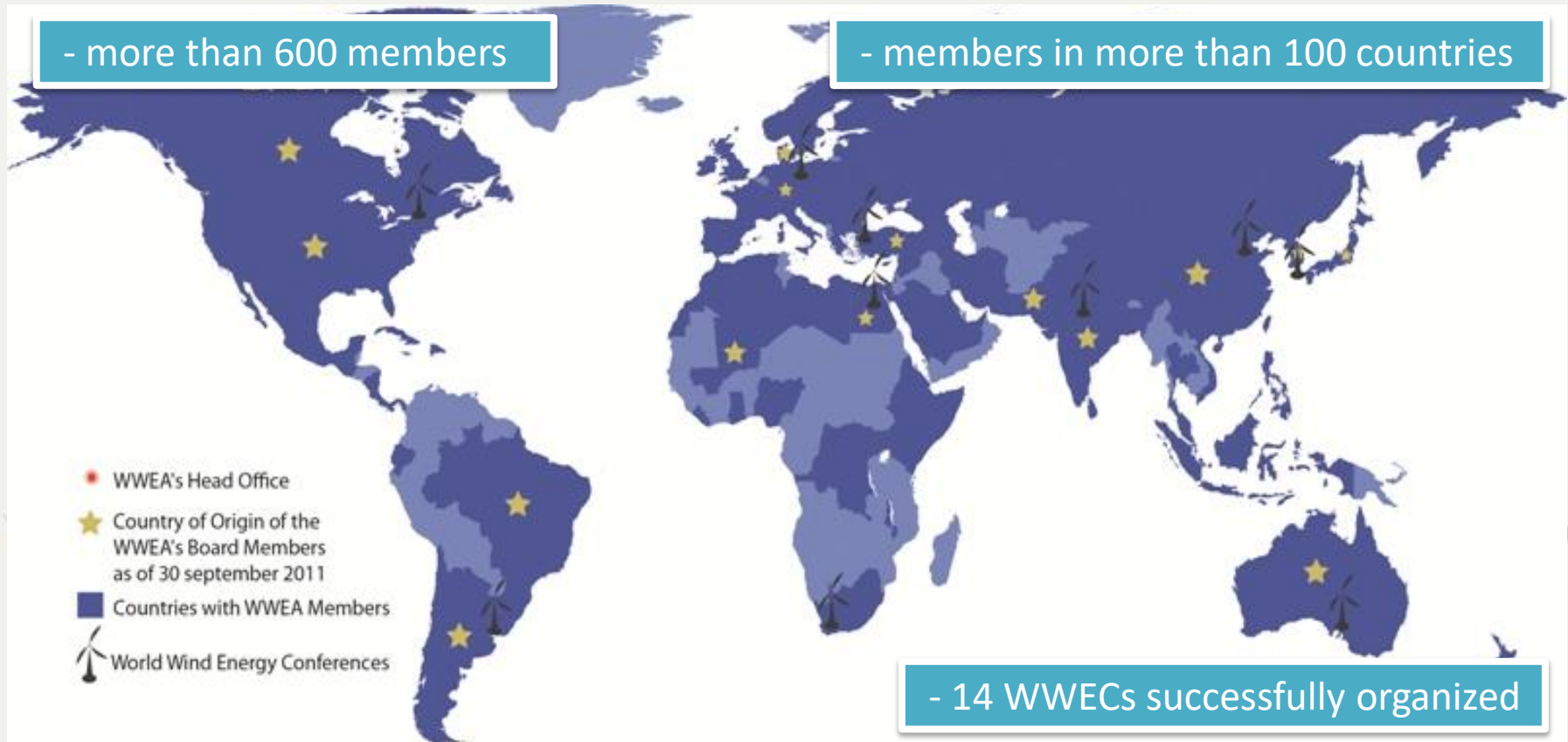


The Russian Windpower Market in the Global Energy Landscape after the Paris Agreement

REENCON XXI

Moscow, 13-14 October 2016

The World Wind Energy Association



The World Wind Energy Association



Our Mission: Promoting the worldwide utilisation of wind energy

How?



