



Global Wind Market Update

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Global Wind Report – Annual Market Update 2013

28 April 2014

C0 Members



C1, C2 and C3 Members



Associations

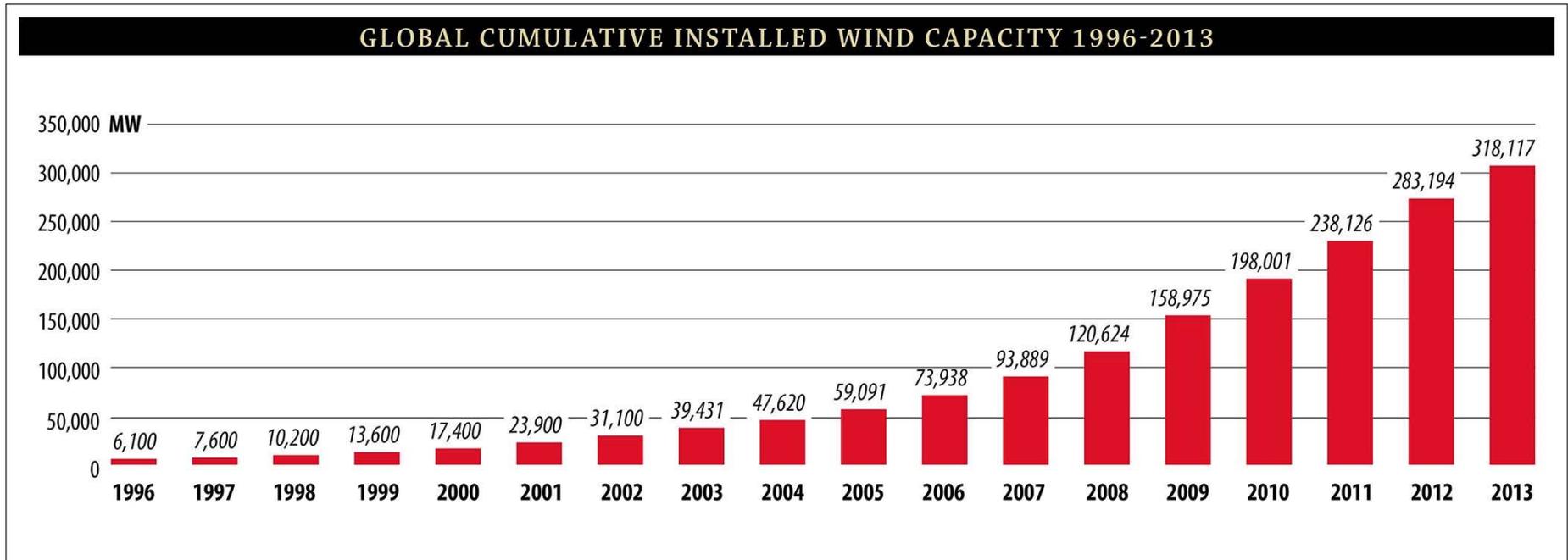


GWEC – Uniting the global wind industry and its representative associations

Outline:

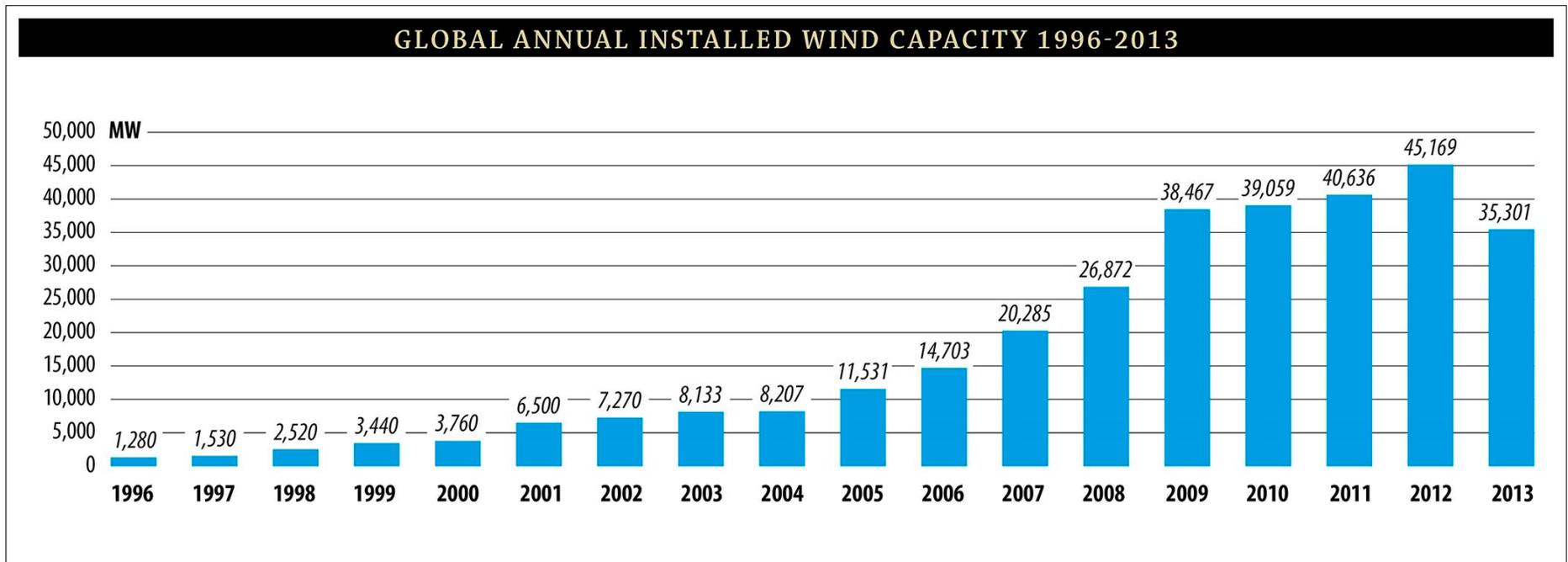
1. 2013 Market results
2. Short term projections
3. Offshore
4. New Markets
5. Energy Revolution
6. Looking Ahead and Conclusions

