



**Global Wind Power Update**  
***Steve Sawyer, Secretary General***  
**China Windpower, 16 October, 2013**

C0 Members



GE Energy



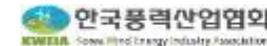
C1, C2 and C3 Members



MANAGING RISK



Associations

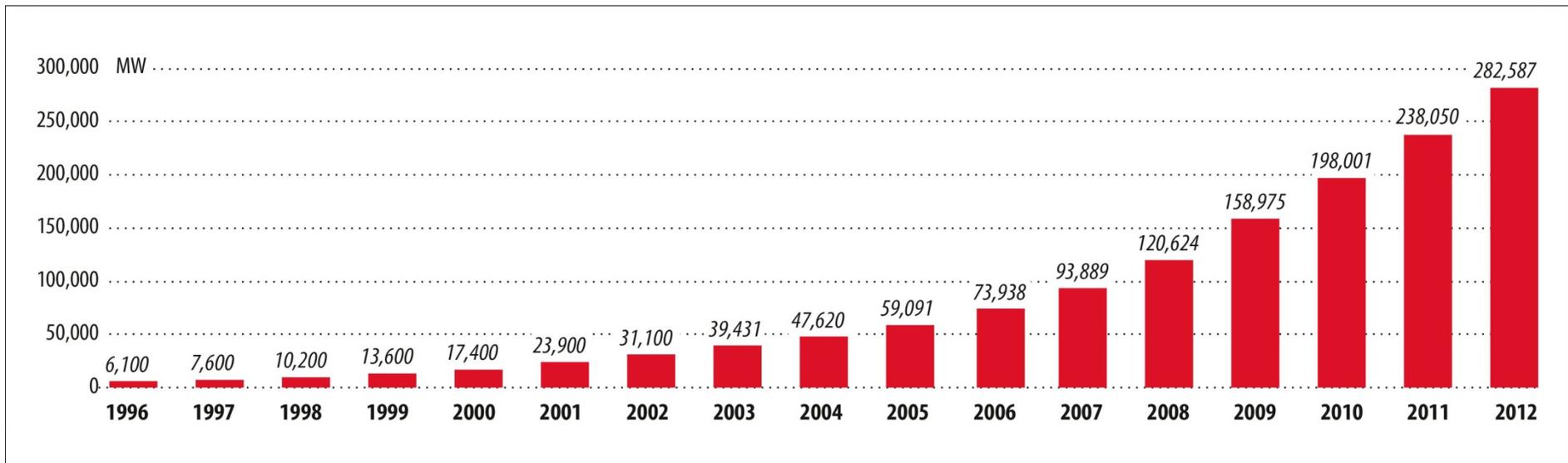


# Outline:

1. Status of global wind markets
3. Longer term projections
4. Challenges
5. New Markets
6. Conclusions and Looking Ahead