being a communication platform for all wind energy actors worldwide



advising national and international policies in favour of wind energy



enhancing international technology transfer

International Cooperation



WWEA has Special Consultative Status at UN, and works with other international organisations



WWEA has supported the establishment of the International Renewable Energy Agency



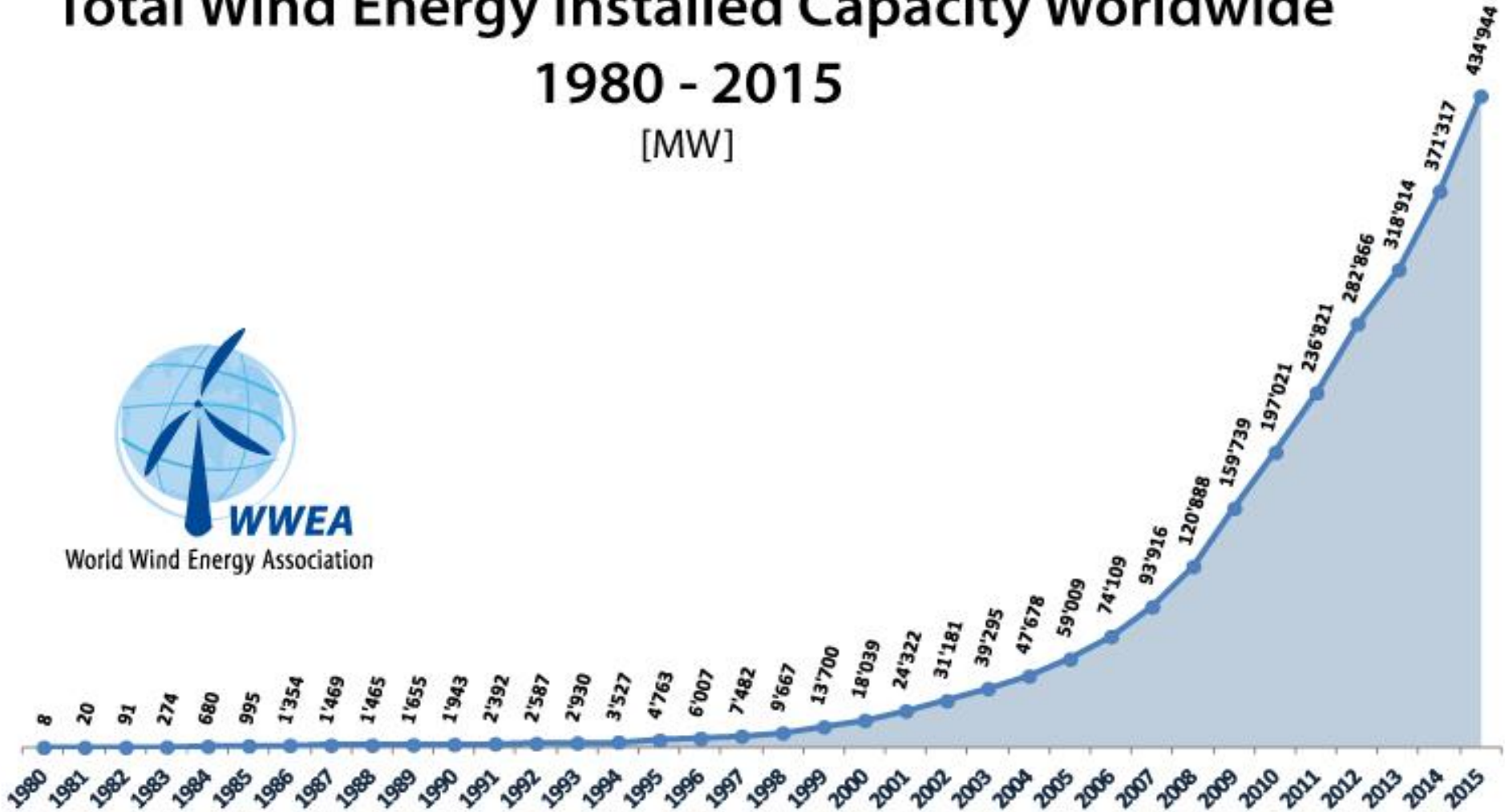
WWEA founded the REN Alliance with other International RE organizations



