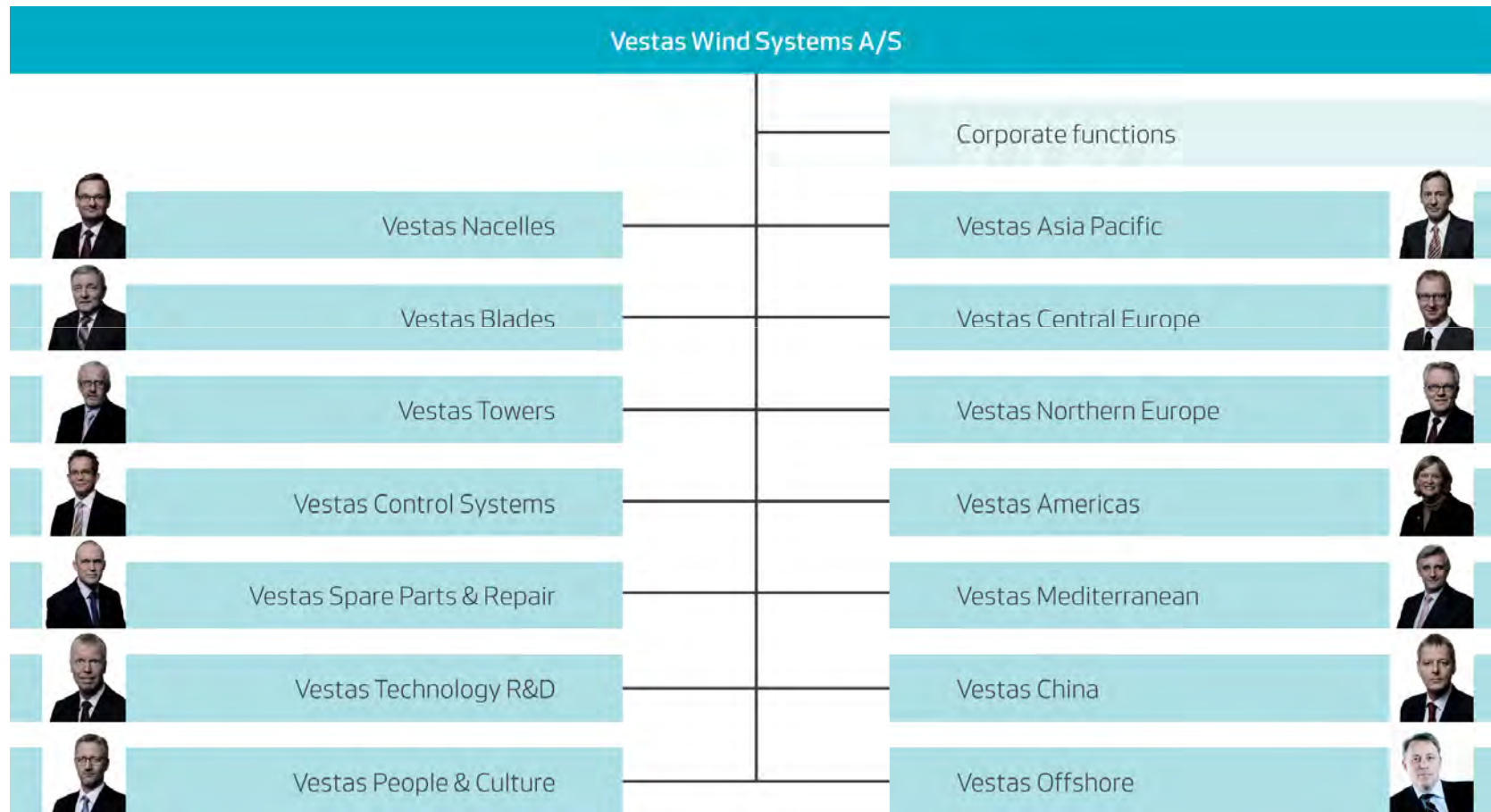
Data → Knowledge → Calculations



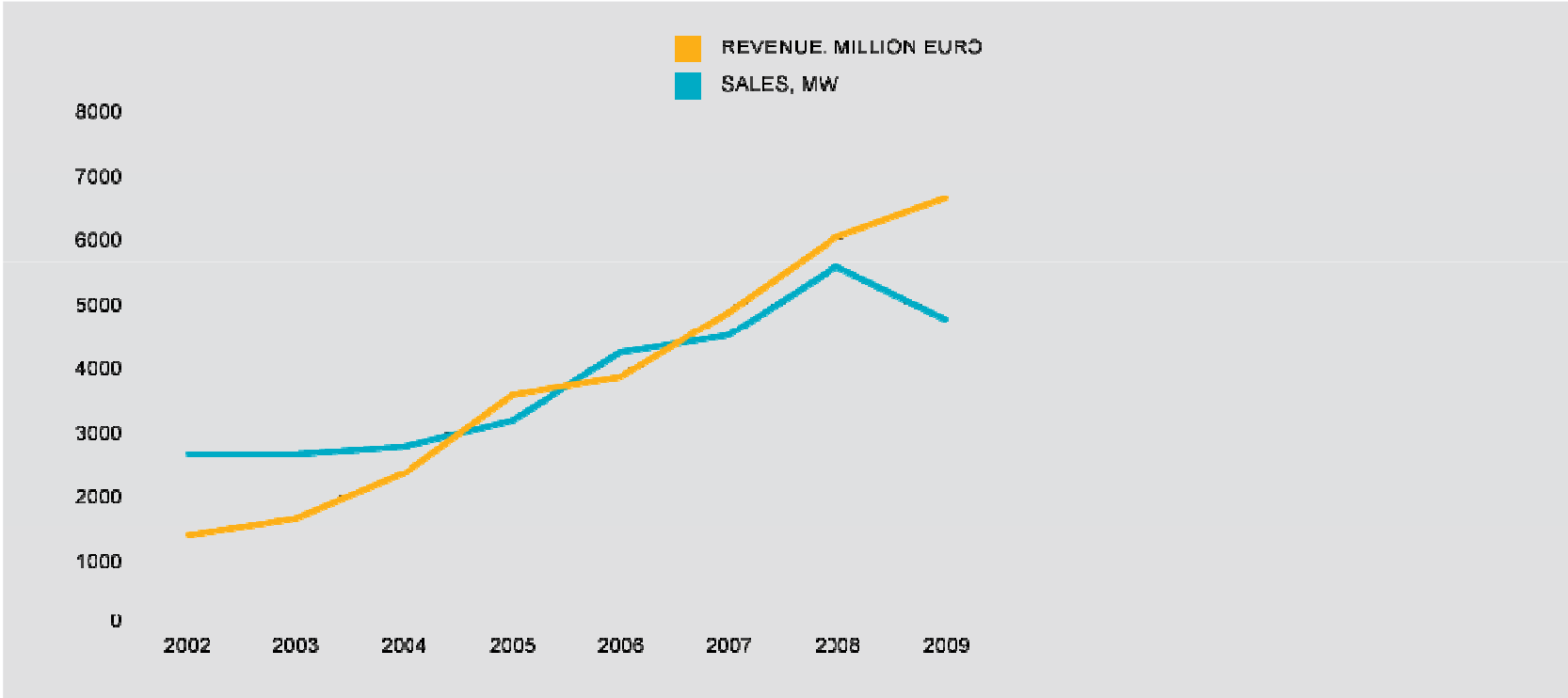
AND WE OFFER IT GLOBALLY



OUR ORGANISATION SHOWS OUR GLOBAL PRESENCE



THE FINANCIAL FIGURES SHOW WE ARE ON TRACK