**2012 growth: 18.8%**

Global Cumulative Installed Wind Capacity 1996-2012

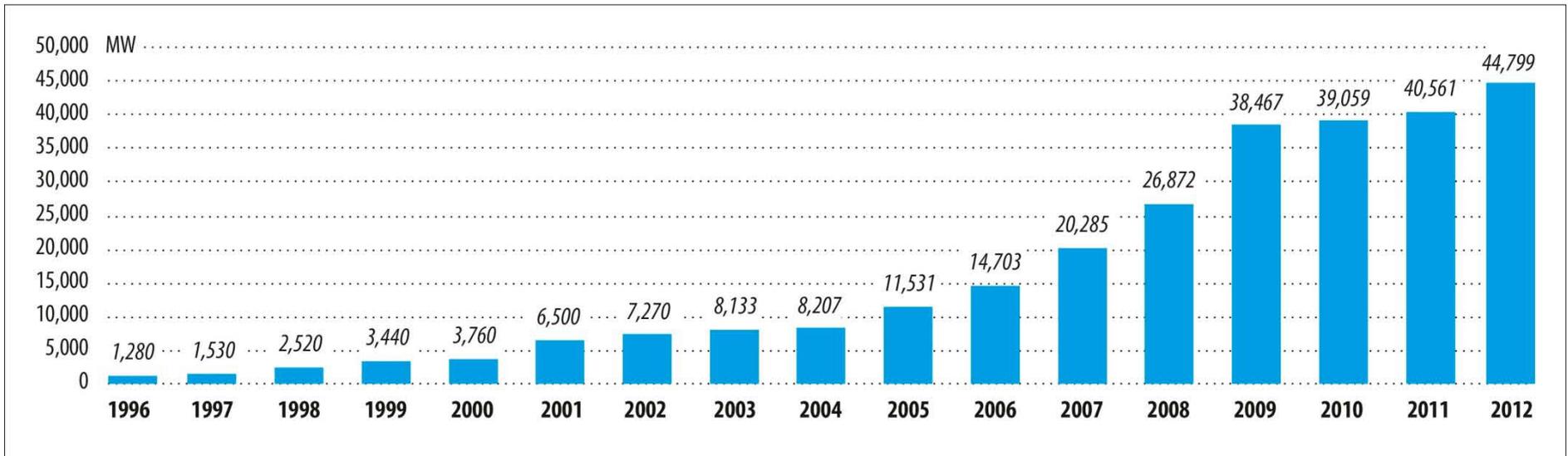


Source: GWEC

**16 yr avg growth: 27.7%**

**2012 growth: 10%**

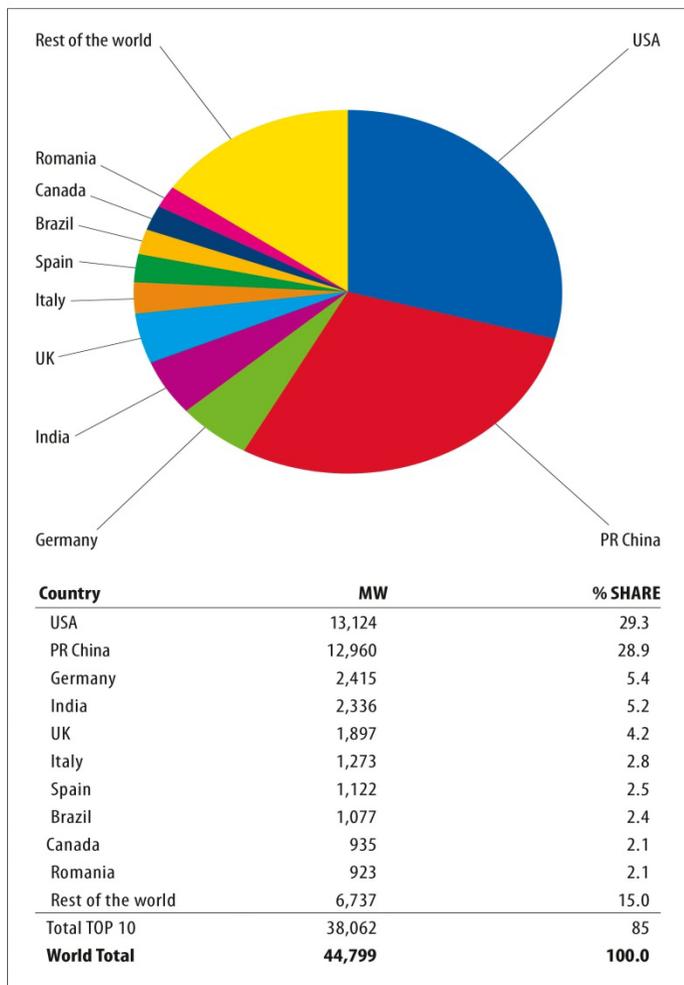
### Global Annual Installed Wind Capacity 1996-2012