Total Wind Energy Installed Capacity Worldwide 1980 - 2015 [MW]



World Wind Energy Association



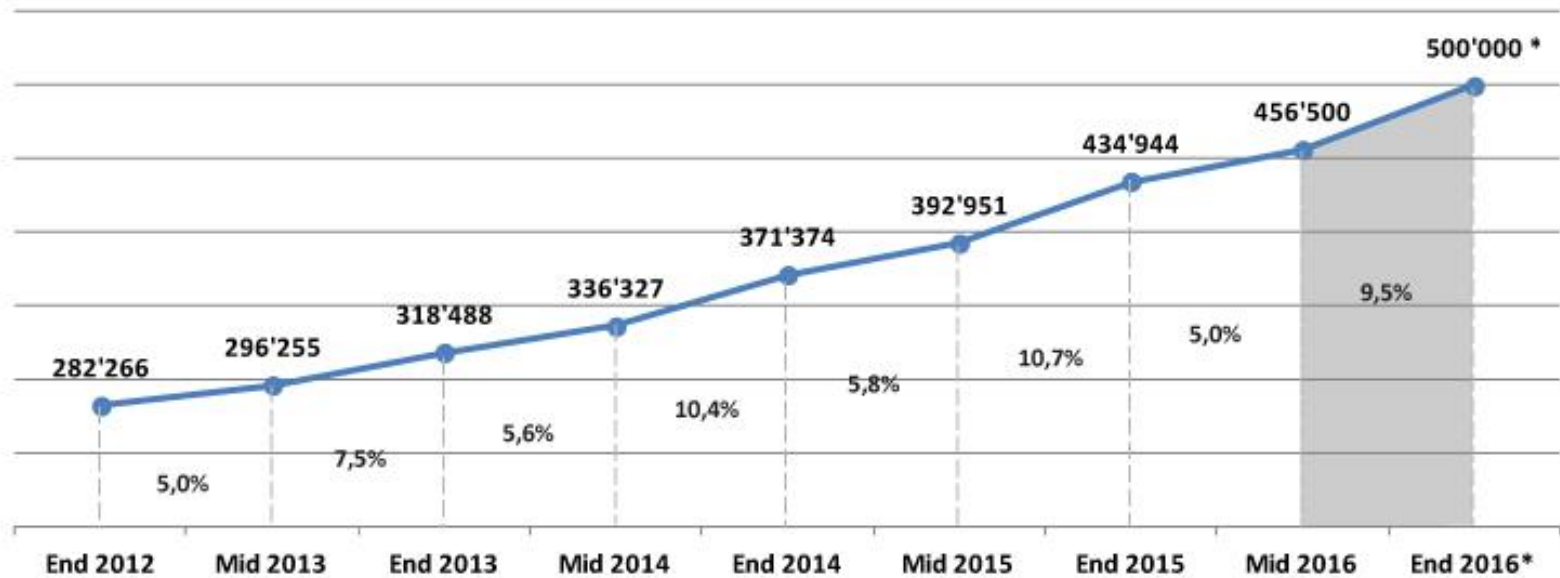
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World Wind Market Status



By the end of June 2016:

Total Installed Capacity 2012-2016 [MW]



* Prognosis

Total installed capacity: Includes all installed wind capacity, connected and not-connected to the grid.

