



Enterprise and Industry

How to foster competitiveness of the European PV Industry?

**EU Photovoltaic Technology Platform
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Outline

- **Context**
- **Task forces relevant for REI**
- **Main results of DG ENTR Study on REI (focus on solar PV)**
- **Perspectives for solar PV/REI**

Context

- **EU manufacturing faces strong global competition**
- **EU climate and energy policies**
- **EU Industrial Policy**
- **EU Research and Innovation policies**

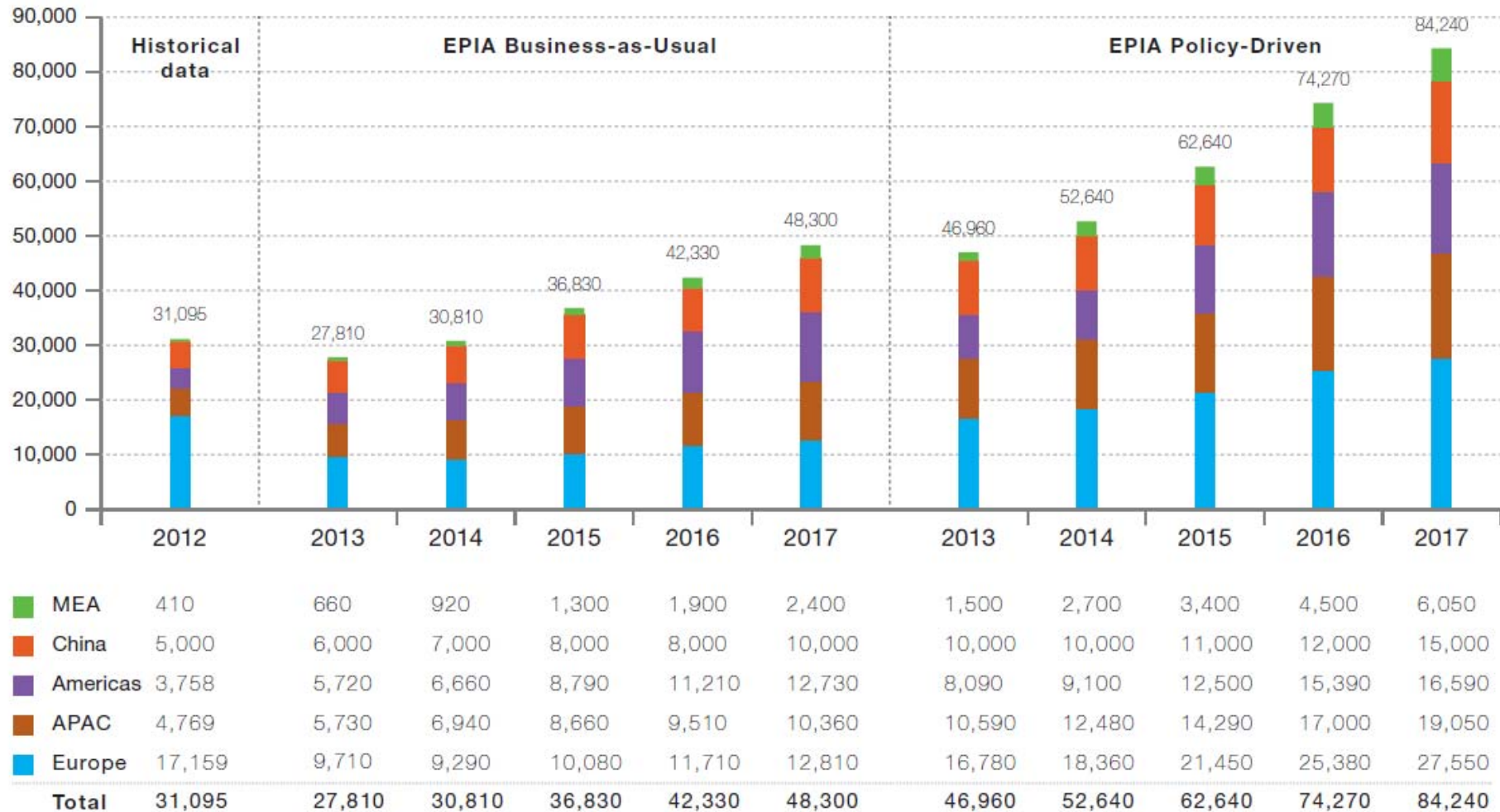
Task Forces Relevant for REI

- **Task Force on Advanced Manufacturing for Clean Production**
- **High-Level Group on Key Enabling Technologies**
- **Task Force for Smart Grids**