2013 growth: 12.5%



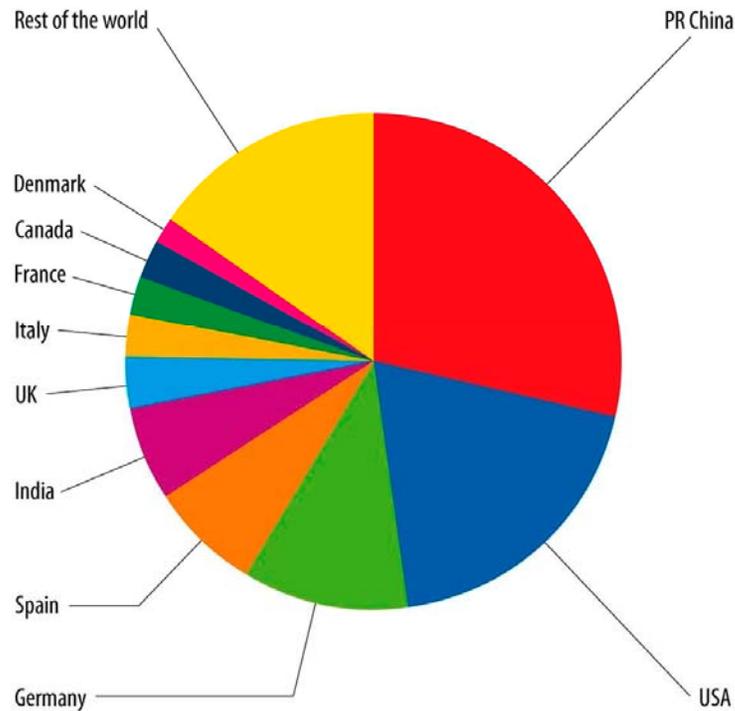
18 yr avg. growth: 26.2%

2013 growth: - 21%



18 yr avg. growth: 23.7%

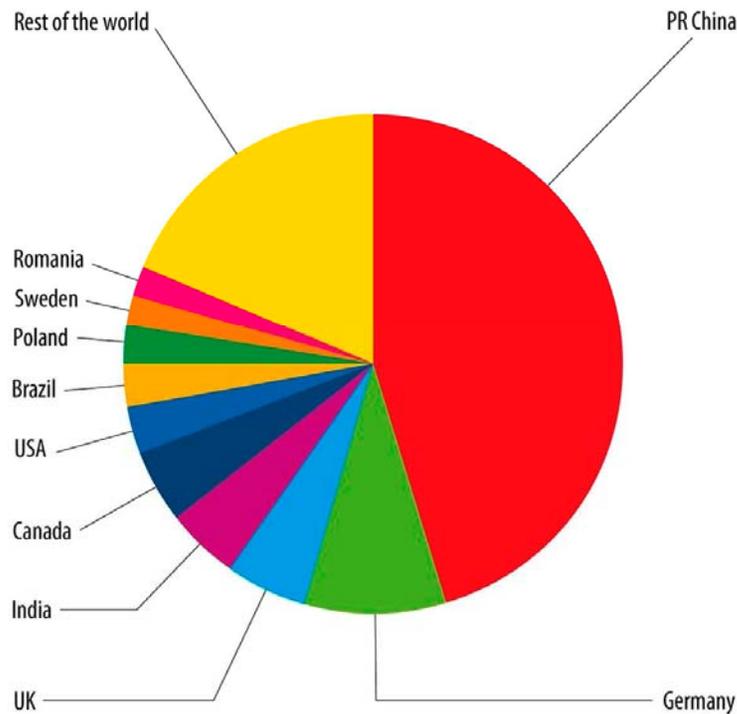
TOP 10 CUMULATIVE CAPACITY DEC 2013



Country	MW	% SHARE
PR China	91,424	28.7
USA	61,091	19.2
Germany	34,250	10.8