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World Wind Market Status



Position	Country/Region	Total capacity June 2016 [MW]	Added capacity H1 2016 [MW]	Total capacity end 2015 [MW]	Added capacity H1 2015 [MW]	Total capacity end 2014 [MW]	Added capacity H1 2014 [MW]	Total capacity end 2013 [MW]	Total capacity June 2013 [MW]
1	China	158'000	10'000	148'000	10'101	114'763	7'175	91'324	80'827
2	United States	74'696	830	73'867	1'994	65'754	835	61'108	59'884
3	Germany	47'420	2'389	45'192	1'991	40'468	1'830	34'660	32'458
4	India	27'151	2'392	24'759	1'297	22'465	1'112	20'150	19'564
5	Spain	22'987	-	22'987	-	22'987	-	22'959	22'918
6	United Kingdom	13'940	320	13'614	872	12'440	649	10'711	9'776
7	Canada	11'298	109	11'205	510	9'694	723	7'698	6'578
8	France	10'861	568	10'293	523	9'296	338	8'254	7'697
9	Brazil	9'810	1'095	8'715	838	5'962	1'301	3'466	2'788
10	Italy	9'101	143	8'958	124	8'663	30	8'551	8'417
11	Sweden	6'338	309	6'029	157	5'425	354	4'470	4'271
12	Poland***	5'300	200	5'100	283	3'834	337	3'390	2'798
13	Turkey	5'146	428	4'718	431	3'763	466	2'959	2'619
14	Denmark*	5'089	25	5'064	76	4'883	83	4'772	4'578
15	Portugal**	5'040	6	5'034	-	4'953	105	4'724	4'547
	Rest of the World***	44'309	2'900	41'409	2'600	35'968	2'275	29'718	26'861
	Total	456'486	21'714	434'944	21'678	371'317	17'613	318'914	296'581

* end of May 2016

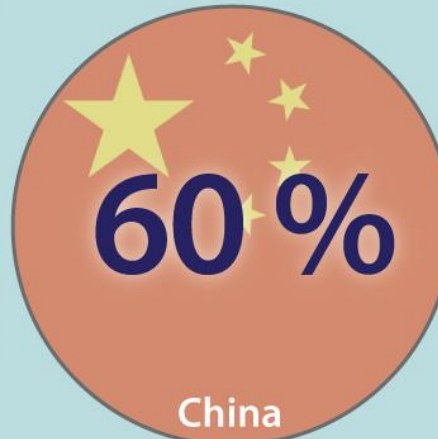
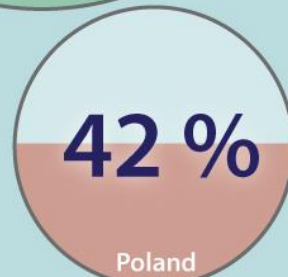
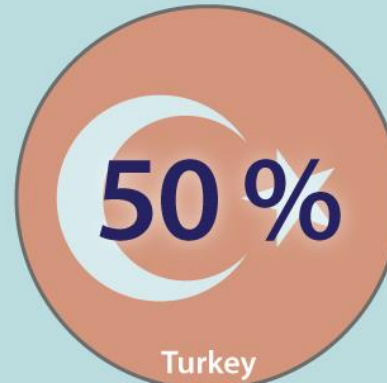
** end of April 2016

*** own estimation

World Wind Market Status

In terms of growth:

Mayor markets - 24 month growth



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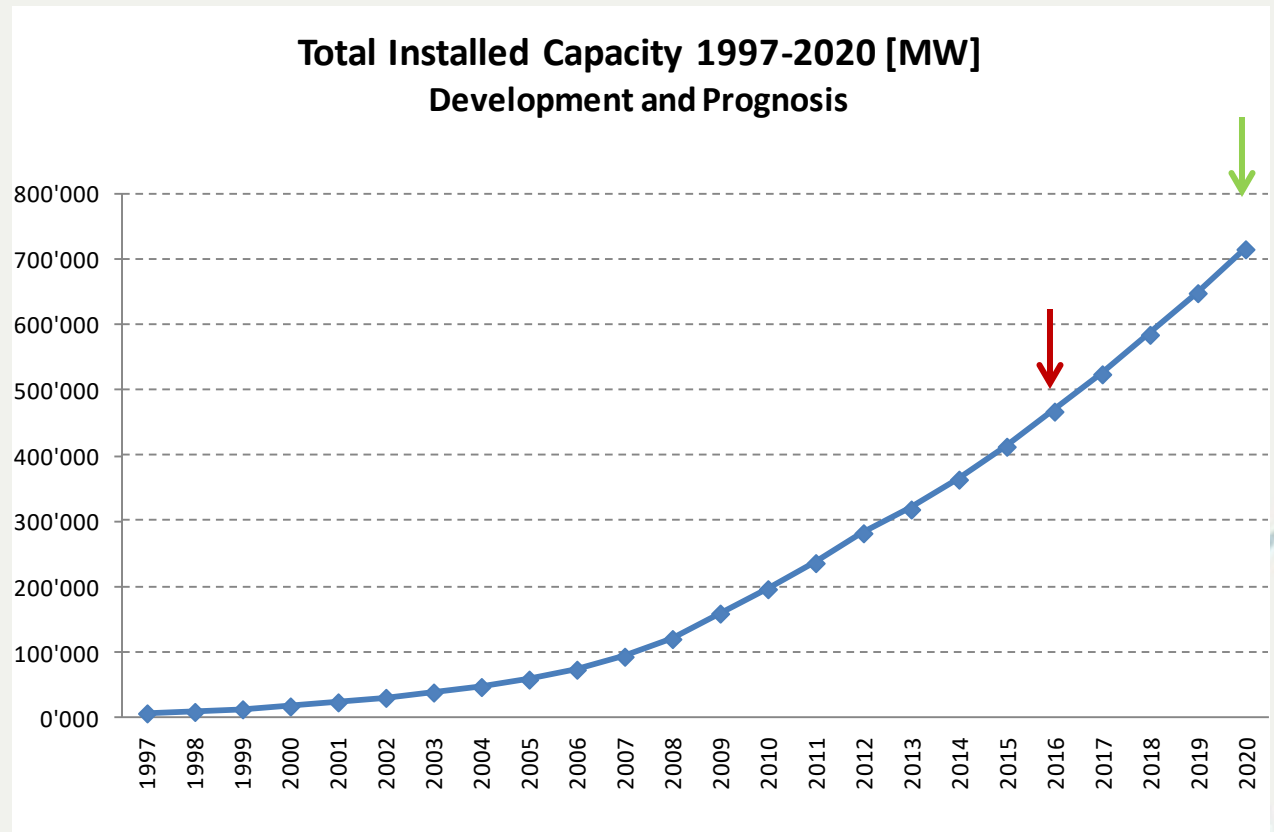
World Wind Market Future

What do we expect in the future?