ENTR Study on Competitiveness of EU REI

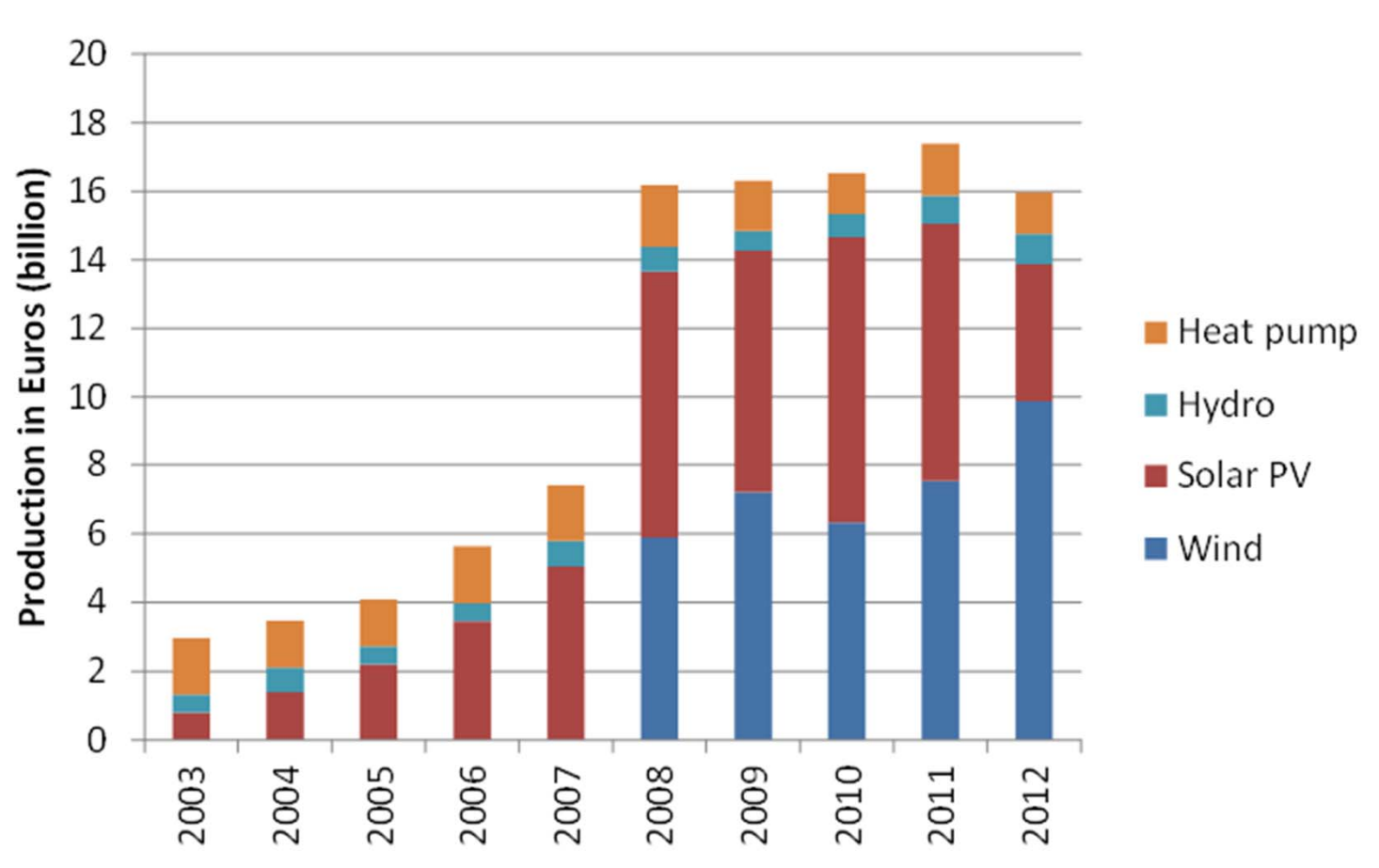
- **6 key REI sectors: wind, solar, biomass, hydropower, geothermal and ocean**
- **Main study objectives:**
 - Analysis of impact of EU legislation
 - Outlook per sector (EU and globally)
 - Detailed analysis for solar PV and offshore wind
 - Feed for thoughts for improving EU competitiveness
- **Final results by end July 2014**