Spain	22,959	7.2
India	20,150	6.3
UK	10,531	3.3
Italy	8,552	2.7
France	8,254	2.6
Canada	7,803	2.5
Denmark	4,772	1.5
Rest of the world	48,332	15.2
Total TOP 10	269,785	84.8
World Total	318,117	100.0

Source: GWEC

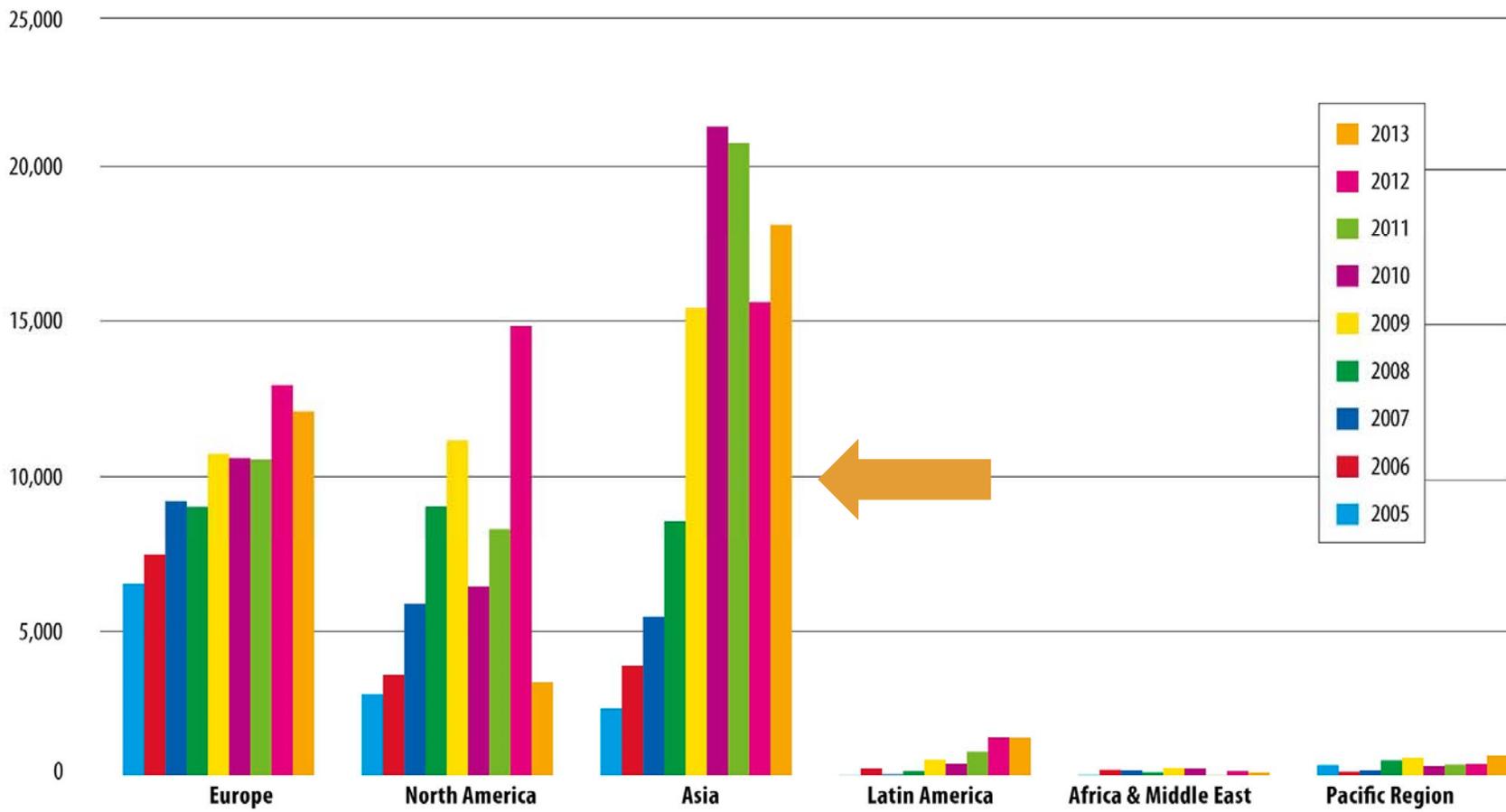
TOP 10 NEW INSTALLED CAPACITY JAN-DEC 2013