WE EXPECT TO REACH OUR VISION NO LATER THAN 2015

We call it Triple15

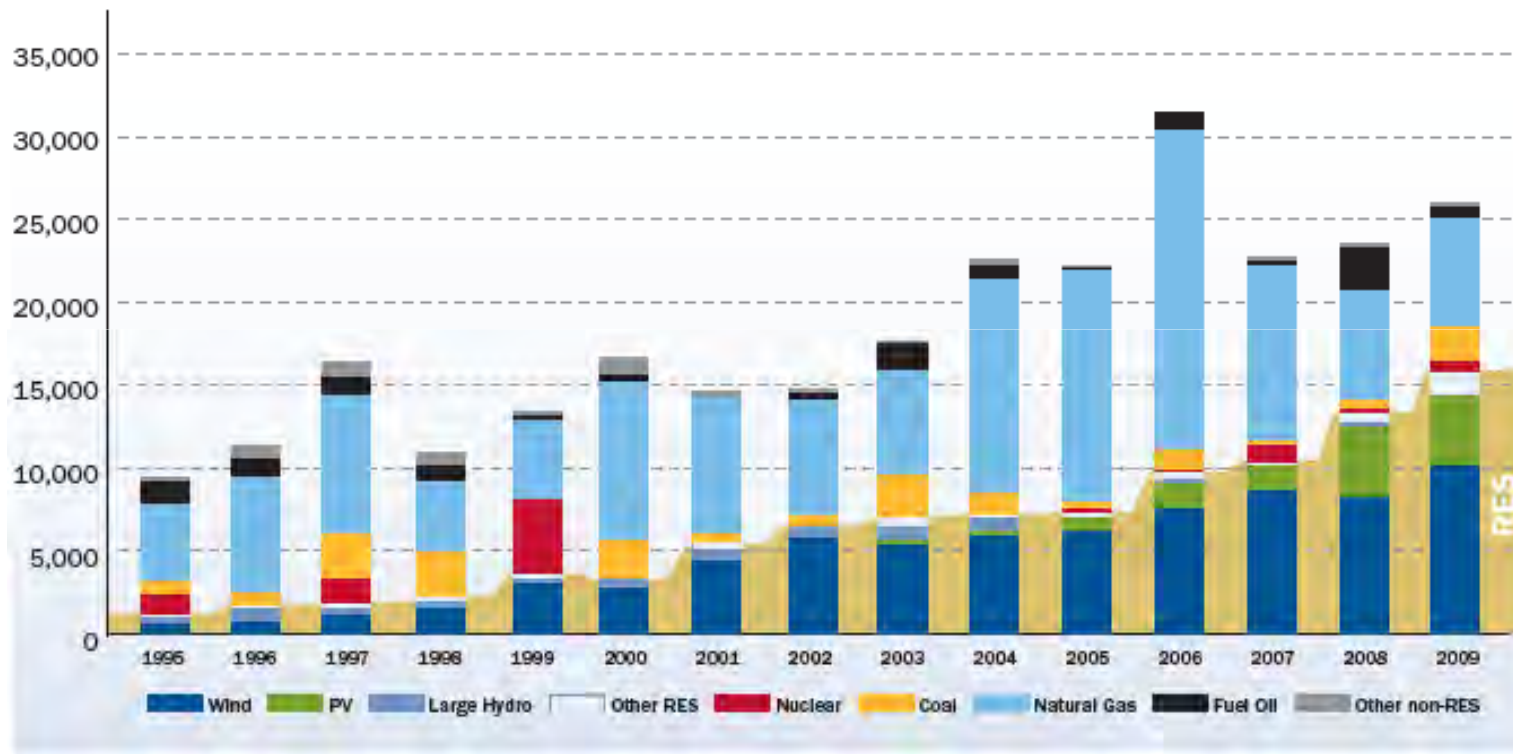


WIND. IT MEANS THE WORLD TO US™



Wind power leads the renewable technologies

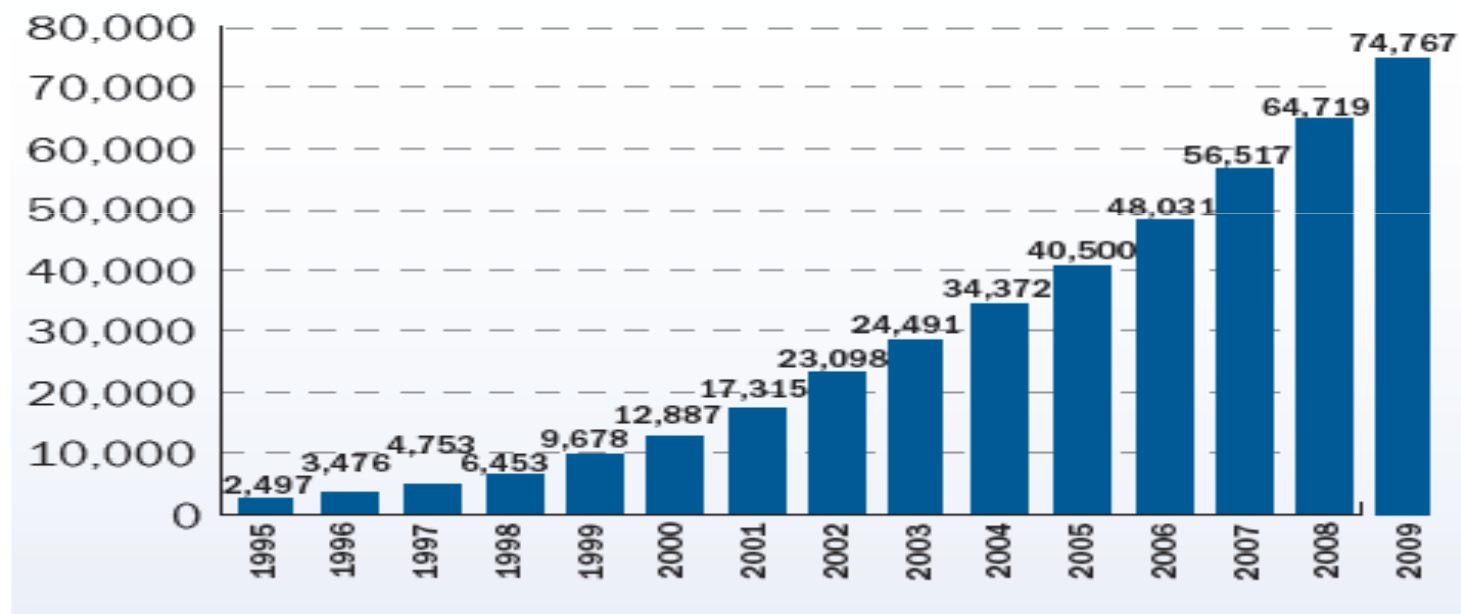