End of 2016: 500 GW

End of 2020: + 800 GW

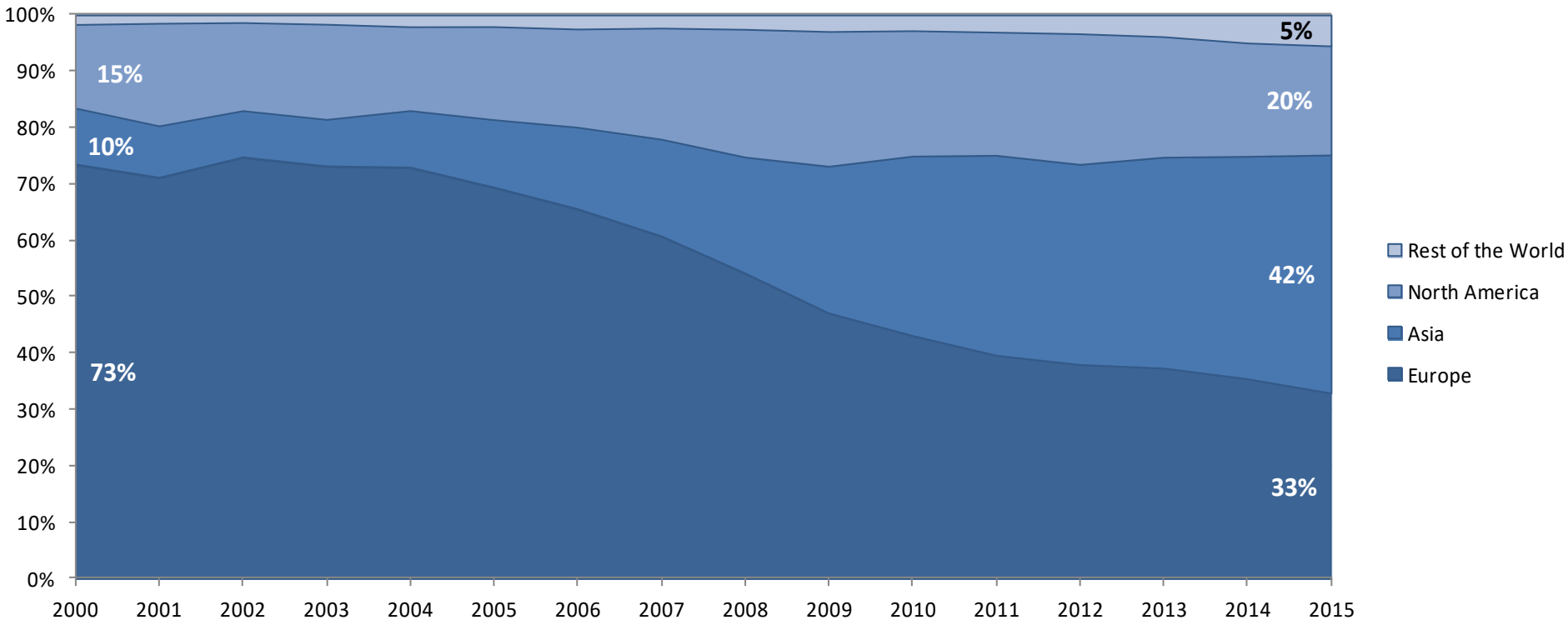
End of 2030: + 2'000 GW




Installed Wind Capacity Worldwide



Global Share of Wind Installed Capacity 2000 - 2015 [MW]



Wind Power Worldwide

 Electricity generated: ~ 900 TWh

 Share in global electricity demand: > 4 %

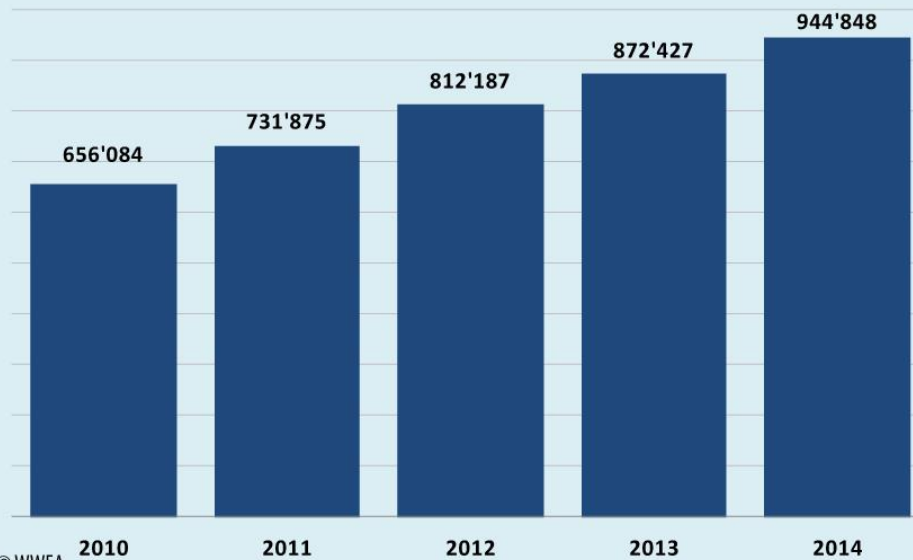
 Countries with high wind shares:

 Denmark > 40 %	Scotland 41 %
 Spain 21 %	Portugal > 20 %
 Uruguay 18 %	Ireland 16 %
 Germany 13 %	United Kingdom 11 %