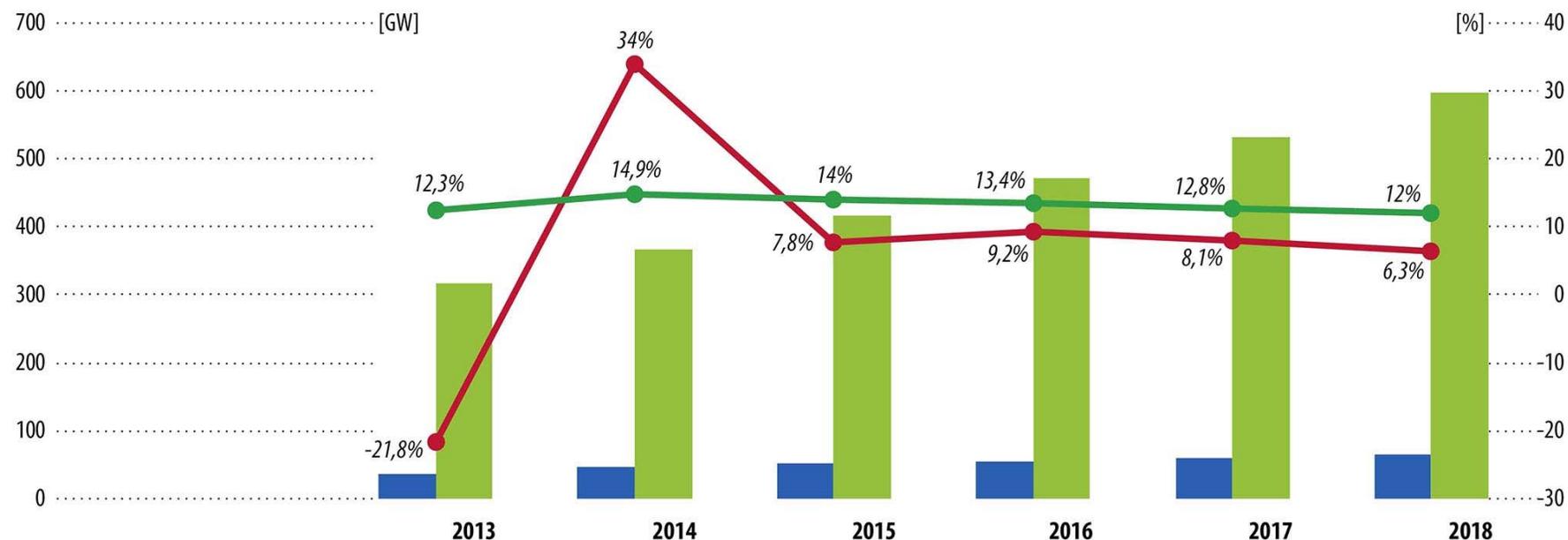
Country	MW	% SHARE
PR China	16,100	45.6
Germany	3,238	9.2
UK	1,883	5.3
India	1,729	4.9
Canada	1,599	4.5
USA	1,084	3.1
*Brazil	953	2.7
Poland	894	2.5
Sweden	724	2.1
Romania	695	2.0
Rest of the world	6,402	18.1
Total TOP 10	28,899	82
World Total	35,301	100.0

