"Strategies for promoting RES, Wind in particular"

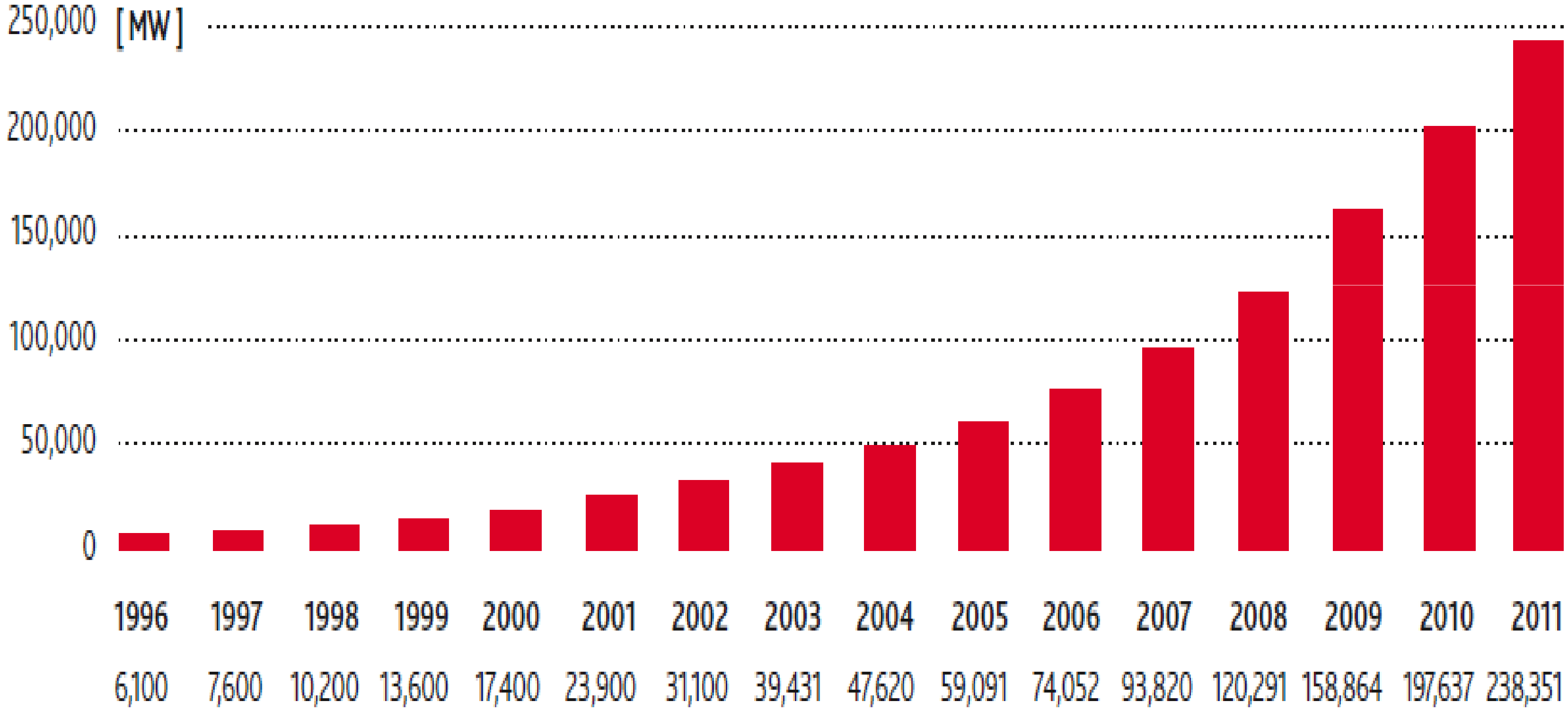
Presented at the 6th SE Europe Energy Dialogue of IENE

Thessaloniki 30/05/2012

Yanos Michopoulos, VP
General Manager, Vestas Hellas & Cyprus

Significant growth in total Global Wind Power Capacity 1996-2011:

From 6.1 GW (1996) to 238.4 GW (2011)