Evolution of Global Annual Solar PV Market per Region (in MW)



Source: EPIA (2013), Global Market Outlook for Photovoltaics, 2013-2017

EU Production of Solar PV and Other Key REI Sectors



Source: Eurostat PRODCOM (2014)

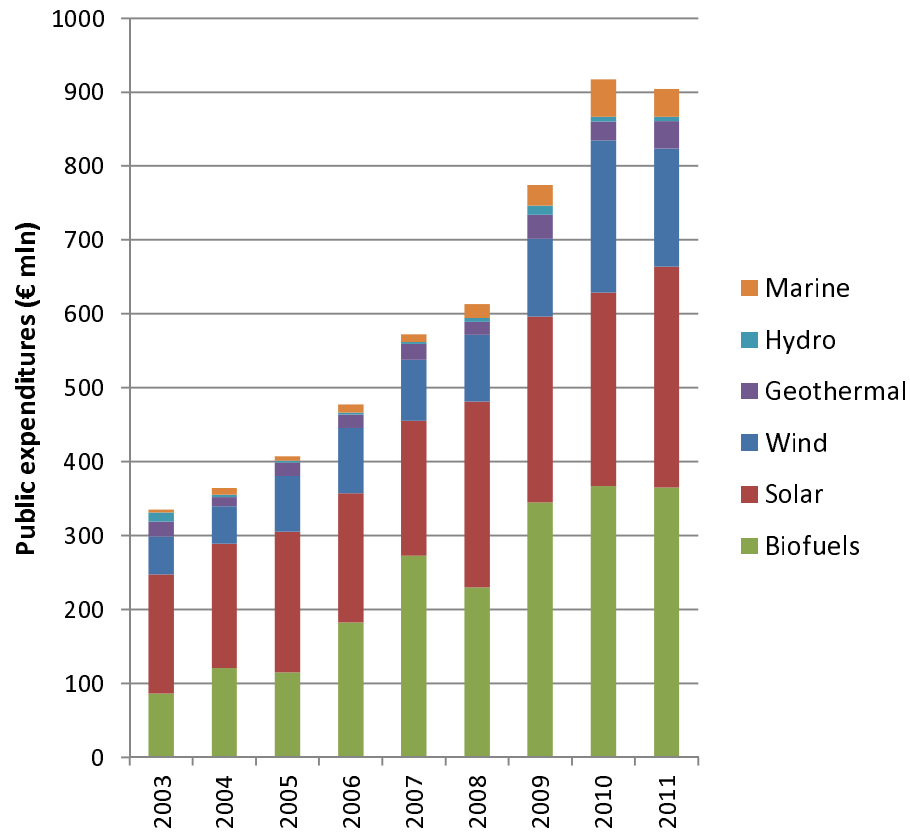
Note: other REI sectors are missing; hydro data concern only small hydro; no data for wind before 2008.

EU Solar PV Manufacturing in the Growing Global Market Context

- **Main EU producers: Germany followed by Italy, France**
- **German manufacturers**
 - 2008: $\approx 60\%$ of the global market
 - 2011: $\approx 15\%$
- **German exports**
 - 2010: €5.8bn (peak)
 - 2013: €1.9bn (fall by 67%)
- **Currently, 80% of world market supplied by Asian (China/Taiwan) manufacturers**