Source: GWEC

ANNUAL INSTALLED CAPACITY BY REGION 2005-2013



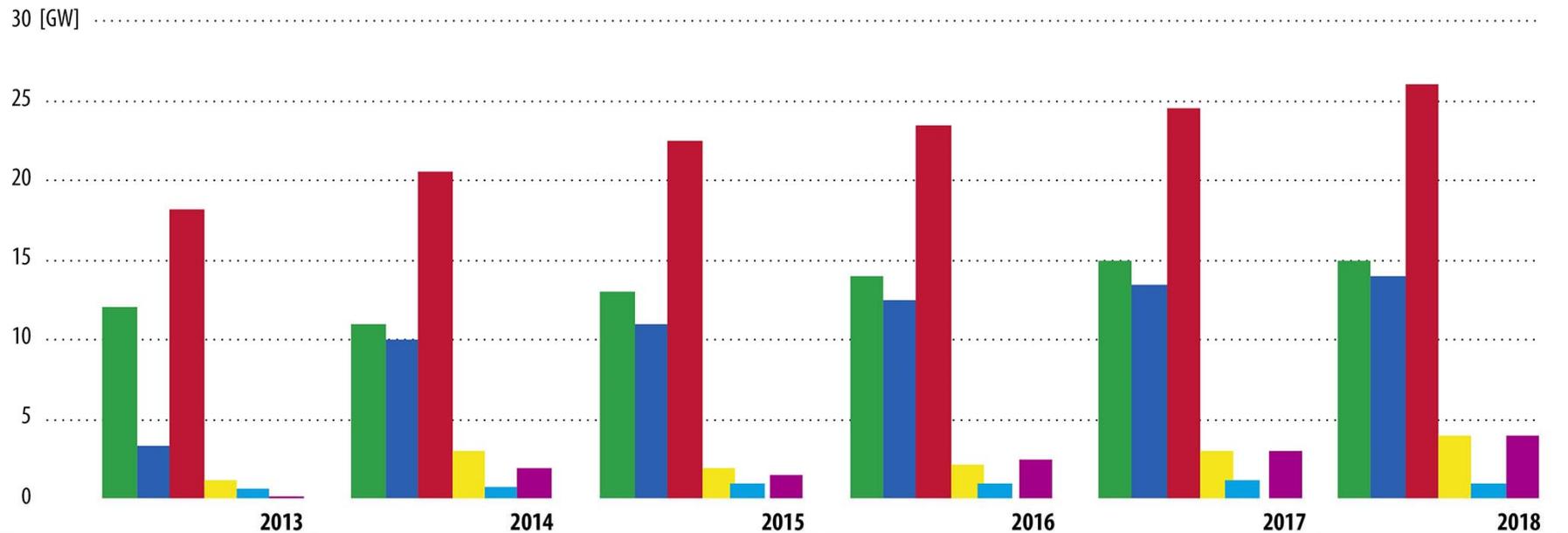
MARKET FORECAST FOR 2014 – 2018



■ Cumulative [GW]	318,1	365,4	416,4	472,1	532,3	596,3
● Cumulative capacity growth rate [%]	12,3%	14,9%	14,0%	13,4%	12,8%	12,0%
■ Annual installed capacity ([GW]	35,3	47,3	51,0	55,7	60,2	64,0
● Annual installed capacity growth rate [%]	-21,8%	34,0%	7,8%	9,2%	8,1%	6,3%

Source: GWEC

ANNUAL MARKET FORECAST BY REGION 2013-2018

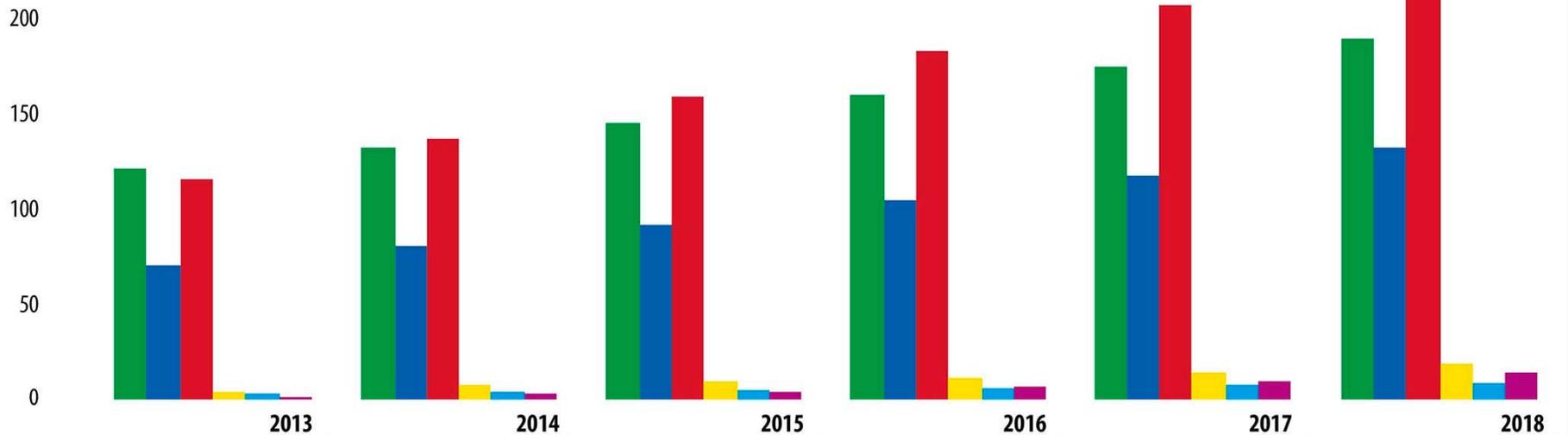


Europe	12.03	11	13	14	15	15
North America	3.06	10	11	12.5	13.5	14
Asia	18.23	20.5	22.5	23.5	24.5	26
Latin America	1.24	3	2	2.2	3	4
Pacific	0.66	0.8	1	1	1.2	1
Middle East and Africa	0.09	2	1.5	2.5	3	4