World Small Wind Market Status

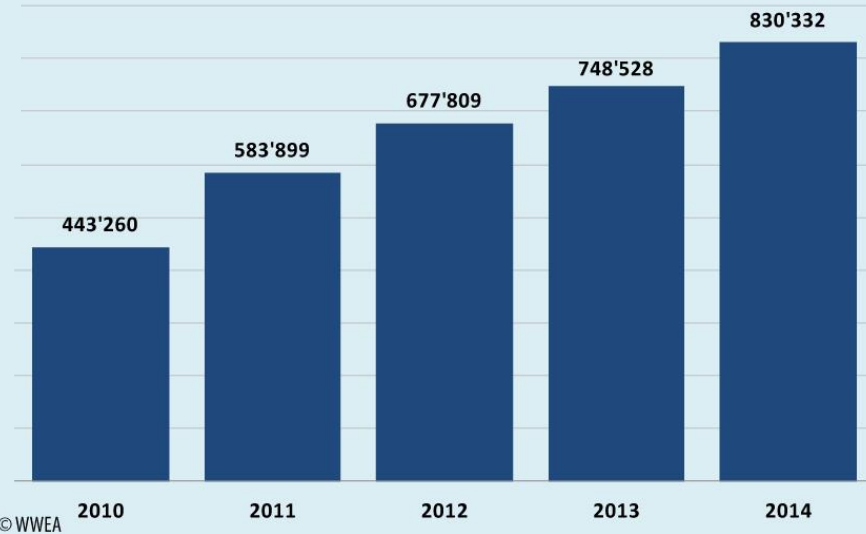
By the end of 2014:

Total Units Installed Worldwide



→ New installations: 74'400 units
Growth rate: 8,3%

Total Cumulative Installed Capacity Worldwide [kW]



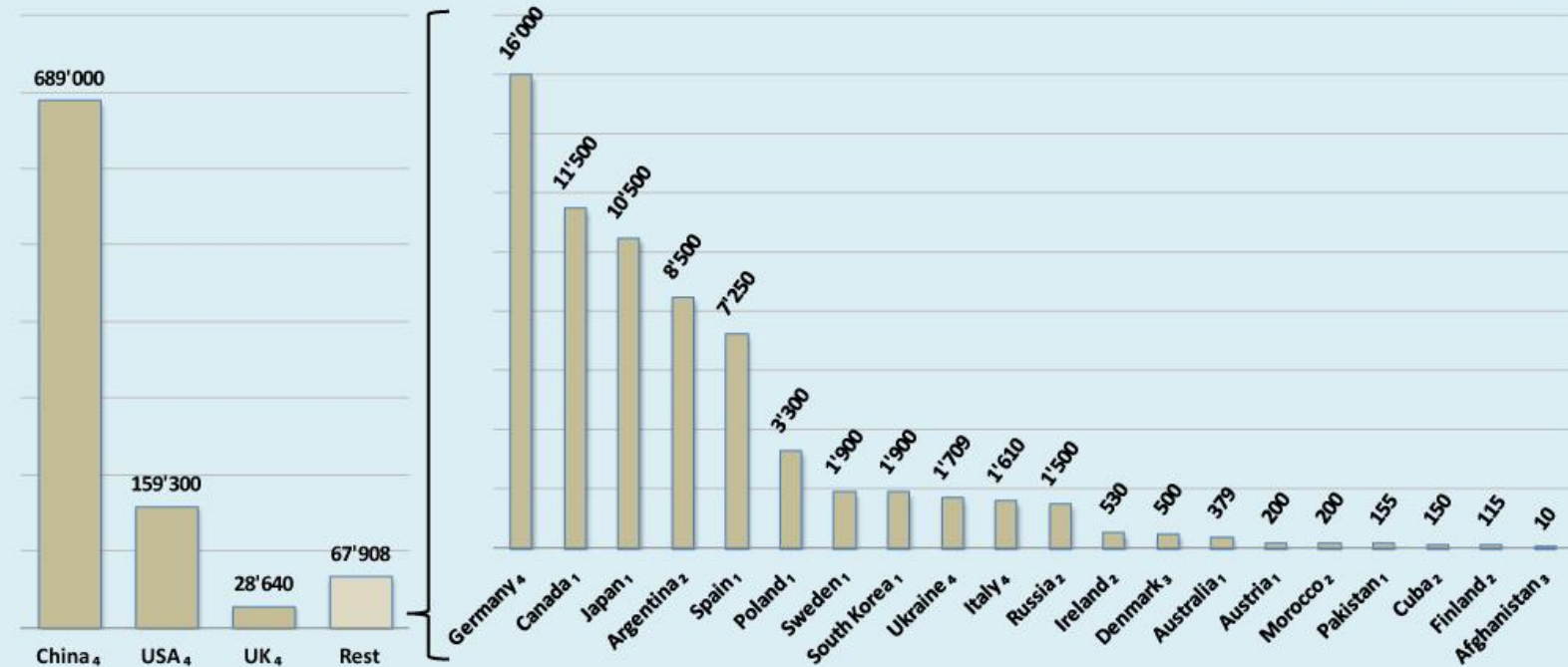
← New capacity: 81'800 kW
Growth rate: 10,9%

