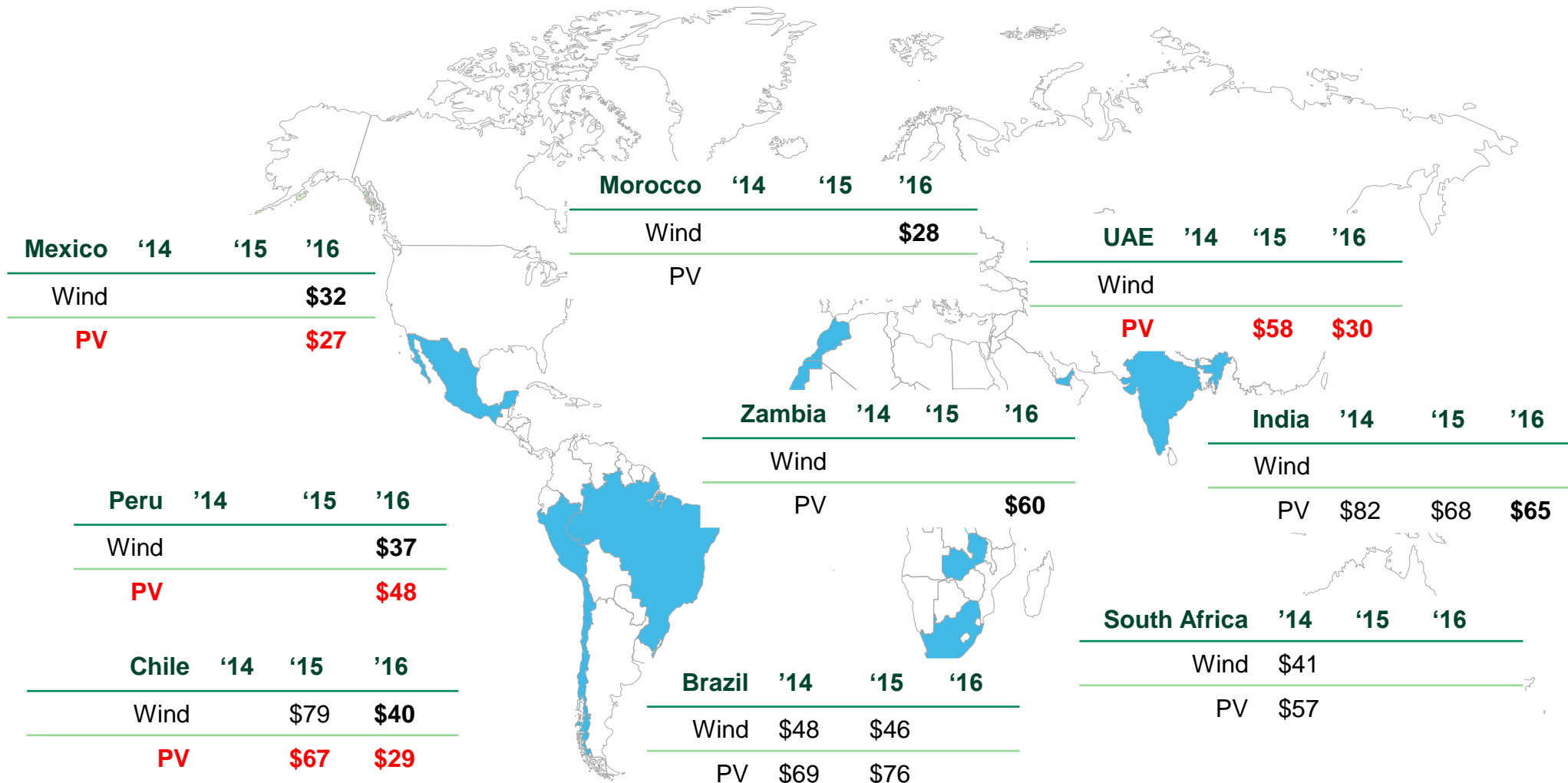


# A European industrial competitiveness strategy

# Auctions awarding prices from EGP

PV and Wind record prices



31/05/2017

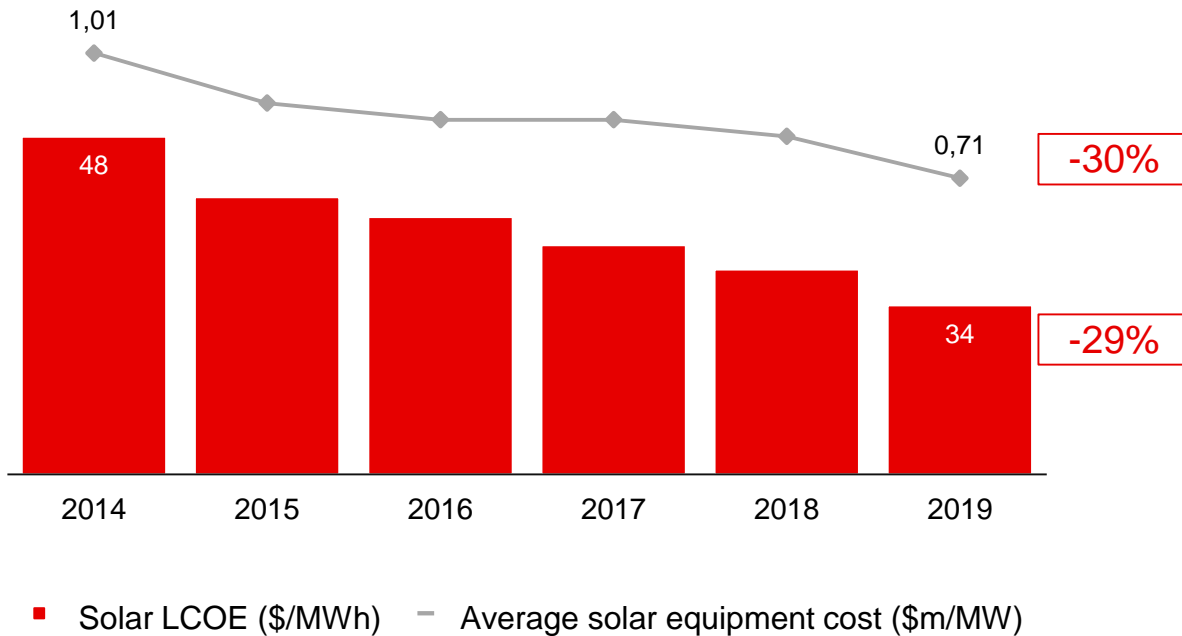
Source: BNEF Prices refer to \$/MWh

# Evolution of the solar technology

## Solar equipment versus cost of energy



Solar equipment cost<sup>2</sup> by delivery date & LCOE<sup>1</sup> evolution



How can the European solar industry compete in such a context?

Europe can regain leadership if it can **change the current paradigm:**

from “**reduce cost of modules**” (€/Wp)