Source: GWEC

CUMULATIVE MARKET FORECAST BY REGION 2013-2018

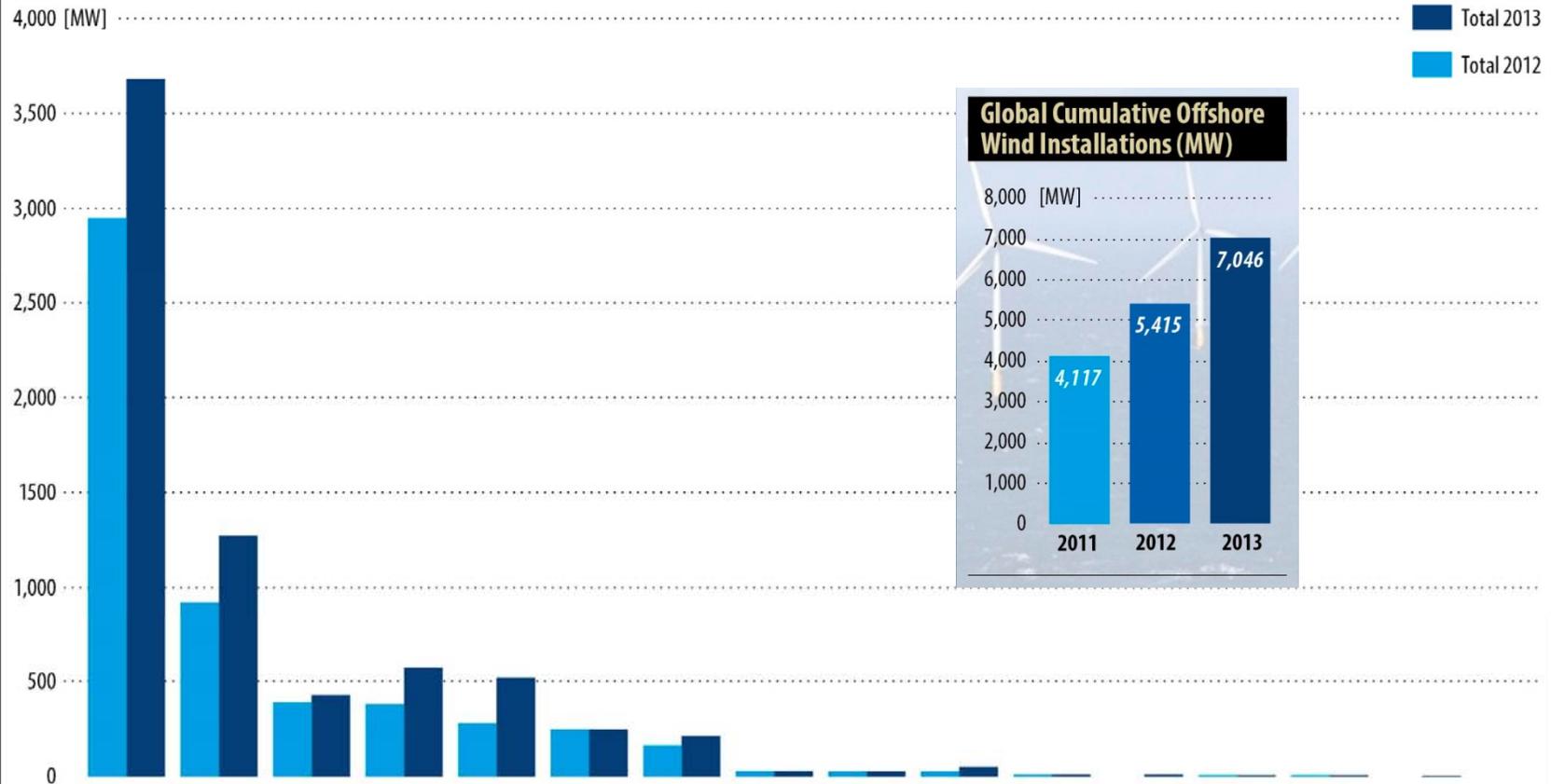
250 [GW]



Europe	121.5	132.5	145.5	159.5	174.5	189.5
North America	70.8	80.8	91.8	104.3	117.8	131.8
Asia	115.9	136.4	158.9	182.4	206.9	232.9
Latin America	4.8	7.8	9.8	12.0	15.0	19.0
Pacific	3.9	4.7	5.7	6.7	7.9	8.9
Middle East and Africa	1.3	3.3	4.8	7.3	10.3	14.3

Source: GWEC

GLOBAL CUMULATIVE OFFSHORE INSTALLED CAPACITY IN 2013 (MW)