NEW INSTALLED CAPACITY PER YEAR IN MW



SOURCE: EWEA

EU wind power capacity has now exceeded 74,7 GW

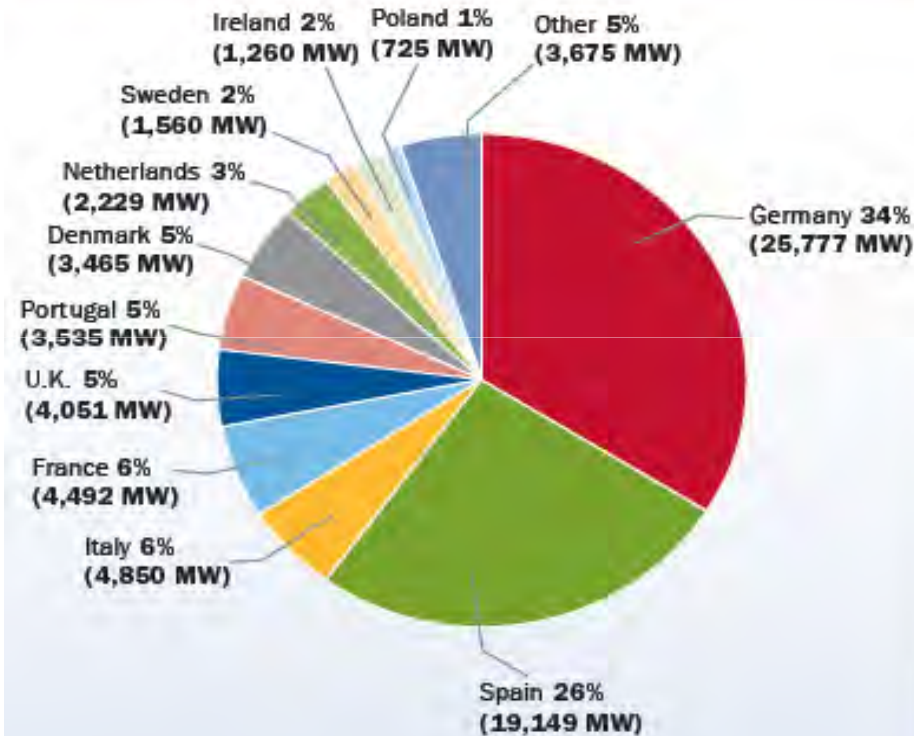
CUMULATIVE WIND POWER INSTALLATIONS MW



SOURCE: EWEA

Germany and Spain are leading the way in Europe

