



III CONGRESO LATINOAMERICANO DE ENERGÍA EÓLICA

AUDEE – MONTEVIDEO

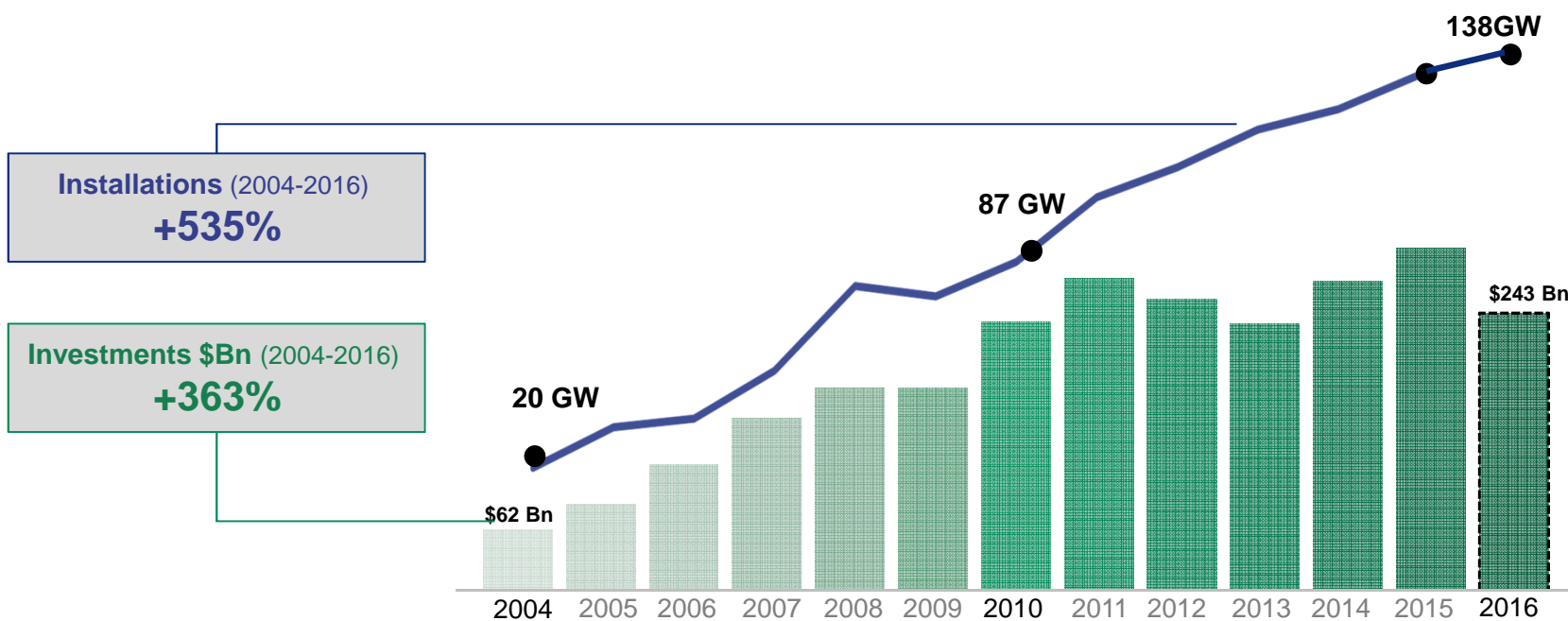
12/06/2017



1. Three unexpected RES key facts happened in 2016

RES investments in 2016

A surprising slowdown (!)



Operators are now installing more capacity with the same amount of money

Source: BNEF

M&A operations

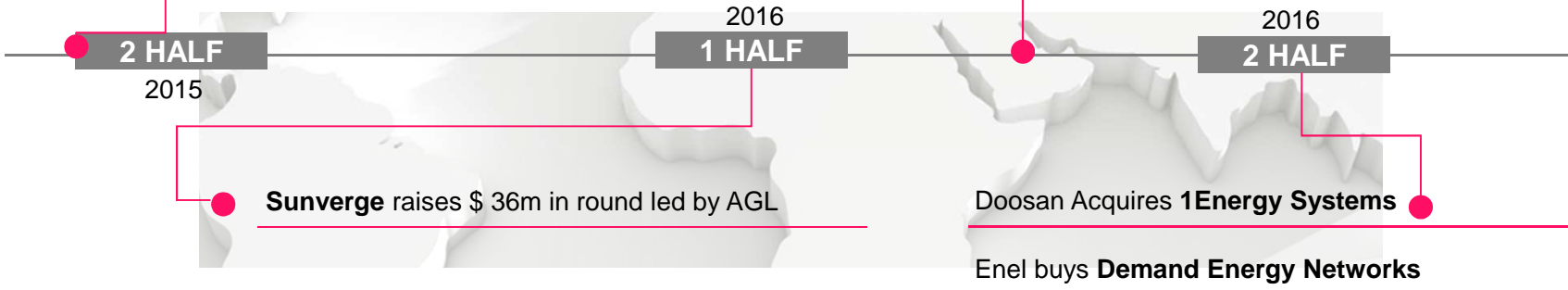
Surge of deals in the new tech field led by energy utilities