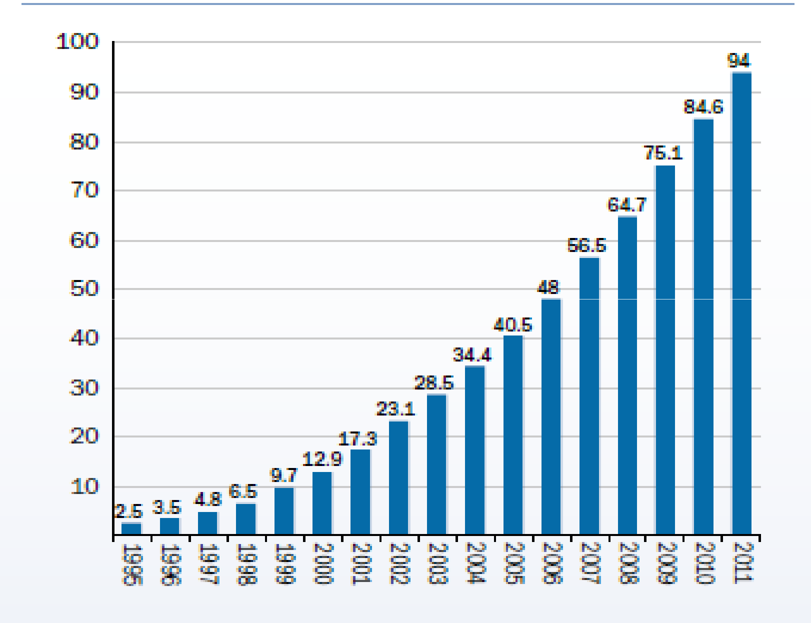


Source: EWEA

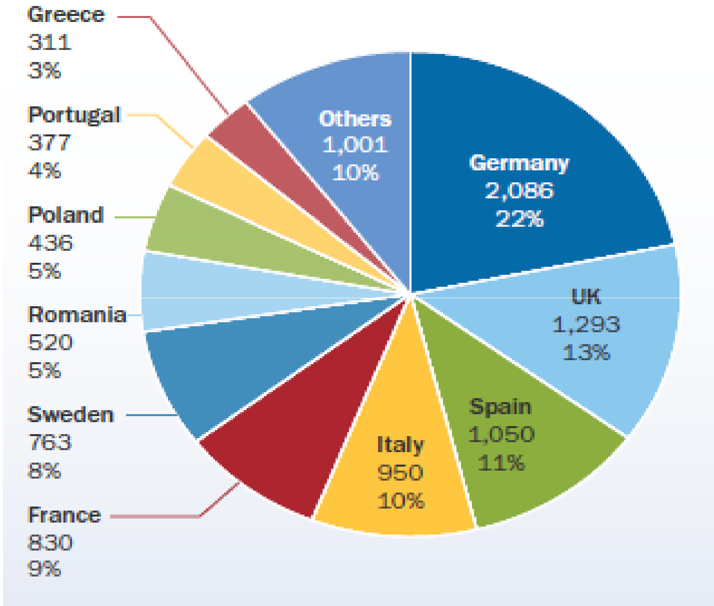
Wind. It means the world to us.™

Wind Energy in Europe (EU27)