	UK	Denmark	PR China	Belgium	Germany	Netherlands	Sweden	Finland	Ireland	Japan	Korea	Spain	Norway	Portugal	US	Total
Total 2012	2,947.9	921.1	389.6	379.5	280.3	246.8	163.7	26.3	25.2	25.3	5.0	0.0	2.3	2.0	0.02	5,415.0
New 2013	733.0	349.5	39.0	192.0	240.0	0.0	48.0	0.0	0.0	24.4	0.0	5.0	0.0	0.0	0.0	1,630.9
Total 2013	3,680.9	1,270.6	428.6	571.5	520.3	246.8	211.7	26.3	25.2	49.7	5.0	5.0	2.3	2.0	0.02	7,045.9

Source: GWEC

Offshore development

~ 7050 MW Global cumulative capacity end 2013:
<2.5% of total installed wind power capacity

~1,630 MW 2013 Market
~5% of annual wind power market

2014 – major markets: UK, Germany, China

2020: ~70-80 GW ~10% cumulative capacity

Offshore Development Targets/expectations to 2020 (GW)

	2015	2020
• Europe:	14	40
• China:	5	30
• Japan	-	1-2
• Korea	-	2-4
• USA	-	0.5-3.0
• Others (Taiwan, India, Canada?)		0.6-2.0
• Total	~20	74.1-81



fowind

FACILITATING OFFSHORE
WIND IN INDIA

- Facilitate offshore wind energy development in India
- Enhanced knowledge & capacity of decision makers
- Improved awareness among local communities and municipalities
- Create partnerships and structural cooperation between EU member countries and India across the public and private sector
- Develop a pathway for Offshore Wind Development in India up to 2032