Source: GWEC

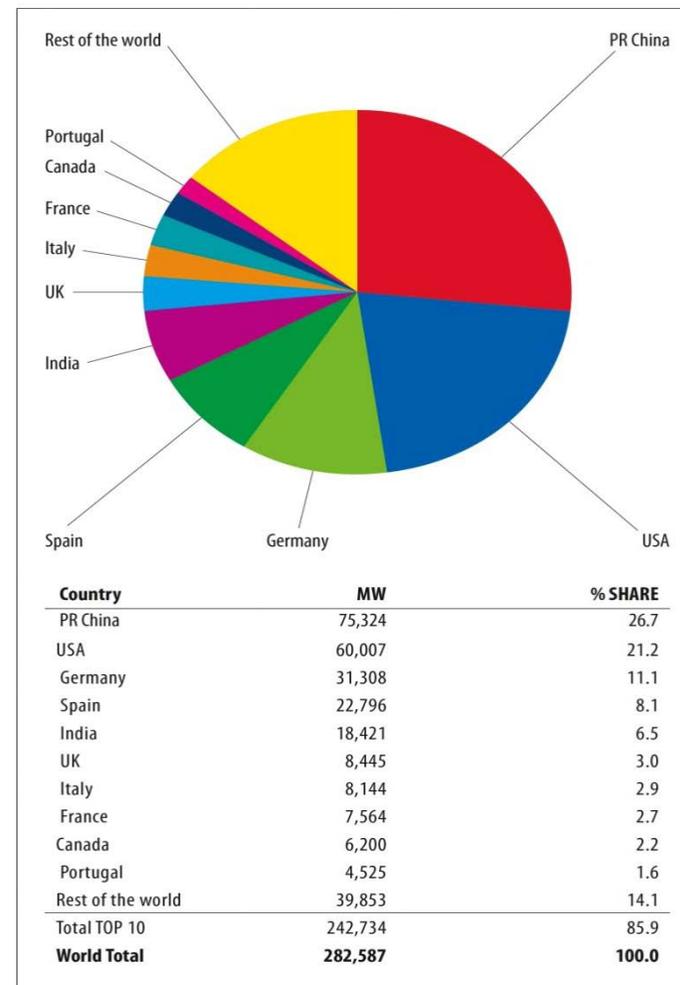
**16 yr avg growth: 26.5%**

Top 10 New Installed Capacity (Jan-Dec 2012)