Total EU capacity 1995-2011:
94 GW



EU new capacity installed in 2011:
9,616 MW

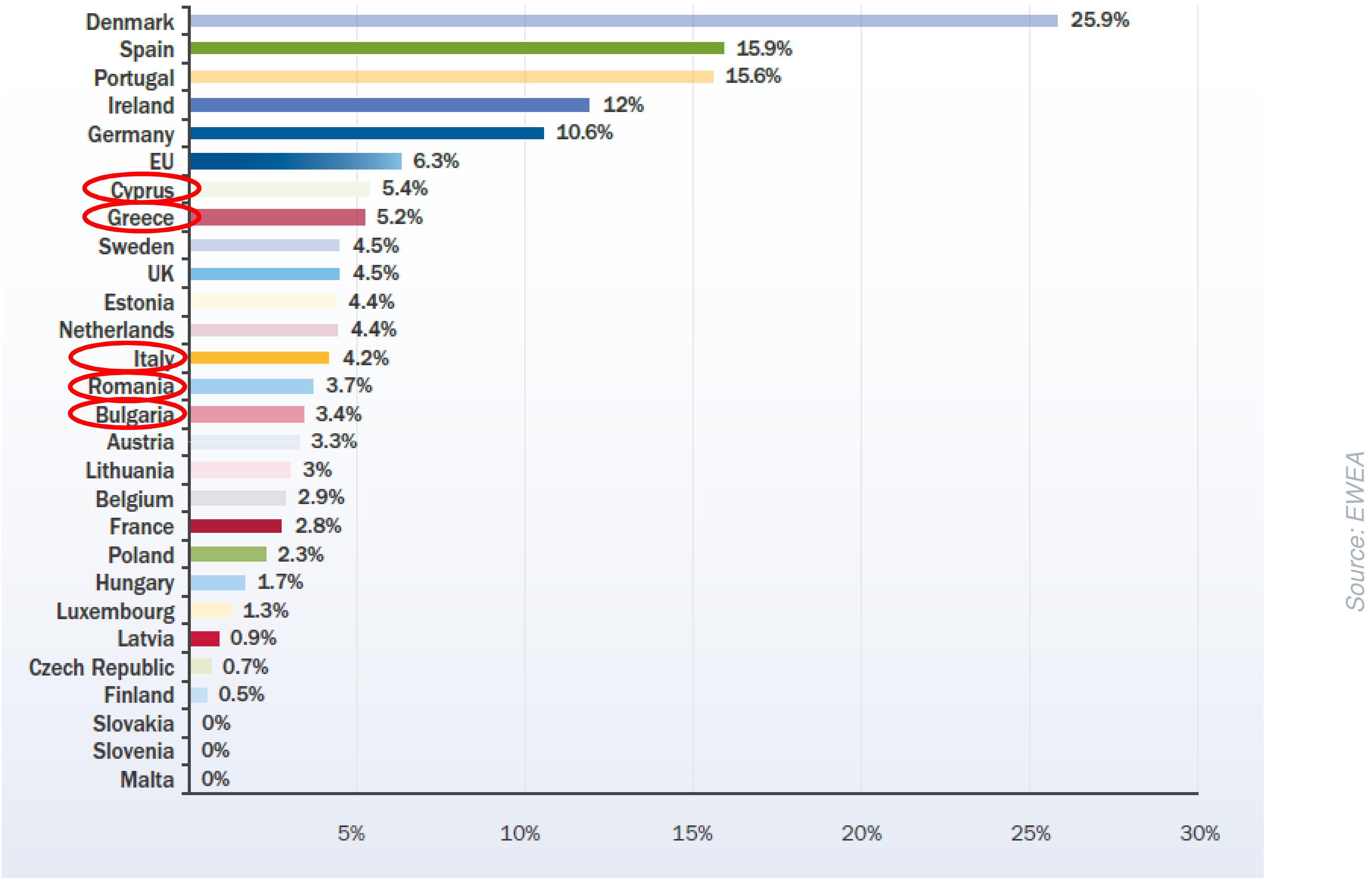


Source: EWEA

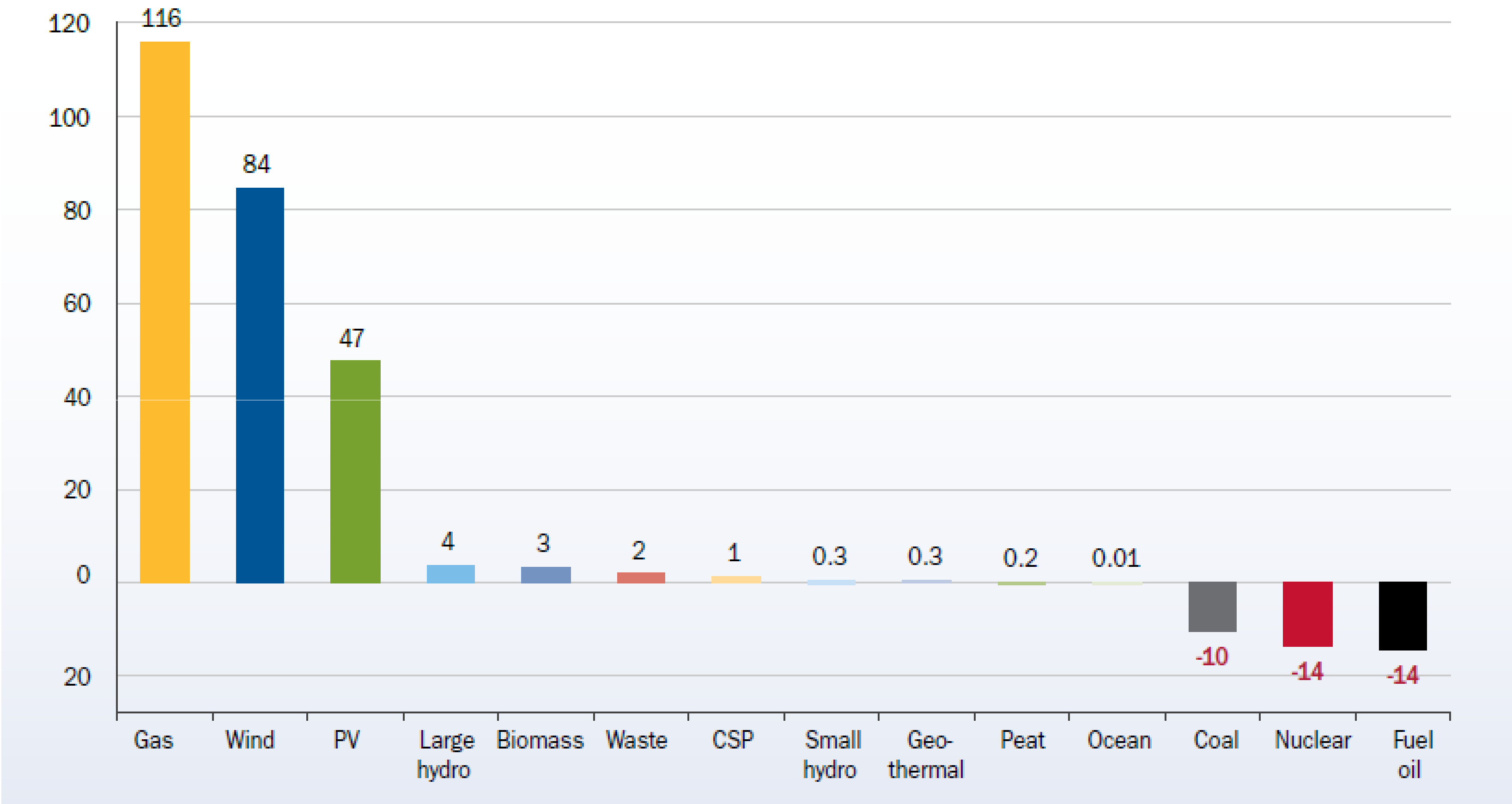
Wind Power installed in Europe (EU27) by the end of 2011 (accumulative)

Source: EWEA

Wind Share of Total Electricity consumption in (EU27) countries



Considerable increase in Wind investments over the last 10 years:
84 GW added



Source: EWEA

The Top-10 list of suppliers 2011

Vestas competes with different suppliers in each market

Positions in the Top-Ten markets Market/Country	Suppliers in the leading markets			
	Total MW 2011	**No. 1**	**No. 2**	**No. 3**
1. P.R. China	17,582	Goldwind	Sinovel	United Power
2. USA	6,901	GE Wind	Vestas	Siemens
3. India	3,421	Suzlon Group	Enercon-India	Gamesa
4. Germany	1,896	Enercon	Vestas	Suzlon Group
5. UK	1,061	Siemens	Suzlon Group	Vestas
6. Canada	943	Siemens	GE Wind	Vestas
7. Spain	706	Gamesa	Vestas	GE Wind
8. Italy	787	Gamesa	Vestas	Enercon
9. France	888	Vestas	Enercon	Suzlon Group
10. Sweden	670	Vestas	Enercon	Siemens
Total MW in Top-Ten	**34,855**	***The Top-Ten markets counts for 86% of the global supply in 2011***		

Sources: BTM Consultant, March 2012

The Top-10 list of suppliers globally

Vestas leads the way

	Accu. MW 2010	Supplied MW 2011	Share 2011 %	Accu. MW 2011	Share accu. %
VESTAS (DK)	45,547	5,213	12.9%	50,760	20.9%
GOLDWIND (PRC)	9,055	3,789	9.4%	12,844	5.3%
GE WIND (US)	26,871	3,542	8.8%	30,412	12.5%
GAMESA (S)	21,812	3,309	8.2%	25,120	10.3%
ENERCON (GE)	22,644	3,188	7.9%	25,832	10.6%
SUZLON GROUP (IND)	17,301	3,104	7.7%	20,405	8.4%
SINOVEL (PRC)	10,044	2,945	7.3%	12,989	5.3%
UNITED POWER (PRC)	2,435	2,859	7.1%	5,294	2.2%
SIEMENS (DK)	13,538	2,540	6.3%	16,078	6.6%
MINGYANG (PRC)	1,799	1,178	2.9%	2,976	1.2%
Others	34,882	8,693	21.5%	43,575	17.9%
Total	**205,927**	**40,358**	**100%**	**246,284**	**101%**