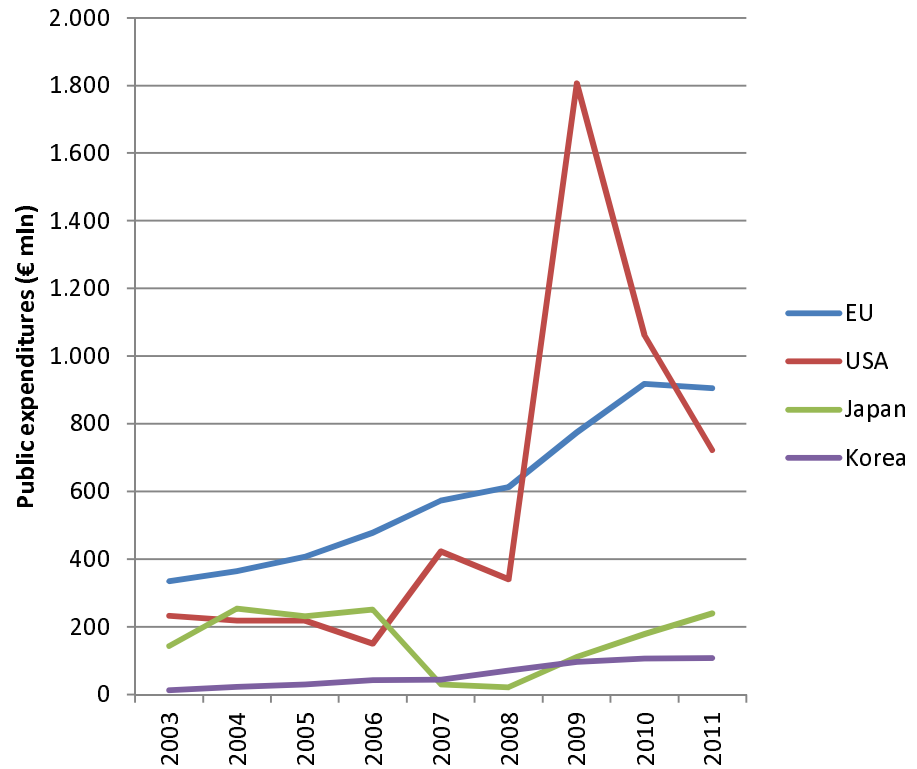
Public R&D Investment for REI

EU investment



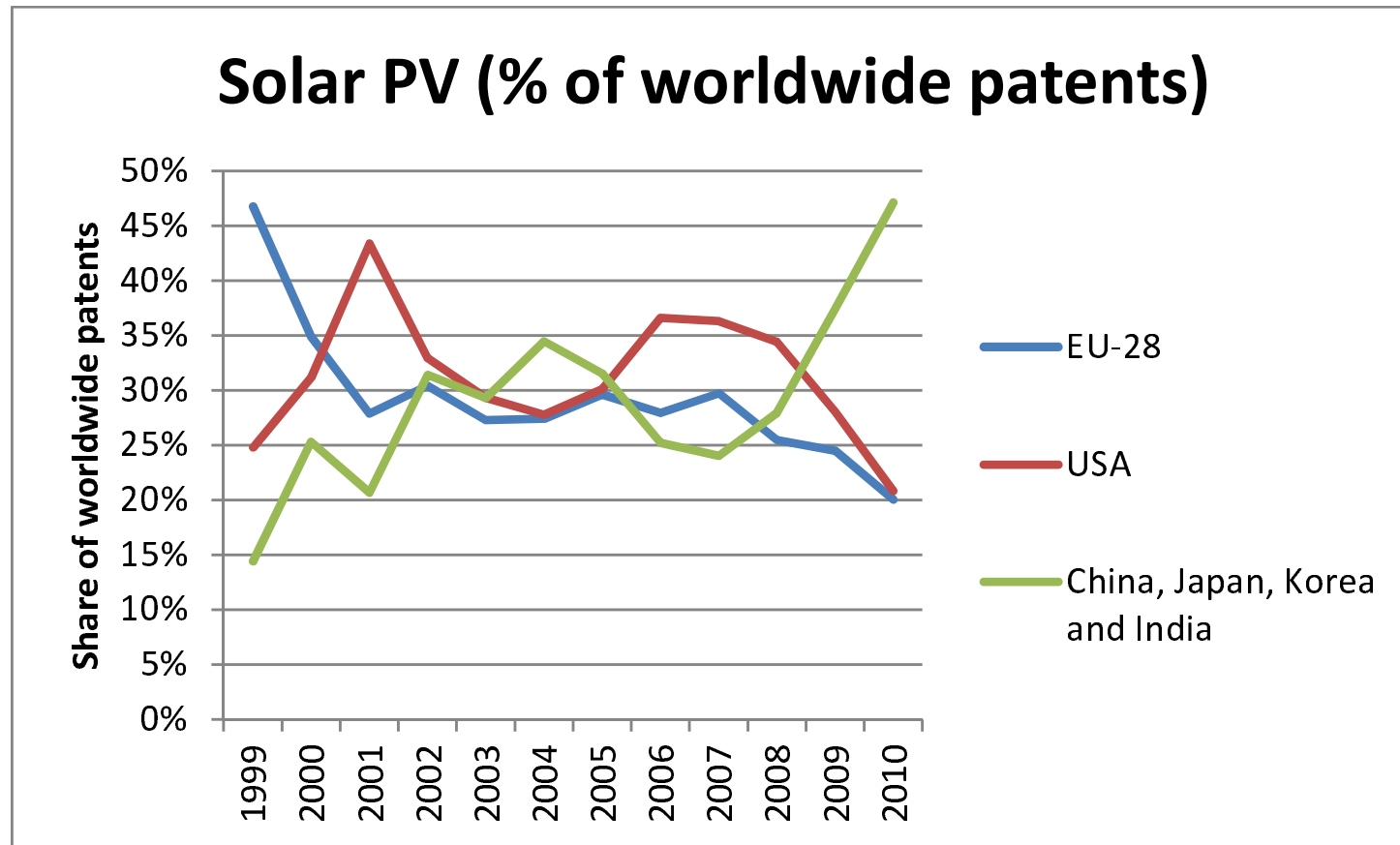
Source: IEA/OECD database (2013)