EU MEMBER STATE MARKET SHARES FOR TOTAL INSTALLED CAPACITY (2009). TOTAL 74,767 MW



Others	
Austria	1%
Belgium	1%
Bulgaria	0%
Cyprus	0%
Czech	0%
Estonia	0%
Finland	0%
Greece	1%
Hungary	0%
Latvia	0%
Lithuania	0%
Luxembo	0%
Malta	0%
Netherlan	3%
Romania	0%
Slovakia	0%
Slovenia	0%

SOURCE: EWEA

Explore opportunities in Emerging Markets

Cyprus

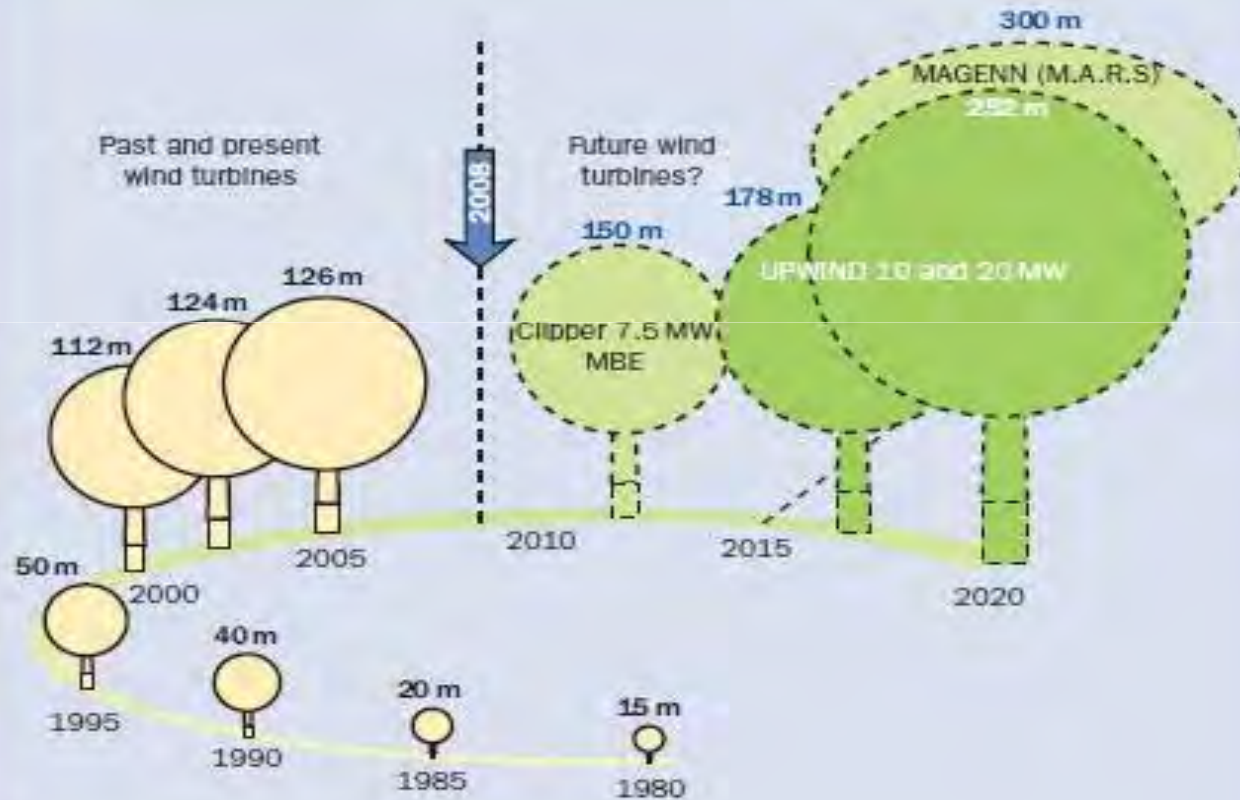
Vestas will deliver the wind turbines for the first ever wind farm in the country (82MW).