Greensmith raises \$18 m from AEP, Eon and others

Stem raises \$33m in round led by RWE

Yunicos raises \$50m from investors incl. First Solar



Coupled with platforms battery storage will be pivotal to enable the provision of advanced services for both utilities and clients

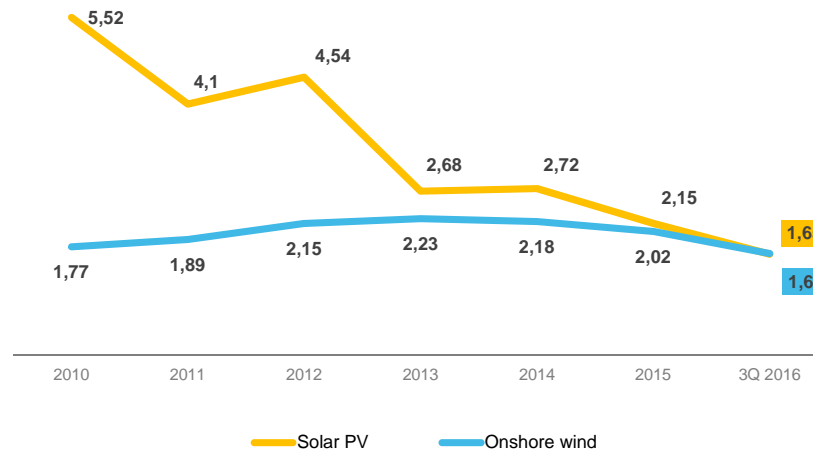
Solar Power closing the gap with Wind



Solar PV

- **Almost 70 GW** of PV installed in 2016
- PV learning curve: **24,3%**
- PV panel costs drop since 2009: **90%**
- Incredible low auction prices in a row: last record **24,2 \$ MWh in Abu Dhabi**

Average disclosed capex for onshore wind and PV projects (\$m/MW)



Wind Onshore

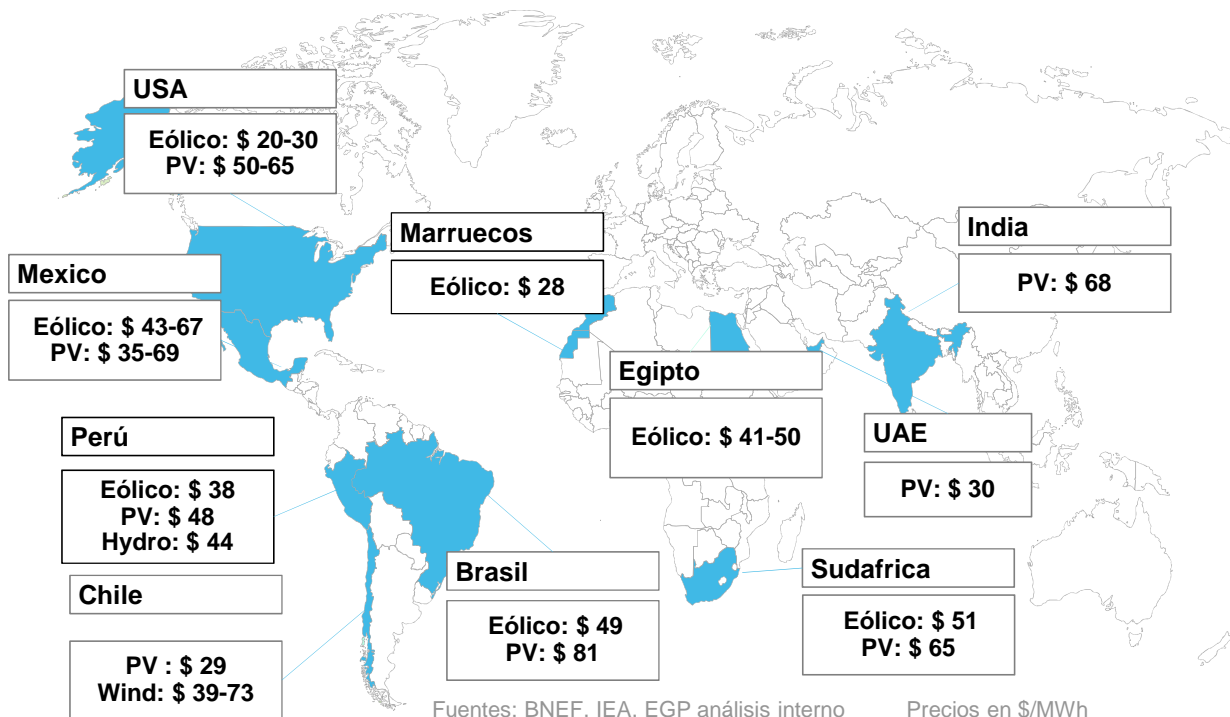
- **Almost 60 GW** of wind installed in 2016
- Wind onshore learning curve: **19%**
- Wind onshore costs drop since 2009: **50%**
- Deals in 2016 indicating **consolidation in the sector**