Sources: BTM Consultant, March 2012

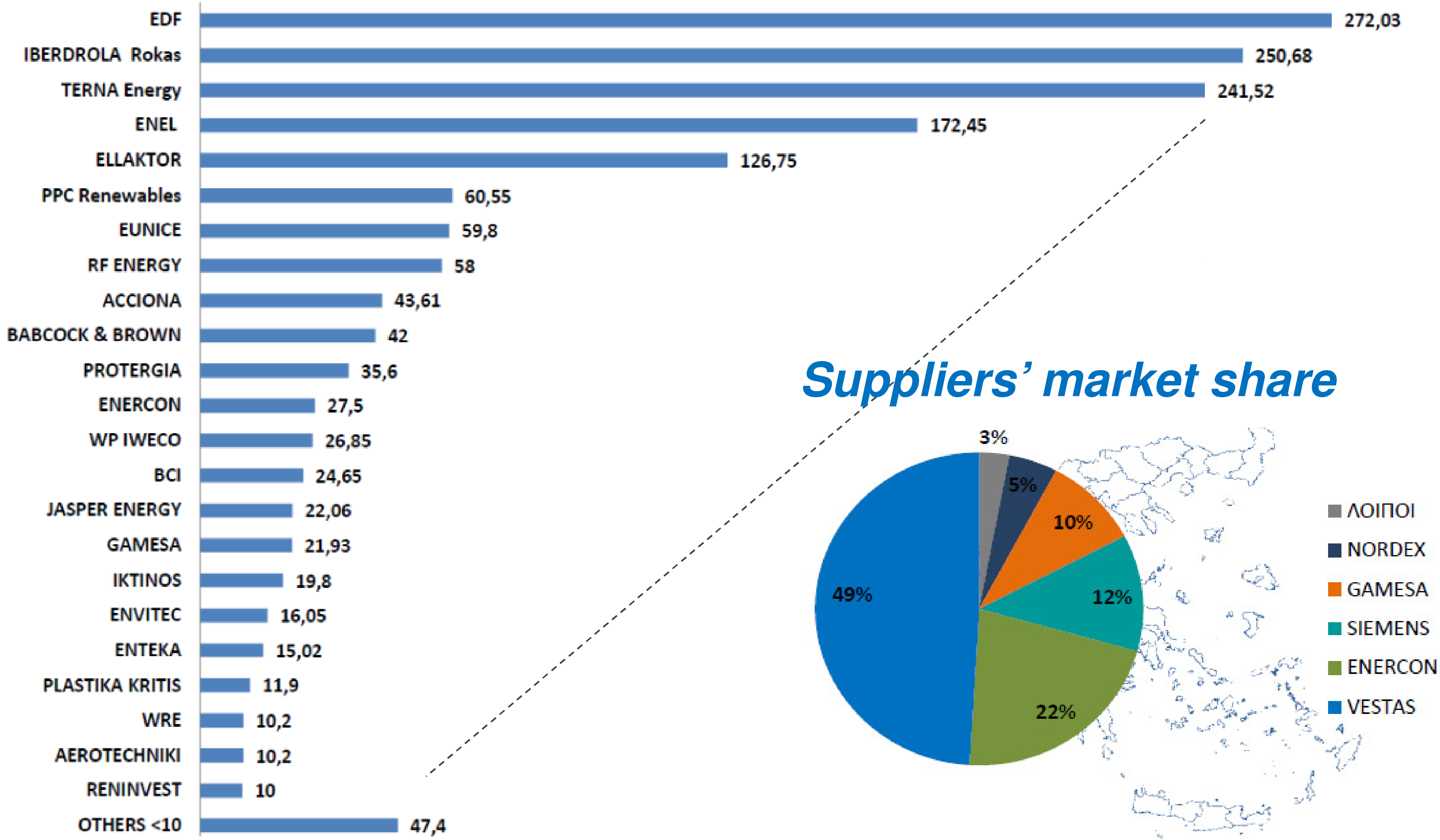
Vestas track record of delivered MW in various countries

Country/region	Number	MW	Country/region	Number	MW
Argentina	61	87	Lithuania	6	18
Aruba	10	30	Luxemburg	13	9
Australia	665	1.261	Malaysia	1	0
Austria	247	433	Mauritius	1	0
Azerbaijan	2	2	Mexico	56	103
Belgium	130	295	Morocco	84	50
Brazil	125	204	Netherlands	1.299	1.548
Bulgaria	116	303	New Caledonia	20	5
Canada	1.130	1.875	New Zealand	231	346
Cape Verde	36	26	North Korea	2	0
Caribbean Islands	2	0	Norway	27	16
Chile	64	117	Peru	1	0
China	2.959	3.465	Philippines	20	33
Costa Rica	71	51	Poland	240	495
Croatia	21	48	Portugal	365	664
Cuba	4	4	Republic of Ireland	563	586
Cyprus	41	82	Romania	192	488
Czech Republic	46	68	Russia	3	1
Denmark	4.984	2.694	Slovakia	4	3
Dominican rep.	14	25	South Africa	3	4
Egypt	124	79	South Korea	104	166
Finland	41	27	Spain	2.777	3.749
France	728	1.392	Sri Lanka	5	3
Germany	6.057	7.795	Sweden	1.158	1.427
Greece	770	1.044	Switzerland	17	25
Hungary	49	105	Taiwan	50	86
India	4.392	2.711	Thailand	1	0
Iran	37	16	Turkey	223	556
Israel	3	0	USA	11.796	9.669
Italy	2.328	2.664	Ukraine	1	3
Jamaica	33	39	United Arabian Emirates	1	1
Japan	379	510	United Kingdom	1.179	1.781
Jordan	5	1	Uruguay	16	32
Kenya	6	5	Vietnam	3	6
Latvia	1	1			
Delivered Vestas turbines as of 31 December 2011					

