



15 January 2015

## **European Forum for Science and Industry**

### **Round Table discussion on**

## **SCIENTIFIC SUPPORT TO EUROPE'S PHOTOVOLTAIC MANUFACTURING INDUSTRY**

**27 January 2015**

**Berlaymont, Schuman Room  
Rue de la Loi 200, 1049 Brussels**

Substantial progress has been made towards the attainment of the EU 2020 climate and energy targets.<sup>1</sup> The dependency of energy imports from a limited number of third countries and the urgency of climate protection measures require further action. The European Union has set out plans for a new climate and energy policy framework based on a more secure, sustainable and low-carbon economy. Europe is determined to reduce its greenhouse gas emissions by 40% by 2030 compared to 1990 and has committed itself to achieve at least 27% share of renewables with the aim of encouraging private investment in infrastructure and low-carbon technologies. A target to increase energy efficiency by at least 27% will be reviewed by 2020 having in mind an EU level of 30% for 2030.<sup>2</sup>

Aside from combating climate change through a reduction in greenhouse gas emissions, the use of renewable energy sources is likely to result in more diverse and more secure energy supply, as well as job creation.

In Europe, approximately 88 GW<sub>e</sub> of photovoltaic installations provided in 2013 already about 2.7% of Europe's electricity needs. Experts estimate that in 2030, photovoltaic could supply up to 15% of the overall electricity demand.<sup>3</sup> Direct conversion of solar energy into electricity has made considerable progress, both in terms of technology and cost-efficiency. The global PV industry grew on average about 50% per year for the last 10 years, and has reduced costs four-fold in the same period.

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<sup>1</sup> According to latest available Eurostat data, greenhouse gas emissions in the EU-28 were down by 17 % (2011) compared to 1990 levels, approaching the target of -20% to be reached by 2020. The share of renewables in gross final energy consumption was at 14.1% (2012). Energy efficiency improvements resulted in primary energy savings of 10.49% in 2012.<sup>1</sup>

<sup>2</sup> The European Council decision on EU 2030 Climate and Energy Policy Framework, 23-24 October 2014

<sup>3</sup> EPIA, Global Market Outlook for Photovoltaic 2014-2018.

In 2010, the European photovoltaic manufacturing industry (including equipment) had a turnover of approximately 20 billion Euros and about 260.000 direct jobs. However, in 2014 this turnover has declined to 2.5 billion Euros.<sup>4</sup> More than 85% of the 2010 industry has been lost for Europe.

Europe is still a leading region in Research and Development regarding photovoltaic technologies. However, there is a fear that without being driven by significant European industry for manufacturing and product development, this expertise will decline or move into more ambitious regions of the world. Several initiatives are ongoing:

### **Case study: X-GWp European Gigawatt Factory**

This Round Table will present the X-Gigawatt project as a follow up from the 29<sup>th</sup> European Photovoltaic Solar Energy Conference 2014 in Amsterdam. The Gigawatt Factory initiative pools innovative resources of three European institutes with an aim to re-launch photovoltaic industrial capacity on producing solar cells and modules in Europe and to regain global cost and quality leadership using cutting-edge innovations. It foresees an initial phase of a yearly production capacity of 1 GW<sub>e</sub>. The key benchmark will not be the price for standard modules, but electricity generation costs that can be reached with optimised systems. The consortium's business outlook foresees a first production line capacity for cells and modules of 90 MW<sub>e</sub> in 2015. The Gigawatt factory for wafers, cells and modules should reach full capacity in 2017.

Such initiatives attempt to secure globally competitive manufacturing based on key enabling technologies in Europe. The innovation challenge in photovoltaic manufacturing is the increase in efficiency, further reduction of production costs, the use of new materials and operational lifetimes of more than 40 years. Meeting this innovation challenge is the key for companies to become more profitable in the current market situation.

The initiative can also serve as a case study for Smart Specialisation Strategies, which aims to reduce disparities between European regions and to promote growth by giving critical mass on key priorities based on the region's research and innovation, economic and labour potential.

### **Objectives**

The presentation of the case study and feedback from other European photovoltaic industrial initiatives shall kick off discussion between experts, representatives from European institutions and Member States authorities, stakeholders from industry as well as financing bodies. The debate should explore the possible role of the European Commission in supporting the recovery of the once flourishing European photovoltaic industry and retaining Europe's prominent place in research. Participants should also discuss how to mobilise resources to support photovoltaic industry projects, including through the Investment Plan for Europe or Smart Specialisation Strategies.

Based on the outcome of the Round Table discussion next steps will be identified.

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<sup>4</sup> Annual PV Status Monitoring Report by JRC (2014 edition, to be published in November 2014)

## DRAFT ROUND TABLE PROGRAMME

**8.30 – 9.00 Registration & welcome**

**9.00 – 9.45 OPENING SESSION**

Chaired by **Vladimir Šucha**, Director-General, Joint Research Centre, European Commission

- **Tibor Navracsics**, European Commissioner for Education, Culture, Youth and Sport
- **Claude Turmes**, Member of the European Parliament, Member of the Industry, Research and Energy (ITRE) Committee
- **Helmfried Meinel**, Director-General, Ministry of the Environment, Climate Protection and the Energy Sector, Baden-Württemberg

**9:45 – 11:15 CASE STUDY: The European Gigawatt Factory initiative**

- Presentation by **Eicke Weber**, Director of the Fraunhofer Institute for Solar Energy Systems ISE
- **Frauke Thies**, Policy Director of the European Photovoltaic Industry Association (EPIA)

**11.15 – 13.00 PANEL DISCUSSION - "Re-launching Europe's PV industry"**

Chaired by **Giovanni De Santi**, Director, JRC Institute for Energy and Transport, European Commission

*How could the Commission support the recovery of the European photovoltaic industry? Are there realistic options to develop a "Financial Engineering" process between public and private investors? Is there scope for Smart Specialisation Strategies to give critical mass to projects from R&I to production?*

- **Heinz Ossenbrink**, Head of Unit, Renewables and Energy Efficiency, JRC Institute for Energy and Transport, European Commission
- **Paula Abreu Marques**, Head of Unit, Renewables and CCS policy, DG Energy, European Commission
- **Xabier Goenaga Beldarrain**, Head of Unit, Knowledge for Growth, JRC Institute for Prospective Technologies, European Commission
- **Philippe de Fontaine Vive**, Vice-President responsible for Innovation, European Investment Bank (EIB) (tbc)
- **Carlo Pettinelli**, Director, Sustainable Growth and EU 2020, DG Internal Market, Industry, Entrepreneurship and SMEs

**13.00 – 13.15 CONCLUSIONS**

- **Christopher Jones**, Deputy Director General for external policy and development of financial instruments, DG Energy, European Commission
- **Vladimir Šucha**, Director-General, Joint Research Centre, European Commission

**13.15 – 14.30 NETWORKING LUNCH**