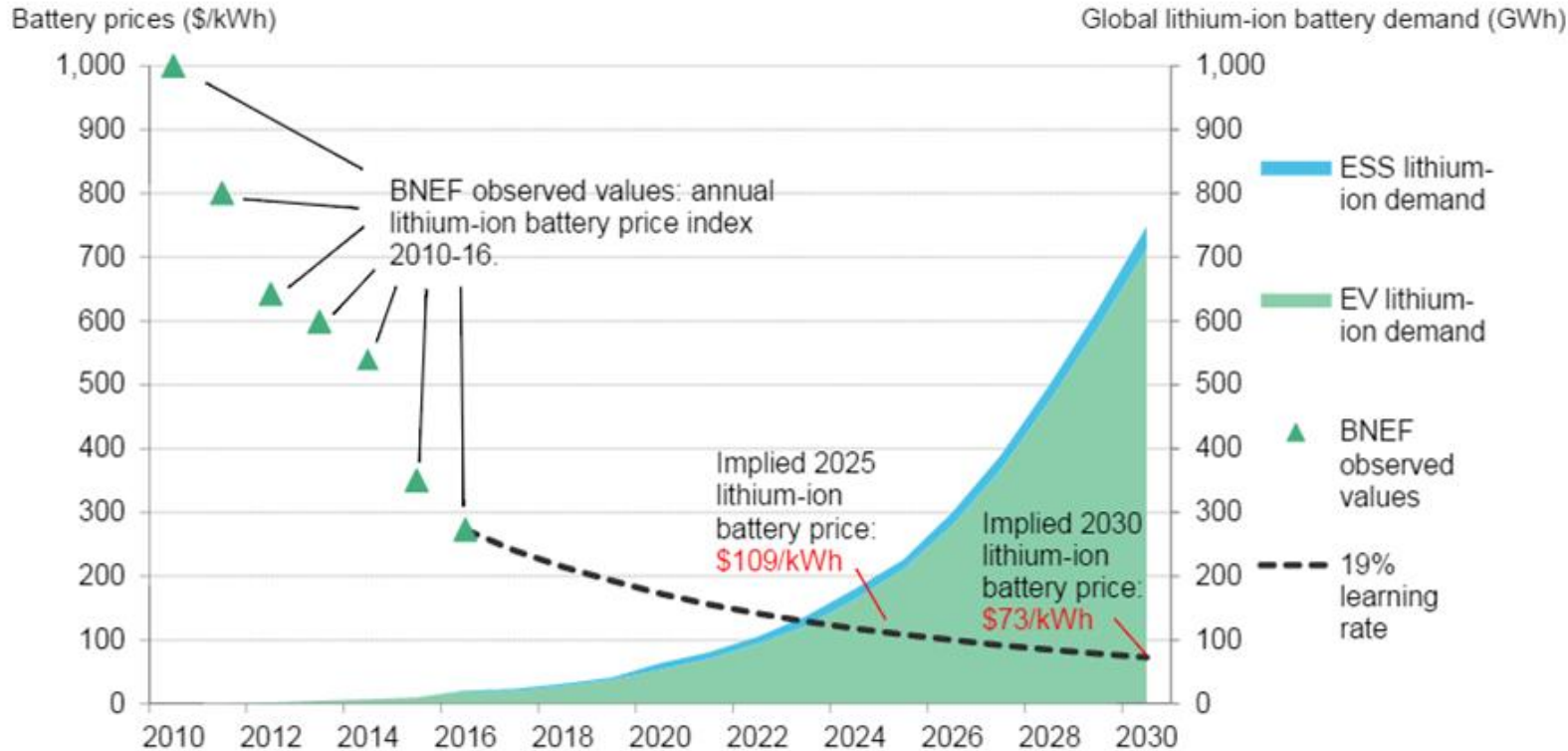
to “**reduce cost of energy**” (€/kWh) and services connected with **distributed renewable generation**

To be competitive the European solar industry needs to focus on the cost of energy

1. Normalised LCOE based on 2014 levels  
2. Includes PV module, inverter, tracker, BOP, related service costs

# Evolution of the storage market

Figure 9: Lithium-ion battery price forecast, 2010-30e (\$/kWh)



Source: Bloomberg New Energy Finance. Note: Lithium-ion battery demand is based on EV demand only, taken from our Global EV outlook to 2040 ([web](#)terminal). Prices are an average of BEV and PHEV batteries and include both cell and pack costs. Cell costs alone will be lower. We assumed the ESS capacity here is 75% of our total forecast of ESS, as our original forecast includes other technologies than li-ion.

## Storage market trends

- EVs are by far the main driver for lithium i-on demand
- Within the ESS segment, the distributed storage accounts for the majority of that segment

# Building on European strengths



## European solar industry can count on valuable assets:

- High skill in R&D, Universities, Research Centers, etc.  
High competence in device physics and materials science
- High competence in modeling
- High competence in reliability physics and quality assessment methodologies
- Competence in integrated systems
- Good equipment manufacturers