Bulgaria Total: 330 MW Vestas: 256MW (+57) Potential: 1300 MW		Hungary Total: 178 MW Vestas: 58 MW (+58) Potential: 330 MW		Austria Total: 996 MW Vestas: 384 MW Potential: 1300 MW	
Romania Total: 10 MW Vestas: (+429 MW) Potential: 2350 MW		Ukraine Total: 90 MW Vestas: - Potential: 5000 MW		Azerbaijan Total: 1.7 MW Vestas: 1.7 MW Potential: 2500 MW	
Poland Total: 550 MW Vestas: 190 MW Potential: 6000 MW		Croatia Total: 23 MW Vestas: 6 MW (+42) Potential: 360 MW		Czech Rep. Total: 174 MW Vestas: 64 MW Potential: 800	
		Slovakia Total: 5 MW Vestas: 2.5 MW Potential: 500 MW			

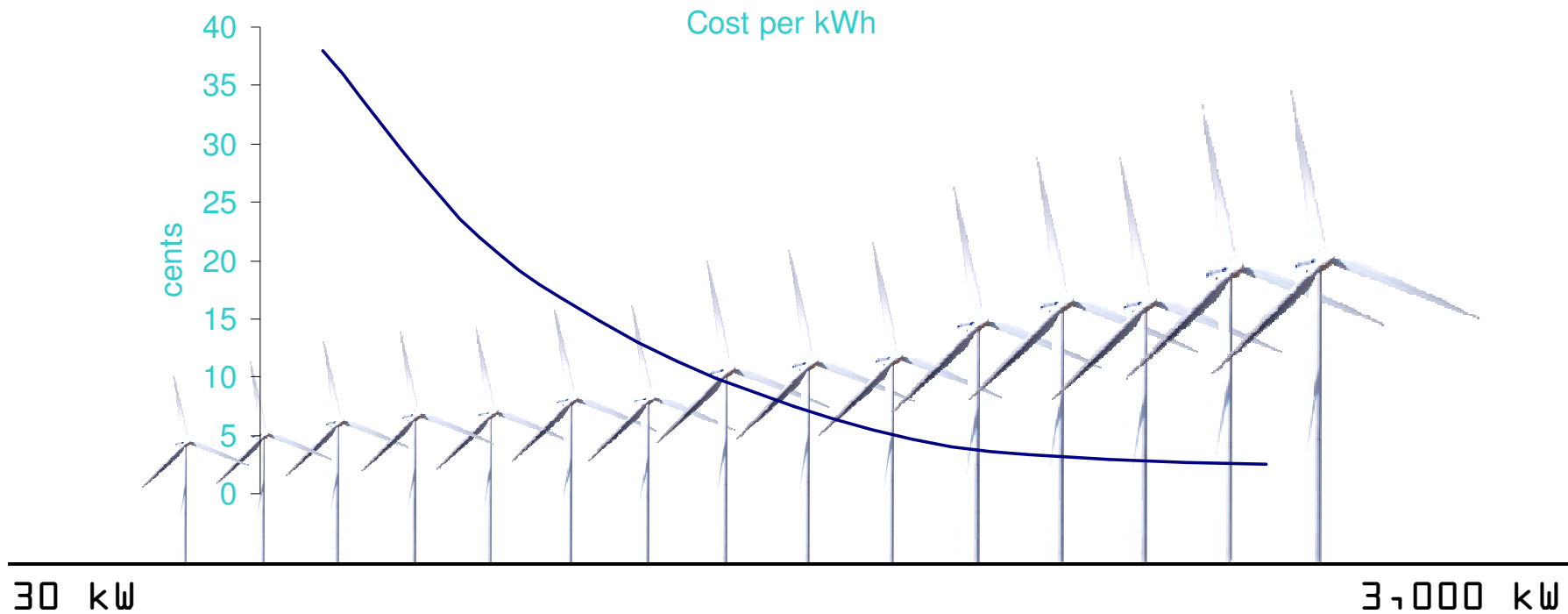
Evolution of Wind Turbines over the years