World Small Wind Market Status

By the end of 2014:

Total Cumulative Installed Units by Country

4=2014 3=2013 2=2012 1=2011



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WIND POWER IN RUSSIA: OPPORTUNITIES, BARRIERS, PROSPECTS

Discussing first results of a joint research project



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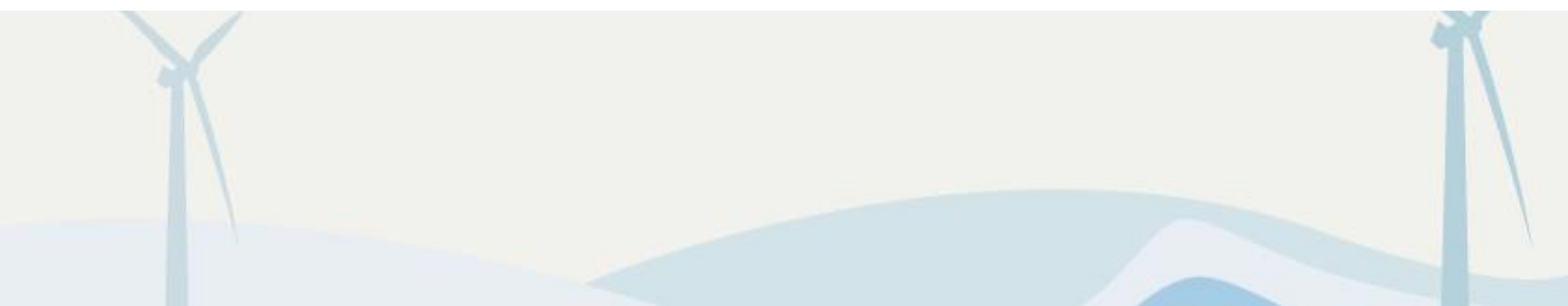


RUSSIAN ASSOCIATION OF
WIND POWER INDUSTRY

Renewable Energy
Technologies
Research-educational center



**FRIEDRICH
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Wind Power in Russia

The Project "Wind energy market research in Russia: Prospects, Opportunities and Barriers" aims to improve the understanding of opportunities and existing barriers that characterize the wind energy sector, with a focus on grid connected but also on isolated regions of Russia.

Wind Power in Russia

Main barriers for the Russian wind power industry as identified:

- Remuneration of electricity generated from wind farms is not seen as sufficient for a stable and substantial market growth, partly due to small capacity in public auctions.
- There is a general lack of investments and investors which is primarily related to the macroeconomic situation in the country.
- Like in many countries, there are challenges with grid connection.
- Land allocation represents another problem as wind farms require rights for land use.
- The local content rules currently create some uncertainty.

Wind Power in Russia



The study concludes with recommendations how the identified barriers can be addressed.

This also includes the tasks to

- improve the existing standards especially in the retail market,
- introduce a state territory planning program for wind energy projects
- start state participation in pilot projects in remote and isolated regions.

A Global Paradigm Shift:

COP21 in Paris has in fact defined

100 % renewable energies

As the new normal!



Symphony of the Renewables: Inspire Change



Building Alliances: Campaign Supporters



Associations



Civil Society



EREF
European Renewable Energy Federation



isep

Research Institutes



Projects



Thank you!

Join us for the

15th World Wind Energy Conference
Tokyo, 31 October – 2 November 2016

www.wwec2016tokyo.com

and

1st World Community Power Conference
Fukushima City, 3-4 November 2016

www.wcpc2016.jp