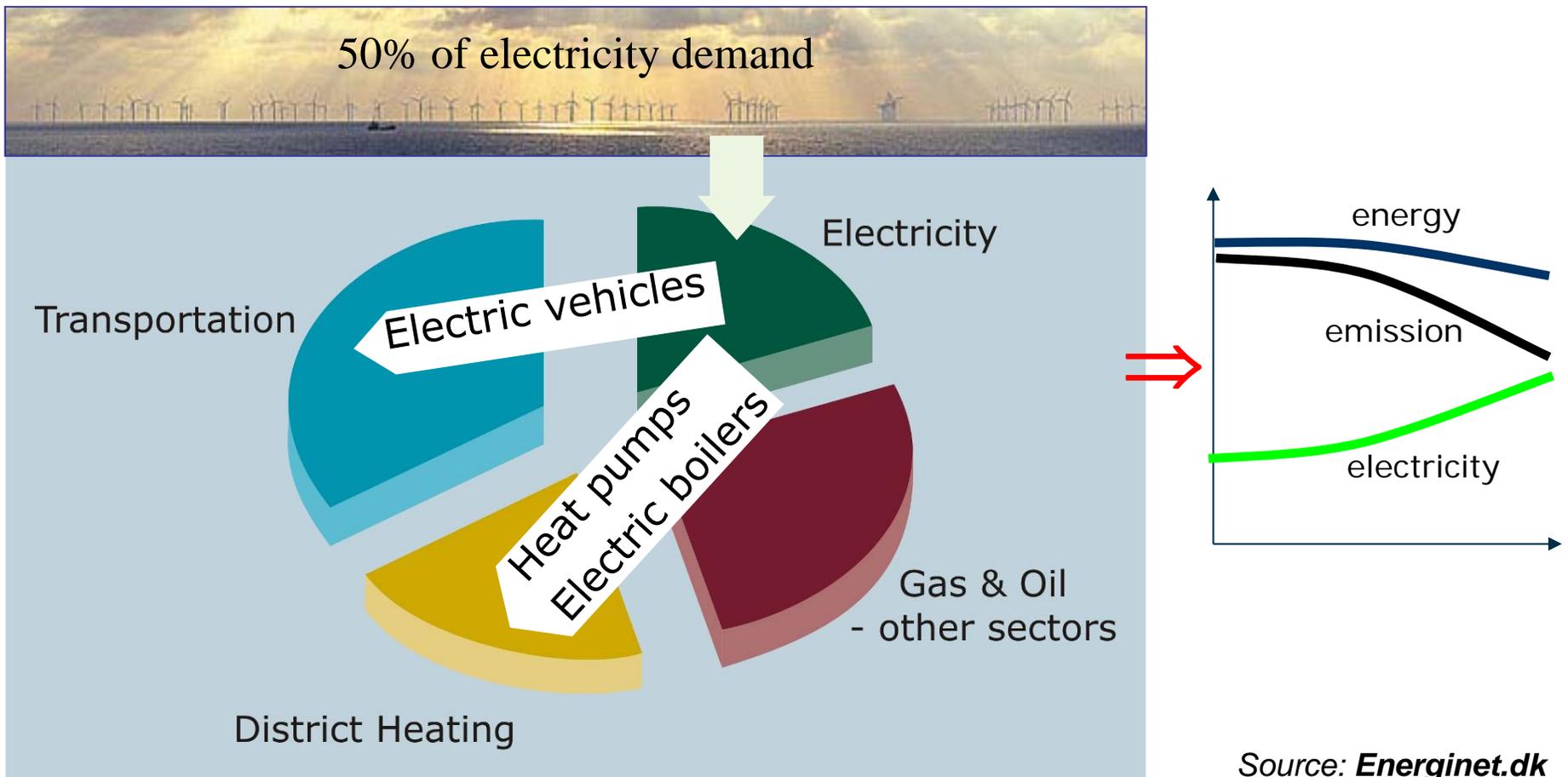
<http://fowind.in>



New Markets



Flexible and Coherent Energy System

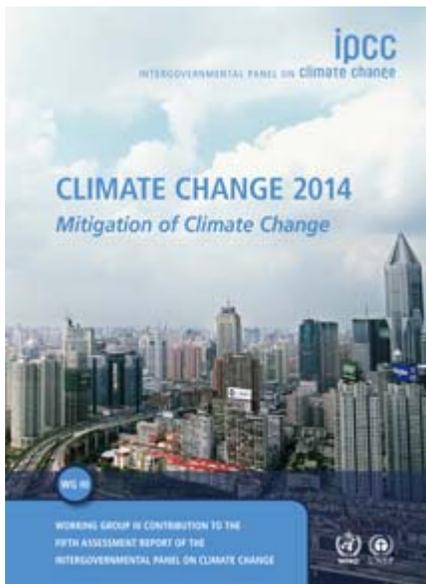


Source: **Energinet.dk**

Current and projected LCOE and SCOE calculations (€/MWh)

	Nuclear	Coal	Gas	PV	Onshore wind	Offshore wind
2014 estimated average EU LCOE	110-120	60-70	70-80	110-160	50-70	110-140
Projected 2025 LCOE	79.2	115.3	83	105.2	55.4	95
Subsidies	53.1	3.1	6.3	0.0	0.0	0.0
Transmission costs	0.0	0.0	0.0	6.6	2.0	2.0
Variability costs	0.9	0.5	0	14	13.2	12.4
Projected 2025 LCOE + system costs	133.2	118.9	89.3	125.8	70.6	109.4
Social costs	0.1	0.1	0.1	0.0	4.8	0.0
Employment effects	-33.0	-14.6	0.0	-49.4	-16.1	-49.4
Geopolitical costs	0.0	1.3	5.4	0.0	0.0	0.0
Projected 2025 SCOE (UK)	100.3	105.7	94.8	76.4	59.3	60.0

IPCC Working Group III



Main messages:

1. We have the technology – main barriers are institutional/political. RE needs to play a dominant role in the power sector;
2. “It doesn’t cost the world to save the planet”...06% of GDP – not including savings;
3. Acting now is much cheaper and more effective than acting later.

Looking Ahead

2013 was a tough year, with a dramatic 12GW drop in the US market. However, Q4 2013 saw 12GW under construction in the US, which bodes well for 2014 and 2015; Canada, Mexico strong;

China, India - China's market recovered substantially in 2013, growing by about 23%, and looks to grow further in 2014. India is still stagnant, but a new round of growth is expected to begin in 2014. Other small Asian markets emerging;

Europe – 2013 market was surprisingly robust, although market less diverse than in previous years; critical debates on post-2020 regime will continue throughout 2014 (at least).

Latin America – Brazil plus...?

Africa - South African market takes off, along with other markets in East Africa; Morocco and Egypt beginning to recover.

Looking Ahead (2)

Rate of global growth will slow until and unless

- New markets fill the 'gap' left by lack of growth in OECD,
- or...OECD economy recovers, and/or...
- New CO2 related legislation takes effect.

Downward price pressure continues:

- Oversupply and tough economic times mean margins are slashed to the bone and competition is fierce
- Cheap' gas in the US; oversupply due to fracking boom
- 'Consolidation' in sector continues, but...

Market Diversification is the key

- Majority of installations for the past 4 years outside OECD
- Vast Majority of market growth is outside the OECD
- Reliance on a 'home' market is no longer good strategy

Conclusions

A global climate agreement will be fundamental for wind power to achieve its maximum potential, but for the short term:

UNCERTAINTY:

- in international political landscape
- in the future of the carbon markets
- in 'new' climate-related funds

Focus on national/regional legislation and markets

Market drivers all still in place, and increasingly prominent:

- energy security; cost stability; macroeconomic security; local economic development and job creation; local environment and climate



Thank you!

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