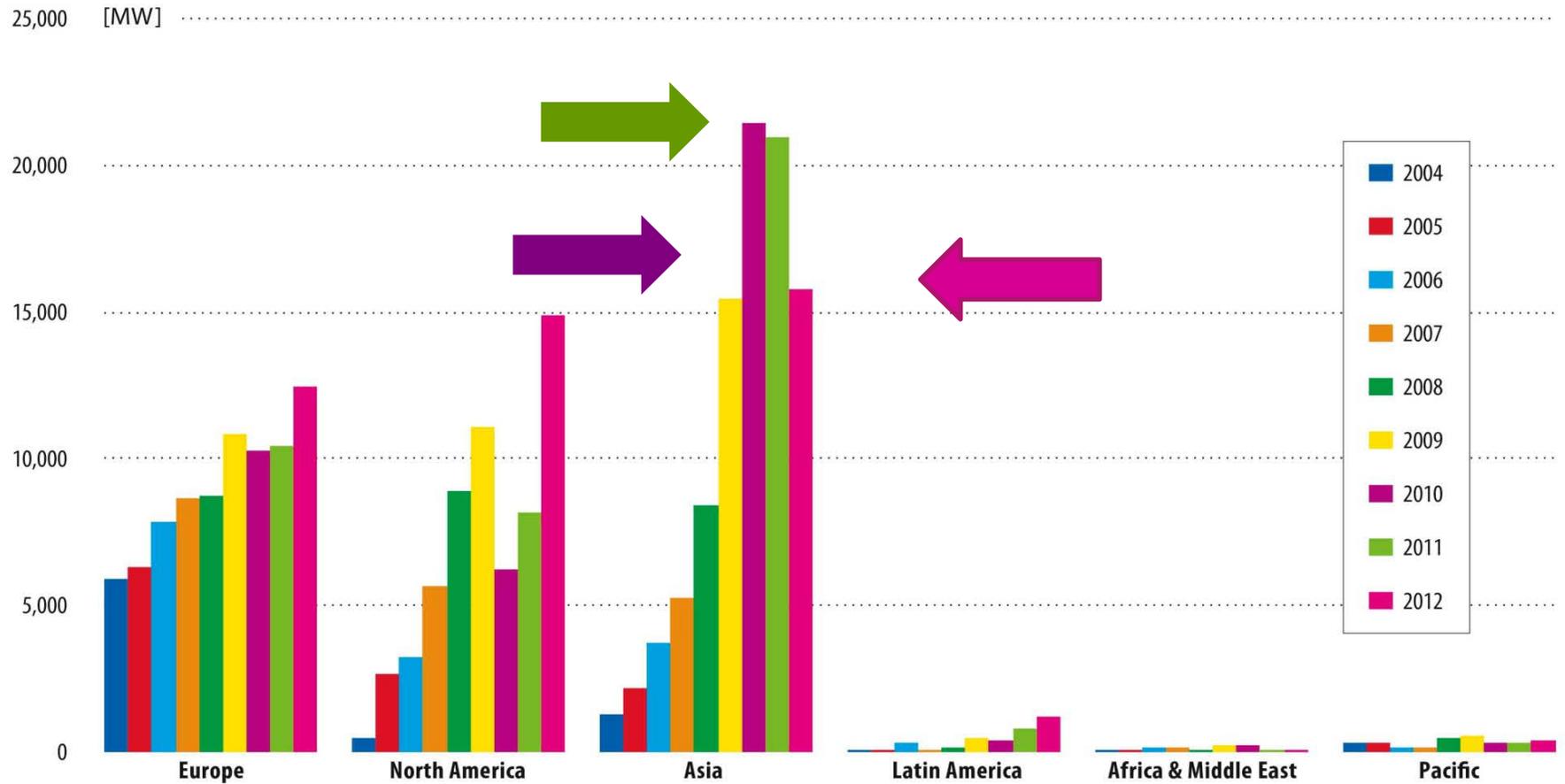
Source: GWEC

Top 10 Cumulative Capacity (December 2012)