Figure S.4: Growth in size of commercial wind turbine designs



Source: Garrad Hassan

Over the last 25 years, the output of a typical Turbine has increased by 100, whereas costs have decreased by 10



Typical Wind Economics

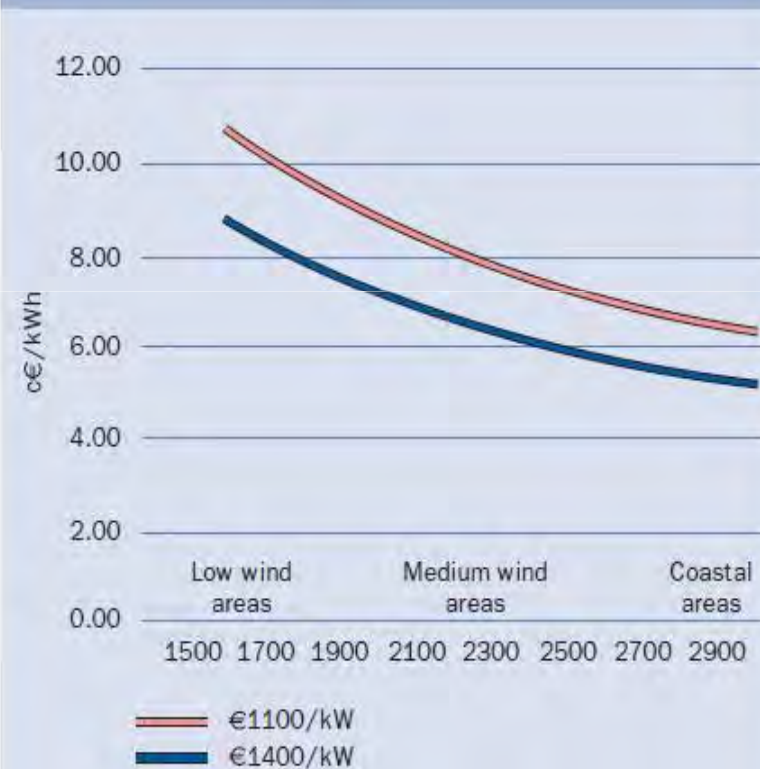
Table S.2: Cost structure of a typical 2 MW wind turbine installed in Europe (2006-€)

	Investment (€1000/MW)	Share (%)
Turbine (ex-works)	928	75.6
Foundations	80	6.5
Electric installation	18	1.5
Grid connection	109	8.9
Control systems	4	0.3
Consultancy	15	1.2
Land	48	3.9
Financial costs	15	1.2
Road	11	0.9
Total	1227	100

Note: Calculated by the author based on selected data for European wind turbine installations.

Source: Risø DTU

Figure S.11: Calculated costs per kWh of wind generated power as a function of the wind regime at the chosen site (number of full load hours)



Source: Risø DTU

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During this presentation, Vestas Wind Turbines have produced

0 0 5 , 5 4 4 , 0 2 1 kWh

...saving the world from 35981 tons of CO₂

Continue