In red are some of the countries that IENE is also active

Wind Market in Greece

Energy investors



Suppliers' market share

Source: Hellenic Wind Energy Association

Vestas Hellas: Strong Local Presence

- Established in Athens in 2000 *(although present from 1985)*

- Core business: **Sales**, **Installation** and **Maintenance** of WTGs in Greece, Cyprus and some Balkan countries (FYROM, Serbia)

- **1044 MW*** - 770 WTGs* in **Greece**
  & **82 MW*** - 41 WTGs* in **Cyprus**

**delivered as of 31 December 2011*

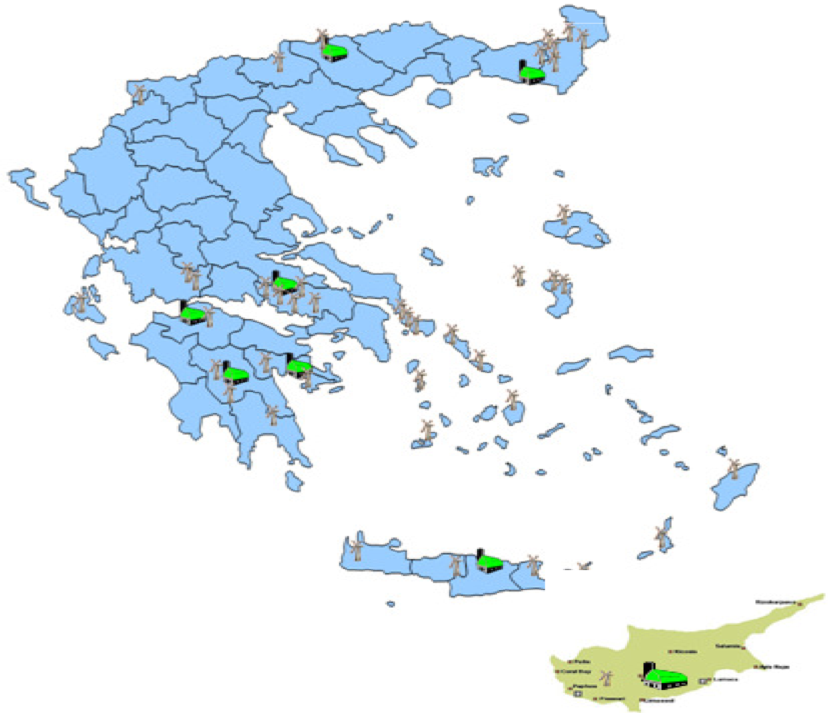
- **> 50%** market share

- **Safety First!** 468 days since last loss-time injury (LTI) (before that, we had another 500 days with no LTI)

- **130 employees**, most of them employed at the Service sites in Greece & Cyprus

- **50 Operational Wind-Farms, 800 MW in Service**

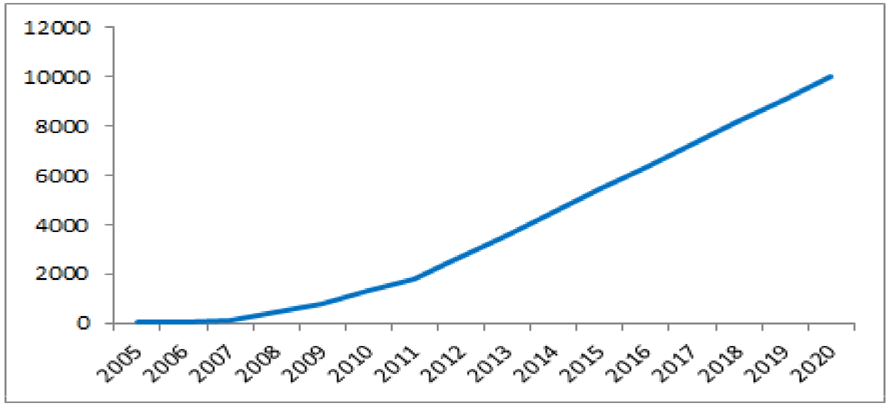
- **Service & Logistic Centers** strategically located in: *Crete, Alexandroupolis, Kranidi, Patra, Sidirokastro, Livadia, Tripoli, Kefallonia & Cyprus*