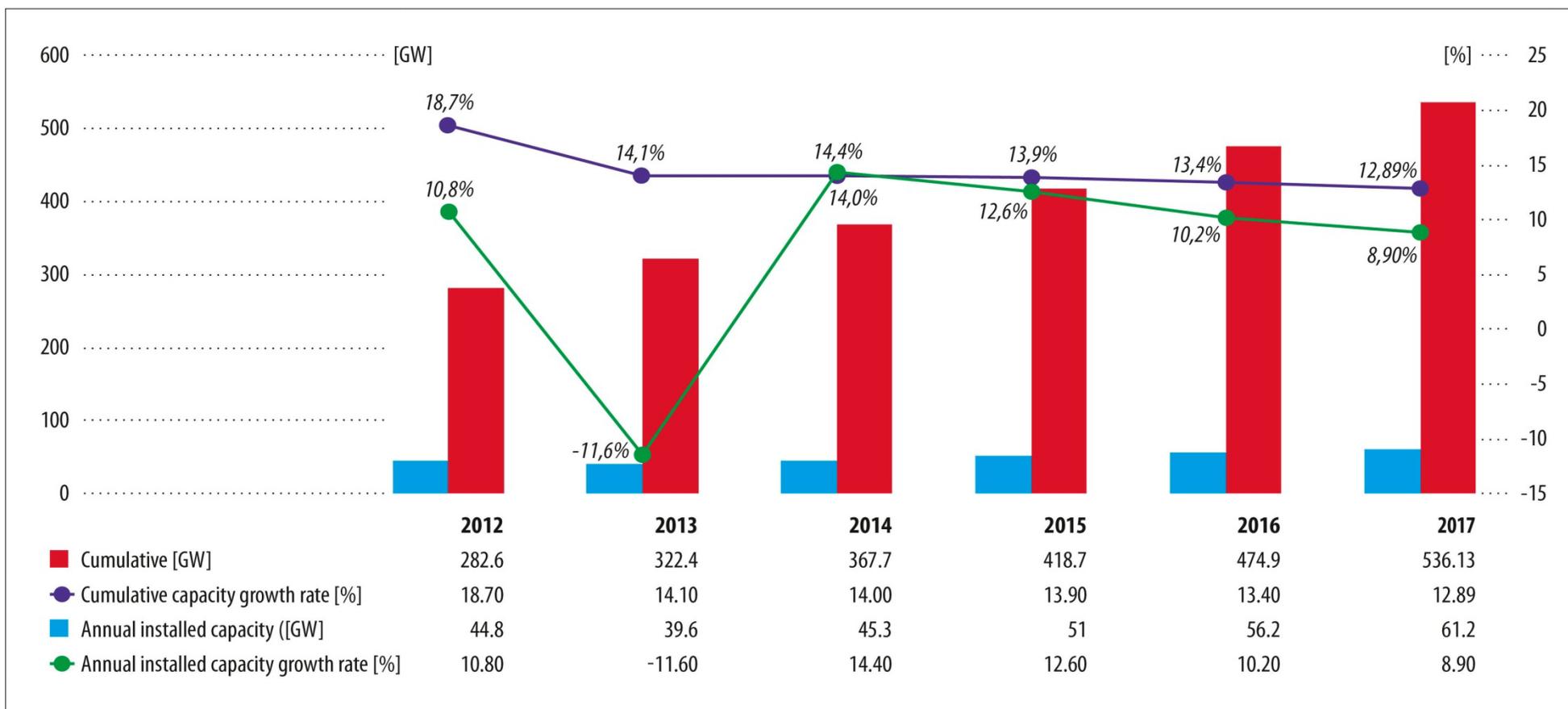


Source: GWEC