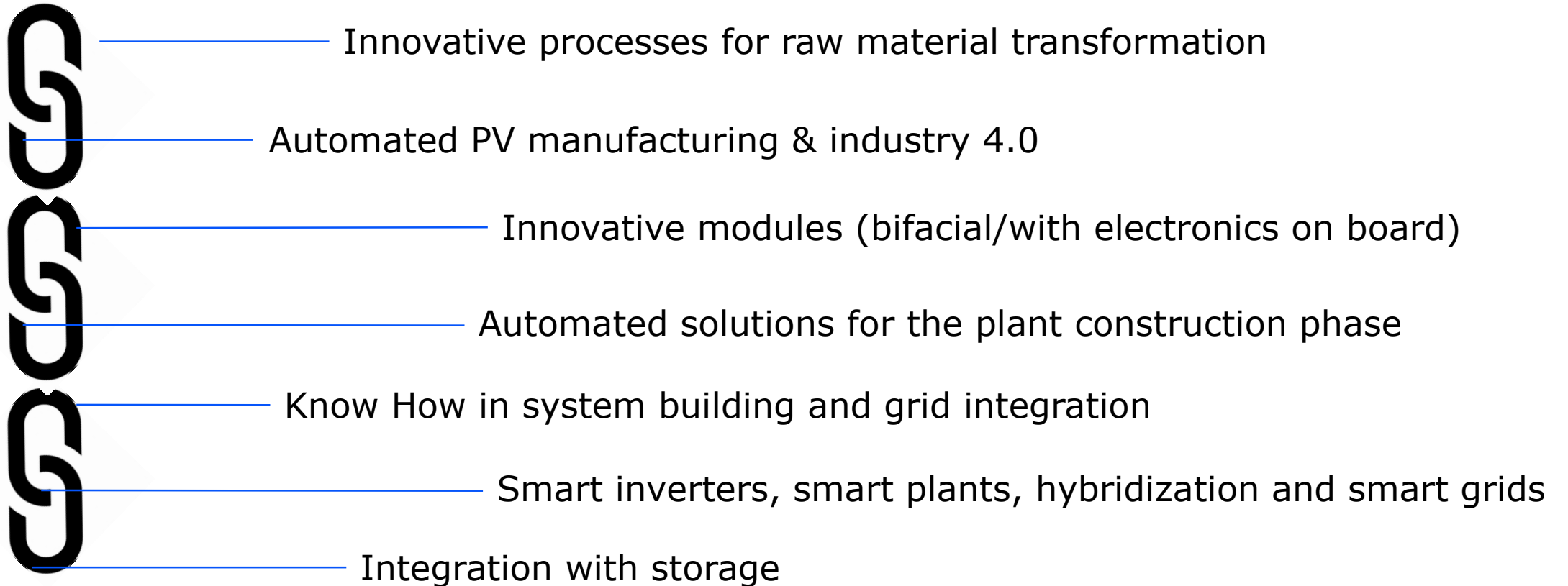
Furthermore, Europe can count on another advantage:

**European utilities are strong and could control all the value chain, from PV modules to energy supply.**

**EGP represents a positive example of vertical integration**

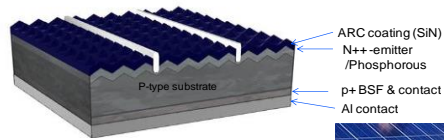
# Pillars for European competitiveness

A strategy that addresses all the value chain



# The case for a closer integration between manufacturers and utilities

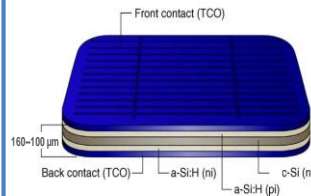
Mc-Si Cell mono facial



mono facial  
Glass- Backsheet  
module



HJT Cell bifacial



Bifacial glass glass  
module



## The EGP example: designing the 3SUN 2.0

Thanks to a close cooperation with research laboratories, public national institutions and European Community EGP is transforming its PV factory implementing innovative technologies.

HJT technology for bifacial solar cells is an innovative approach derived from the high efficiency HiT technology of Sanyo – Panasonic.

The further development towards high energy productivity bifacial HJT is a recent development that is powerful for the utility scale plants, especially for higher albedo regions

→ it allows to achieve high EOH and an a significant LCOE reduction compared to mc-Si case.

Considering the full glass-glass configuration, HJT technology has many advantages with respect to mc-Si both in terms of performances and reliability (less degradation / higher lifetime)

We need to focus more on the industrialization of innovative technologies and digital solutions to compete at worldwide level and satisfy European internal needs in terms of services and PV distributed generation

# Thank you



If you want to share with us your innovative ideas,  
please use EGP crowdsourcing platform:

<https://egp-innovation.greenapes.com/#/login>