Wind Market in Turkey

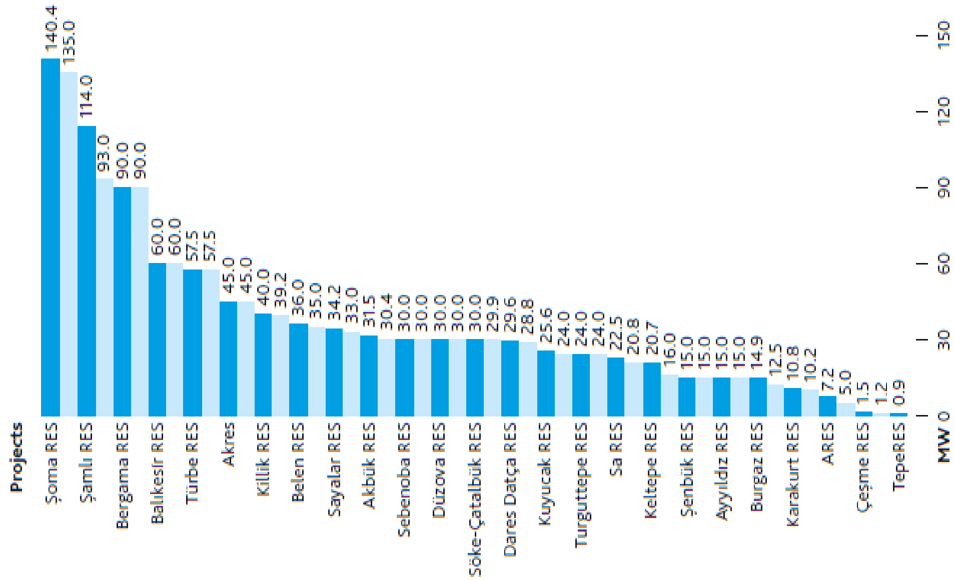
- One of the fastest growing power markets for the last 2 decades (especial gas)
- Market is mostly dominated by local developers
- Local production of towers & blades
- Complex & bureaucratic administrative procedures
- 1,799 installed MW (556 with Vestas WTGs)
- Ambitious growth plan: 10 GW on 2020. Road map to be clarified e.g. unclear local content regulations

From 1.8GW to 20 GW on 2023



Source: GWEC

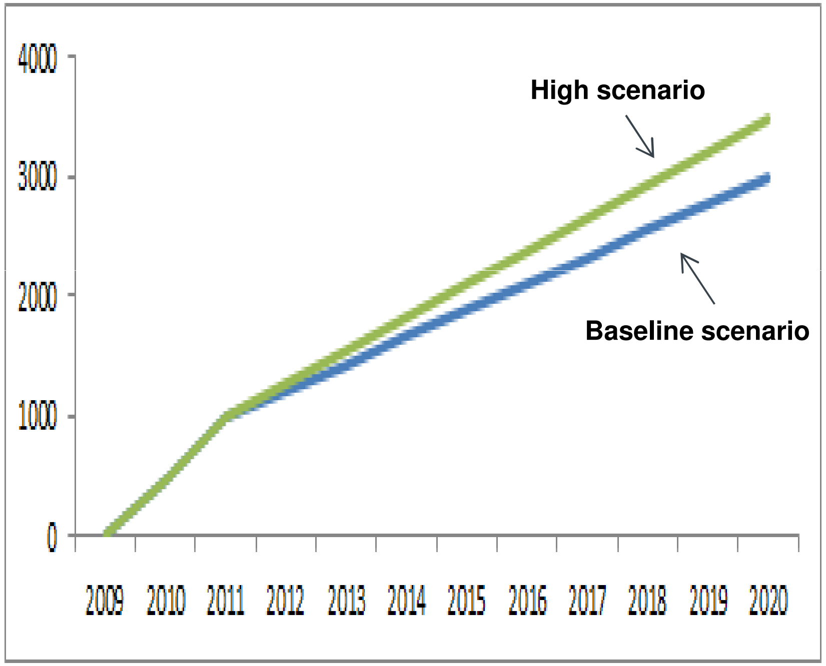
Expected to be installed in 2012



Wind Market in Romania

- Target national quota for renewable energy use in 2020 is 24%
- Despite vast wind resources, wind power only accounts for about 3,7% of its national electricity production
- Significant development pipeline, the market is estimated to reach 3 - 3,5 GW by 2020
- Wind friendly legal framework since 2008
- Insufficient grid infrastructure
- Impact of financial crisis' is not known yet
- 982 MW of which 488MW with Vestas WTGs, in operation
- Main investors are: CEZ (Czech utility), EDP & Enel Green Power

From 982 MW today to 3 - 3,5* GW on 2020

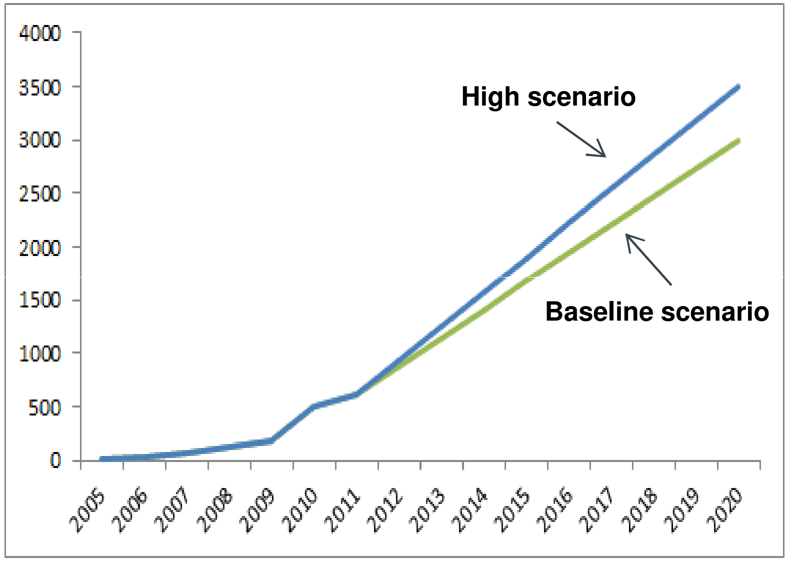


**based on EWEA's baseline & high scenarios*

Wind Market in Bulgaria

- 16% of the total energy supply should be represented by RES until 2020
- Insufficient grid infrastructure
- Unstable market framework
- Complex authorization process
- Luck of electricity exchange market
- 612 installed MW of which 303MW with Vestas WTGs