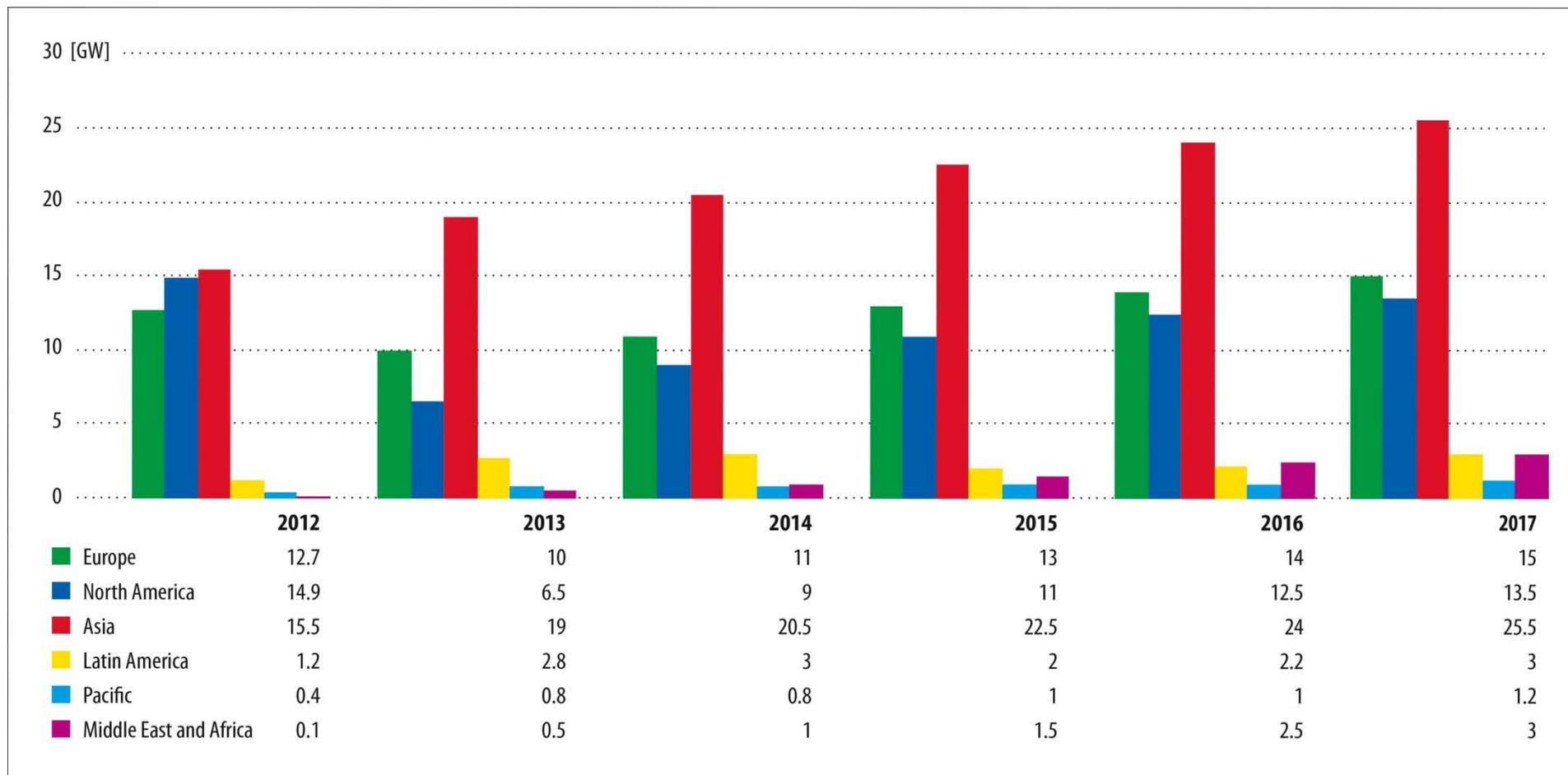
**ANNUAL INSTALLED CAPACITY BY REGION 2004-2012**