PV is as competitive as Wind now

Source: BNEF, Climatescope, data from 58 emerging market economies including China, India and Brazil

2. Global trends in renewable Investments

Renewable Competitiveness

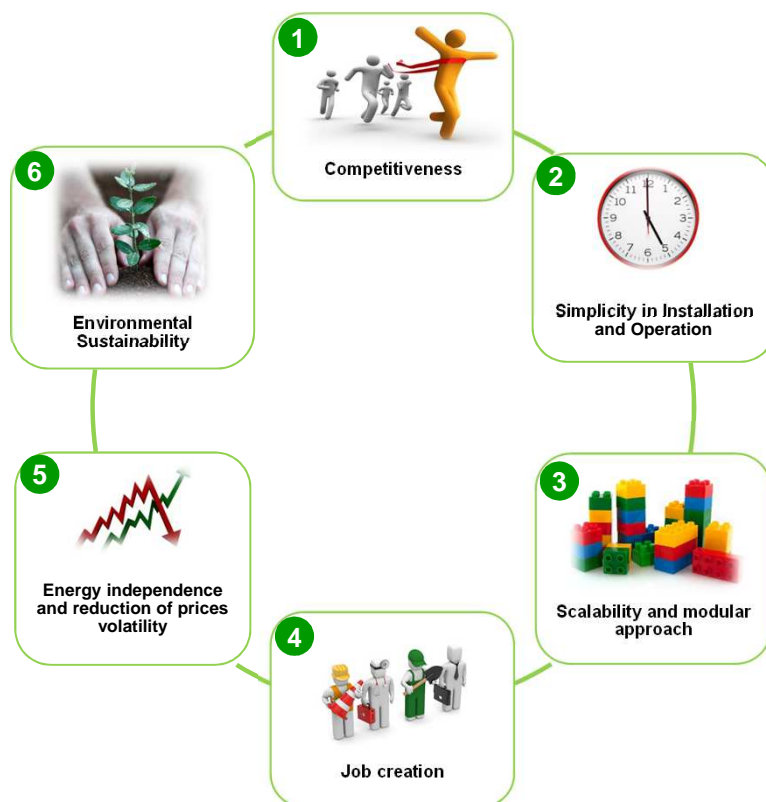


- Different prices between countries could be explained as a result of: different tax scheme, financing structure, primary resource, economies of scale, and PPA structures.
- Final prices depend on regulatory schemes and others.

3 Key success factors and future opportunities

RES success factors

Key strenghts



Strengths of Renewable Technologies

- 1) RES technologies are more and more **competitive**. In case of abundant resource they can compete with fossil fuel generation
- 2) RES have a shorter construction time, and offer a **fast and flexible response to growing demand**
- 3) RES are modular and their flexibility allows the **reduction of costs thanks to scale economies**
- 4) Investment in RES can create **new local jobs** from the preliminary phase of studies (when engineers, surveyors and local specialist are requested) to the construction and the maintenance phases
- 5) **RES mitigate the energy dependency and contribute to secure the energy supply**, reducing the exposure of power prices to commodities market fluctuations
- 6) RES are a **environmentally-friendly** option to solve air and water pollution issue and to fight the climate change

South America

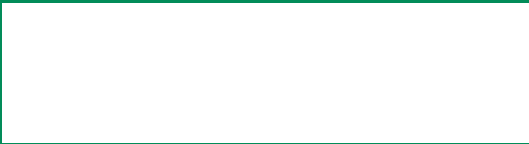


Common drivers

- Extremely **competitive tariffs** seen in the last RES Tenders open new opportunities for RES
- **Excellent resources** in all RES technologies: Wind, Solar, Hydro, Geothermal and Biomass
- **Regional electricity systems** interconnection would represent a booster for RES energy growth (Argentina – Chile, Uruguay – Argentina, Chile – Peru etc.)

Specific features

- **Energy mix diversification needed** in some countries (Colombia and Argentina with very low RES penetration)
- Different drivers to boost renewable investments (evolution of the **demand** in Chile Peru and Uruguay; improvement in the **economic scenario** as a result of new government politics in Brazil; expansion of **transmission system** and evolution of the **regulatory framework** in Colombia; evolution of a **long PPA** market in Argentina; progress of **gas infrastructure** in Peru)



Gracias
Monica De Martino