From 612 MW today
to 3 - 3,5* GW on 2020

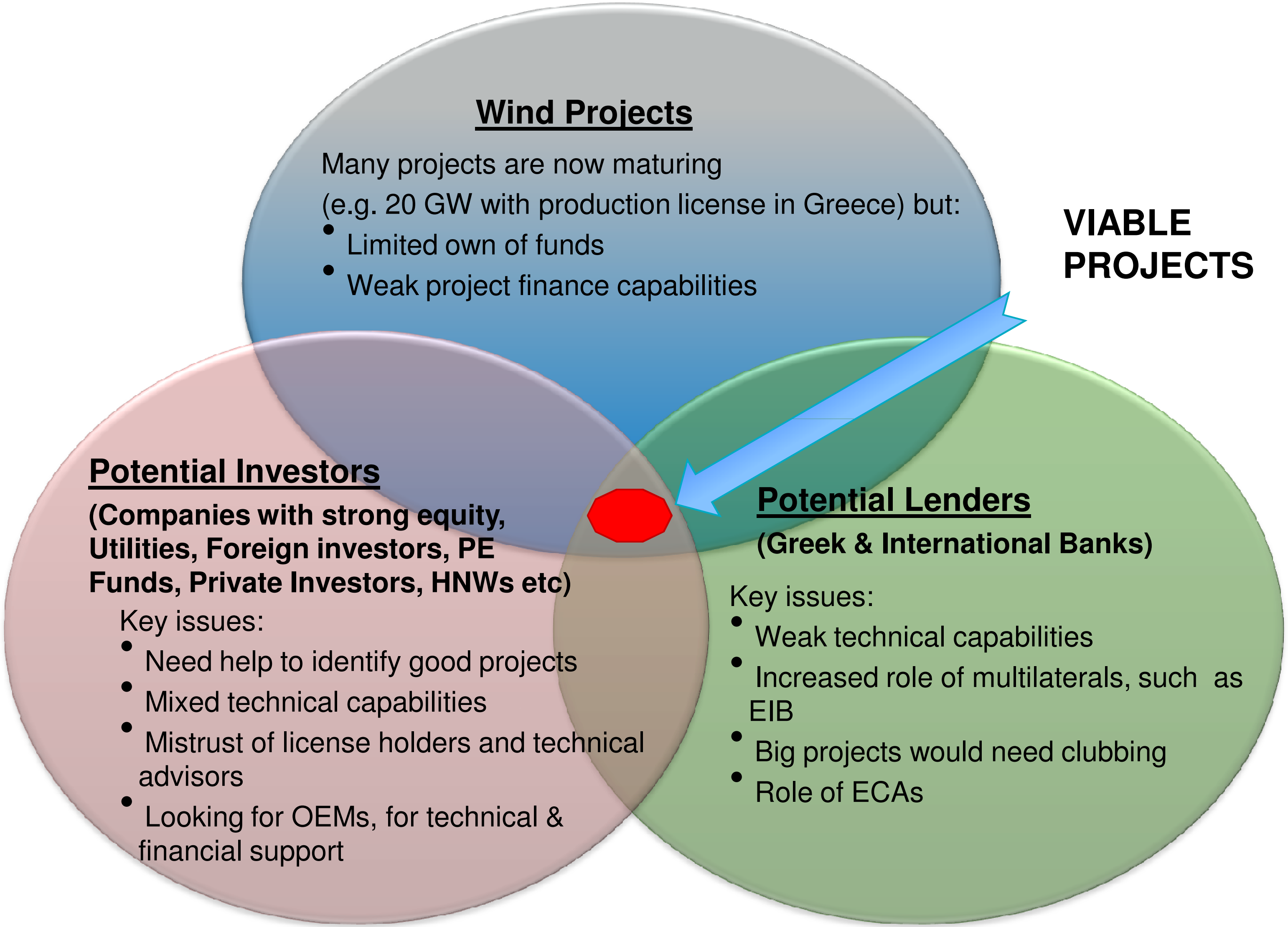


based on EWEA's baseline & high scenarios

Market requirements for success

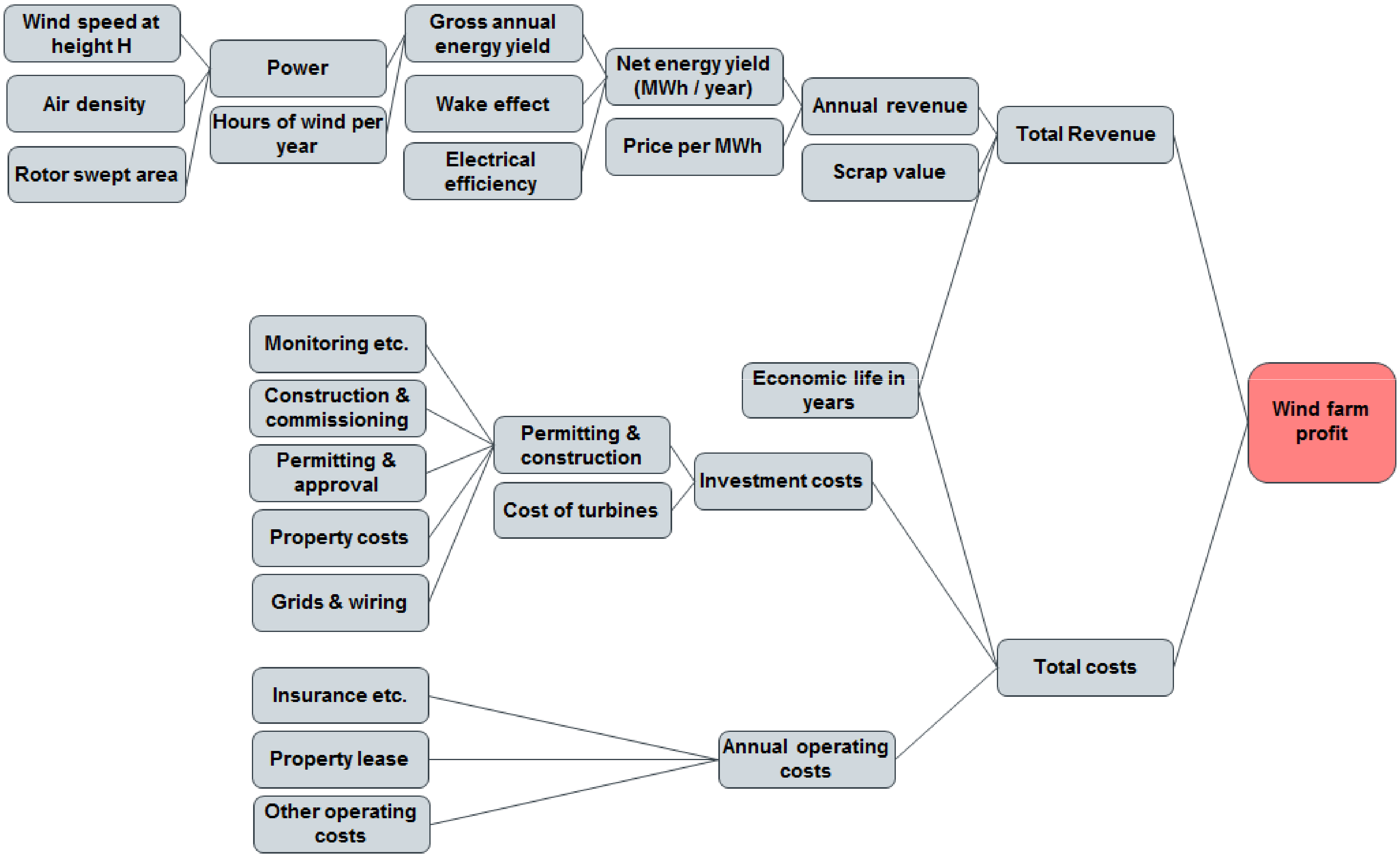
- Stable frame work
- Adequate infrastructure
- Public awareness