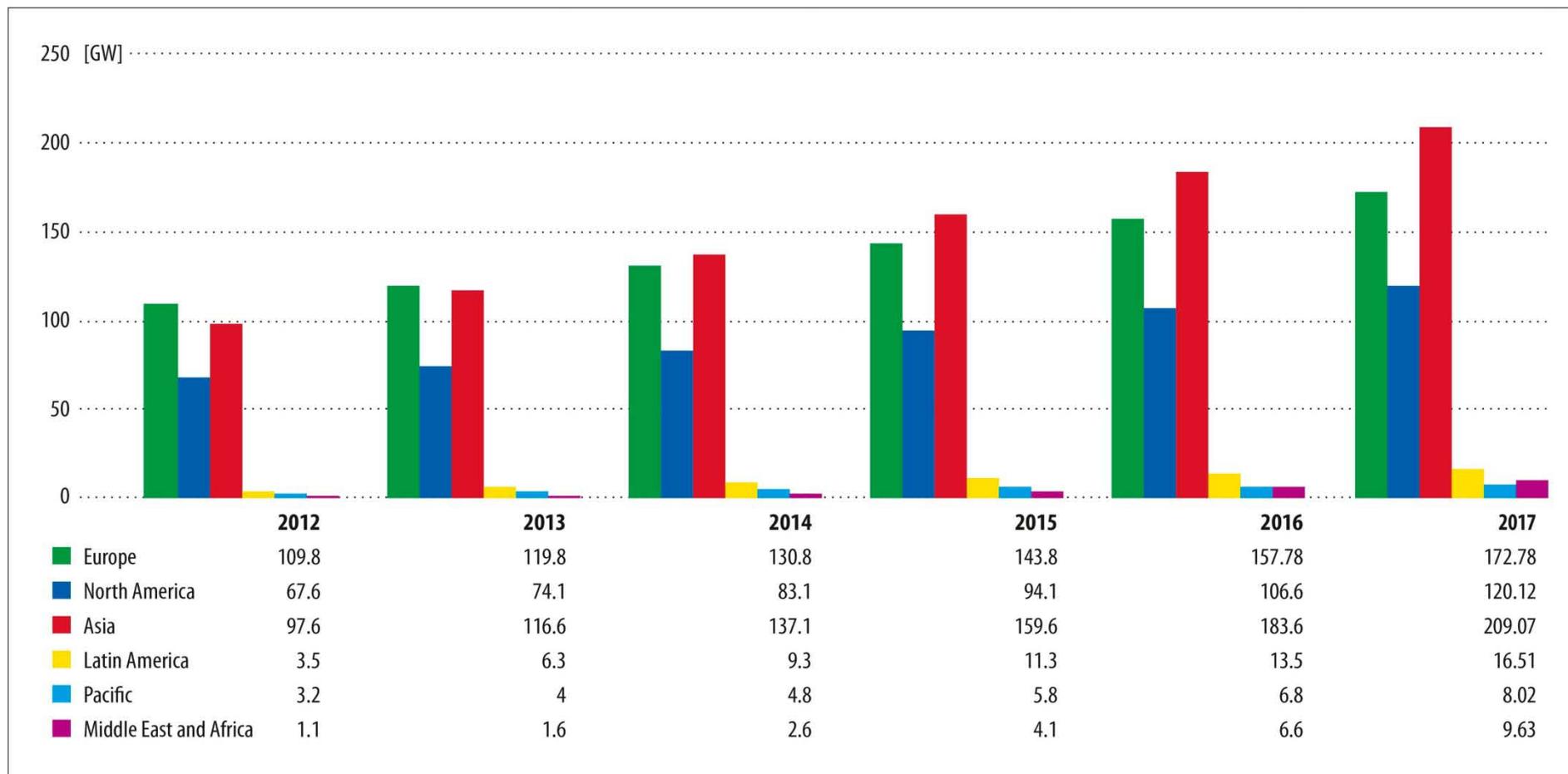
## Market Forecast 2013-2017



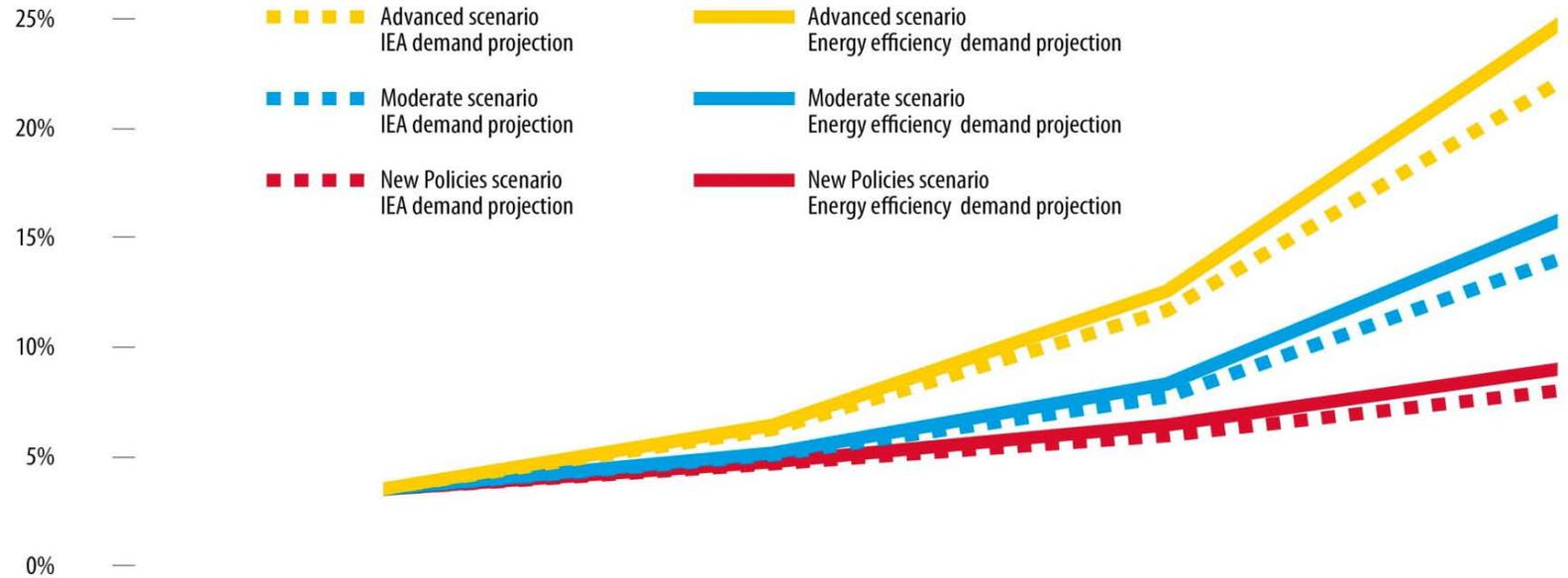
## Annual Market Forecast by Region 2012-2017