Investment in other regions



Source: IEA/OECD database (2013)

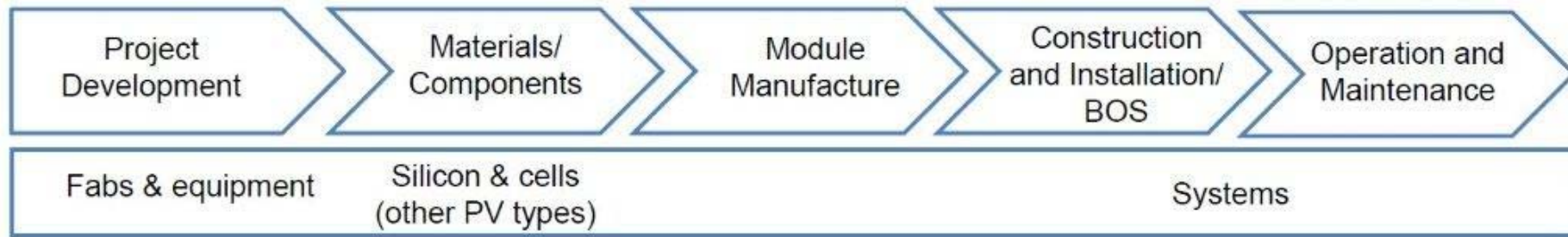
Worldwide Comparison of Patent Applications for Solar PV



Source: IEA/OECD database (2013)

Have EU Solar PV Manufacturers a Future in EU?

- **PV Value Chain**



- **Need to retain/build key aspects of value chain to maintain competitive advantage**
- **EU key competitive strengths:**
 - Quality
 - Reputation

EU Solar PV Can Compete Best on Quality and Service Differentiation

Component Suppliers	Module manufacturers	System integrators / Project Development / Installation / O&M	Service providers (including R&D)
<p>Retain quality leadership</p> <p><i>'Europe has to compete on quality'</i> (China competes on labour cost; USA on energy costs)</p> <p>Competitive pricing</p> <p>Global client base and diversified product offerings</p> <p>Acquisition of non-EU raw material suppliers</p>	<p>Vertical integration</p> <p>Technological prowess based on high levels of R&D spend</p> <p>Focus on highly automated / optimised manufacturing</p> <p>Focus on very highly optimised products/low failure rates to enable higher pricing (10-15%)</p> <p>Scale – to help drive down component costs</p> <p>Source EU components to reduce transport costs</p> <p>Become leaner (e.g. reducing admin staff)</p> <p>Build sales outside EU</p>	<p>Focus on high growth markets in the EU</p> <p>Avoid EU markets with unstable support landscape</p> <p>High price-performance ratio to deliver longer term value to customers is important</p> <p>Flexibility to expand and contract</p> <p>Provide more services/information to customers More knowledge about customer needs/wants</p> <p>Maintain knowledge of developments in module technology</p> <p>Development of energy storage systems</p>	<p>Selling technical knowledge to asset owners (e.g. developers, utilities, IPPs)</p> <p>High investment in innovation</p> <p>Continue to be focused on customer service as a differentiator</p> <p>Collaboration with EU companies in third markets</p>

Source: results from industry consultation, ICF (2014)

Lessons learnt from Solar PV

- Need to look at whole value chain
- EU cannot compete where labour costs significant (e.g. cells)
- EU can compete on quality and services (high value added) → **Innovation**
- EU market will remain important

Perspectives for REI

- **Similar analysis carried out for offshore wind (details in the final report)**
- **Need for more data on REI value chains**
- **Global REI market growing**
- **EU needs to keep cutting-edge R&D and innovation**

**Thank you
for your attention!**