- Available finance

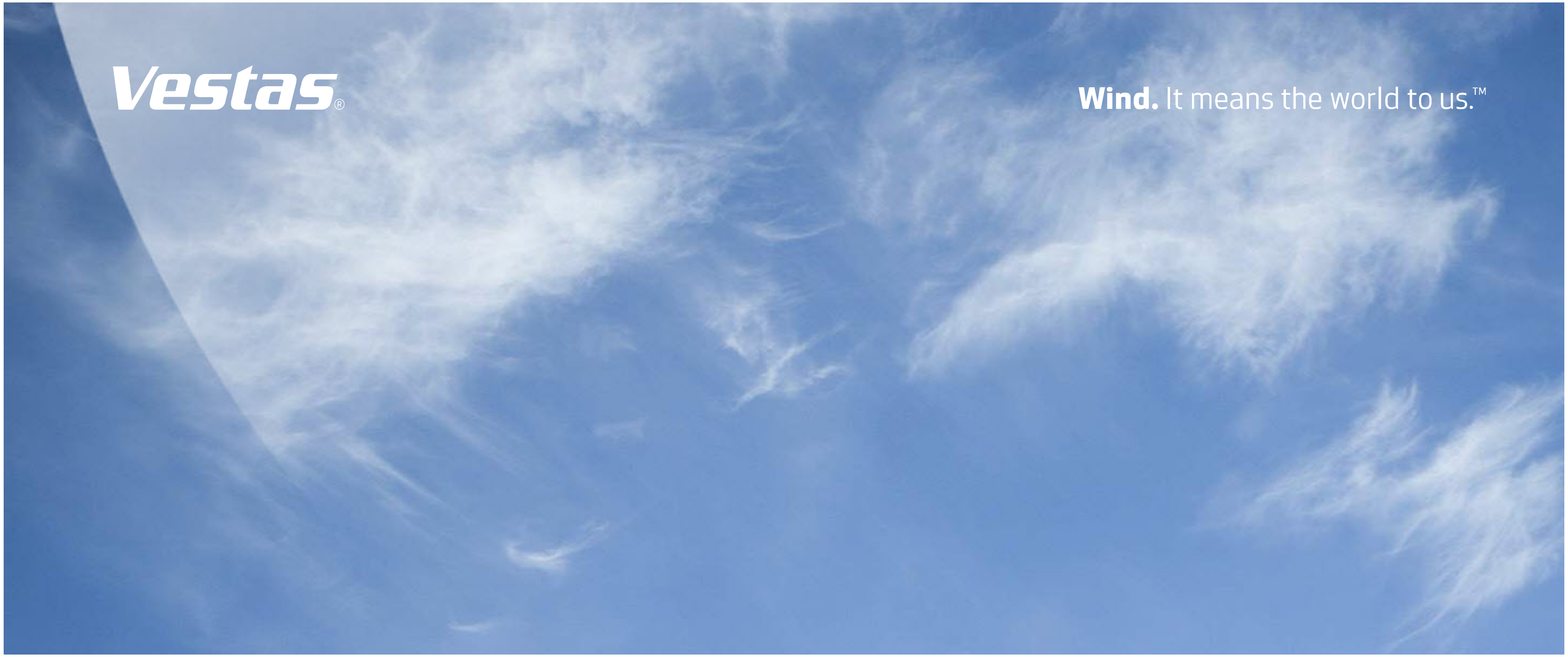
Financing (not Cost) is the Key Success Factor for future growth



The factors that impact revenue and cost

WTGs' cost is 1 out of the 25 factors that affect the profitability of a w/f





Thank you for your attention