## Cumulative Market by Region 2012-2017



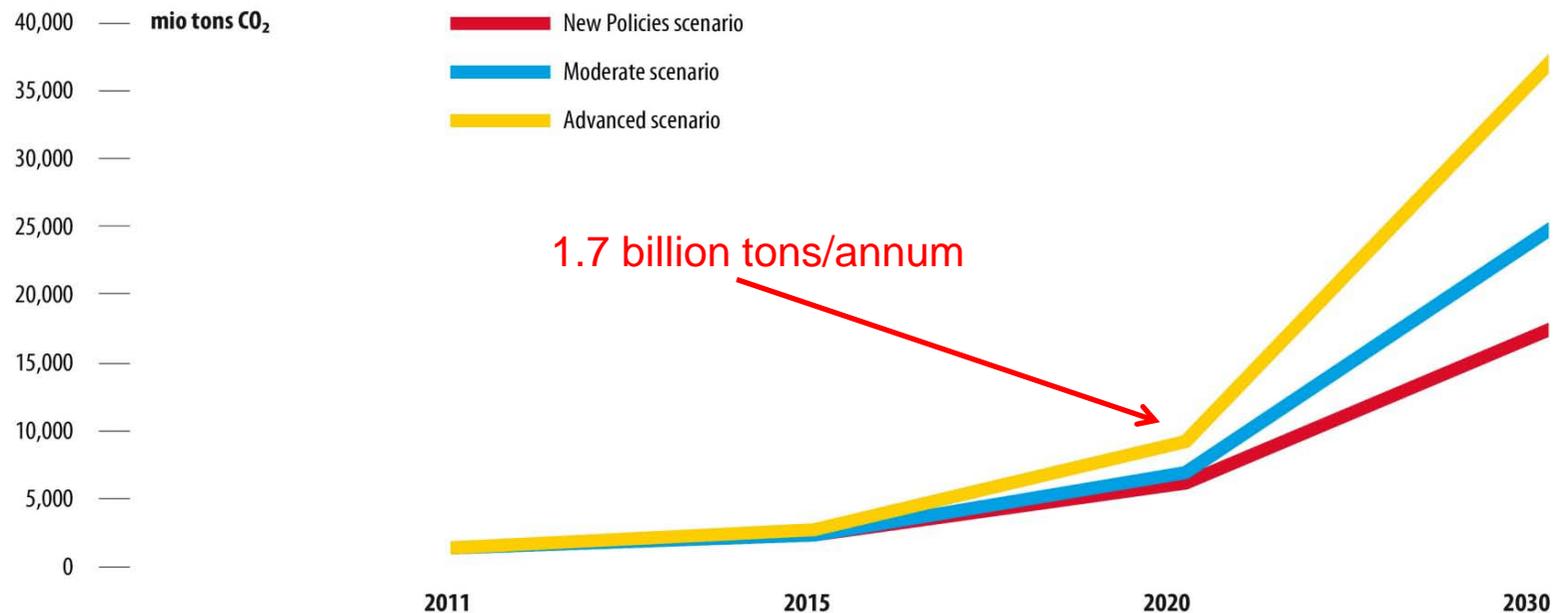
**WIND POWER SHARE OF GLOBAL ELECTRICITY DEMAND**



	2011	2015	2020	2030
<b>New Policies scenario</b>				
IEA demand projection	3.5%	4.7%	6.0%	8.0%
Energy efficiency demand projection	3.5%	4.8%	6.4%	9.0%
<b>Moderate scenario</b>				
IEA demand projection	3.5%	5.0%	7.7%	14.1%
Energy efficiency demand projection	3.5%	5.1%	8.3%	15.8%
<b>Advanced scenario</b>				
IEA demand projection	3.5%	6.3%	11.7%	22.1%
Energy efficiency demand projection	3.5%	6.4%	12.6%	24.8%

# Climate Imperative

## CUMULATIVE CO<sub>2</sub> EMISSIONS REDUCTIONS



## ANNUAL AND CUMULATIVE CO<sub>2</sub> EMISSIONS REDUCTIONS

		2011	2015	2020	2030
<b>New Policies scenario</b>					
Annual CO <sub>2</sub> savings	million tons	350	586	863	1,447
Cumulative CO <sub>2</sub> savings	million tons	1,368	2,316	6,095	17,522
<b>Moderate scenario</b>					
Annual CO <sub>2</sub> savings	million tons	350	626	1,118	2,550
Cumulative CO <sub>2</sub> savings	million tons	1,368	2,411	6,958	24,979
<b>Advanced scenario</b>					
Annual CO <sub>2</sub> savings	million tons	350	781	1,692	4,007
Cumulative CO <sub>2</sub> savings	million tons	1,368	2,690	9,254	37,504

## How to get back on the high-growth track

### *Short to medium term*

- An end to the ***partisan bickering*** over energy policy in the US which creates the destructive boom-bust cycles in that critical market;
- Resolution of ***grid, certification, transparency and quality*** issues in China;
- Flushing the free allocations out of the European Emissions Trading System;
- A **re-vitalization of the carbon markets** – the Kyoto Protocol's Clean Development Mechanism has more than 100 GW of wind energy projects in the pipeline, but...
- The political courage on the part of at least some governments to tackle the ***subsidies issue*** in the conventional energy sector; fossil fuel subsidies 2012 = \$110/tonne of CO<sub>2</sub>
- Perhaps most importantly, ***stable, bankable policy*** in as many national energy markets as possible.

## Challenges

- *Transforming* grids
- *Perceptions* of costs
- *de-risking* wind investments to attract (more) institutional investments;
- *hydro-fracking*, shale gas in the US; artificially low gas prices...
- Generally sluggish or negative demand growth in most of the OECD;
- How to work *with* solar PV rather than being pitted against them;

## **New Markets**

Latin America: Brazil and Mexico, followed by...?

Africa: Egypt, Morocco and Tunisia coming back...?; now Ethiopia, and Kenya(?)  
South Africa underway.

Middle East: Jordan, Iran, Saudi Arabia...

Asia: Pakistan, Mongolia, Viet Nam, Thailand, Sri Lanka. Japan & Korea offshore?

## Looking Ahead (1)

**2013 has been a tough year, 2014 will be better** – US recovers, China and India start to grow again, Brazil, Mexico, Canada continue to grow

**China, India** – modest recovery from 'off' 2012/13 – new markets in Asia begin to contribute

**Europe** – 2013 not as bad as projected, but increasing dependence on a few markets (Germany, UK, etc)

**Latin America** – Brazil plus...?

**Africa** – market 'returns' in Morocco, Tunisia...Egypt? South Africa moving ahead rapidly. Ethiopia plus other markets starting up.

## Looking Ahead (2)

**After recovery in 2014/15 rate of global growth will gradually 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;
- 'Consolidation' in manufacturing sector underway and more to come.

## Looking Ahead (3)

**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 – dearth of leadership
- in the future of the carbon markets – intensive care
- in 'new' climate-related funds – still imaginary

### **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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