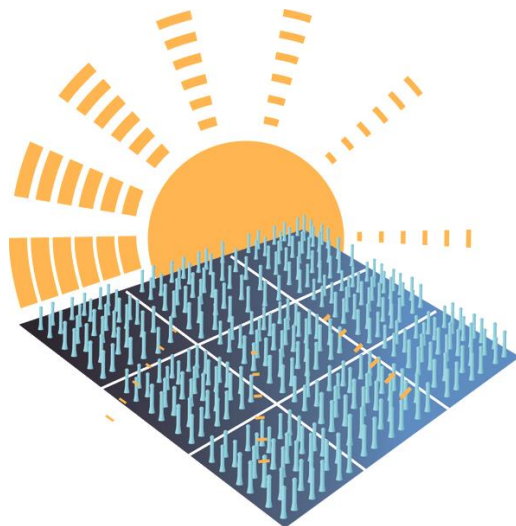

**Progress in Photovoltaics and
Nanotechnology:
from FP7 to Horizon 2020.**
The EU PV Clusters
2nd Workshop and General Assembly

26th - 28th November 2013

Catalonia Institute for Energy Research (IREC)
Venue: Aula Magna, University of Barcelona
Spain



www.eupvclusters.eu

With the support of:





OBJECTIVES

The second *EU PV Clusters Workshop and General Assembly* will take place in Barcelona (Spain) in November 2013, hosted by SCALENANO, a European project co-funded by the NMP and ENERGY Programmes under the EU 7th Framework Programme for Research and Technological Development (FP7). The Workshop intends to build on the success of the first Workshop (held at Aix-les Bains (France) in October 2010) to:

1. Highlight key results of the projects in the EU 7th Framework Programme for Research and Technological Development (FP7) and their technology readiness level in a value-chain approach.
2. Identify common research and innovation priorities for bridging the gap between nanotechnology-based knowledge produced by those projects and the successful commercialisation of products enabled by these developments.
3. Give an updated overview of the portfolio of projects in the photovoltaics (PV) field at the final stage of FP7 to bring forward the global picture of PV research and innovation in Europe and highlight the impact of nanotechnology in this area.
4. Enable the nanotechnology and PV communities in Europe to consolidate joint collaboration areas for strategic industrial partnerships to give key recommendations on future research and innovation needs in the PV domain.
5. Review the existing nanotechnology and PV industrial roadmaps for the development of PV in Europe, to implement them in Horizon 2020, the EU new Framework Programme for Research and Innovation 2014-2020

EU PV CLUSTERS

More than 40 European projects will be represented, corresponding to the *EU PV Clusters*, as presented on the dedicated web site: www.eupvclusters.eu

Cluster 1 - Wafer-based PV cells

First generation semiconductor PV cells: crystalline, wafer-based solar cells, mainly made from silicon materials, i.e. semiconductor wafer-based Si PV technologies.

Cluster 2 - Thin film PV cells

Second generation PV cells: thin film solar cells, such as amorphous or microcrystalline silicon, CIGS, cadmium tellurite, etc.

- Subcluster 2.1 – Innovative or improved PV manufacturing processes
- Subcluster 2.2 - Innovative PV materials

Cluster 3 - Third generation PV cells

PV cells obtained through the application of advanced concepts and materials, such as various nanomaterials and nanotechnology solutions, including quantum dots, super lattices, nanoparticles, nanowires, dyes, organic/polymer materials, hybrid organic-inorganic concepts, biomimetic materials, combinations of these, etc.:

- Subcluster 3.1 – Nanodots- or nanowires-based PV cells
- Subcluster 3.2 – Organic PV cells or DSC
- Subcluster 3.3 – Innovative nanostructures

Cluster 4 - Concentrator PV cells

PV generation based on optical concentration and tracking.

Cluster 5 - Innovative installations & grid interconnections

PV for distribution systems.

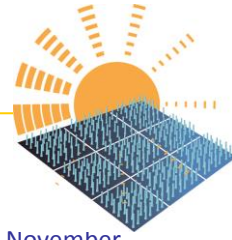
Cluster 6 - Production equipment & processes

Demonstration of high performance equipment and processes.

Cluster 7 - Industry support

Infrastructure, market, quality, legal perspectives and specific training.





DRAFT PROGRAMME

Tuesday 26th November

10.30 AM – 1.00 PM: Visit to solar plant

2.00 – 6.30 PM

**Welcome & Opening of the Workshop
Presentation of the projects in each Cluster
(introductions by Cluster Coordinators):**

Cluster 1: Wafer-based PV cells

Cluster 2 : Thin film PV cells:

**Subcluster 2.1: Innovative or improved PV
manufacturing processes**

Subcluster 2.2: Innovative PV materials

Cluster 3 : Third generation PV cells:

**Subcluster 3.1: Nanodots- or nanowires-based
PV cells**

Wednesday 27th November

08.30 AM – 4.00 PM

Presentation of the projects in each Cluster (continued)

Cluster 3 : Third generation PV cells:

Subcluster 3.2: Organic PV cells or DSC

Subcluster 3.3: Innovative nanostructures

4.15 – 6.30 PM: Visit to IREC laboratories

Thursday 28th November

08.30 – 12.45 AM

Presentation of the projects in each Cluster (continued)

Cluster 4: Concentrator PV cells

**Cluster 5: Innovative installations & grid
interconnections**

Cluster 7: Industry support

2.15 – 4.40 PM

**Conclusions and round table: Nanotechnology based
innovation to foster the integration of PV:**

**Conclusions from EU PV Cluster projects closed in
2013**

EPIA (European PV Industrial Association)

**EU PV TP (European Photovoltaic Technology
Platform)**

**NANOFutures (European Technology Integrating and
Innovation Platform on Nanotechnology)**

**KIC (Knowledge & Innovation Community)
InnoEnergy**

**EMIRI (Energy Materials Industrial Research
Initiative)**

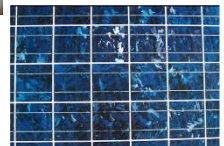
EERA (European Energy Research Alliance)

5.15 – 7.30 PM

**Scalenano: An example of pilot line for nanotechnology
based thin film PV processes**

8.00 PM - Gala Dinner

The Workshop will take place from Tuesday 26th November to Friday 29th November, including a technical visit to IREC laboratories and a PV plant . The workshop will be followed by a SCALENANO specific session that will take place on Friday 29th November (morning) at IREC.



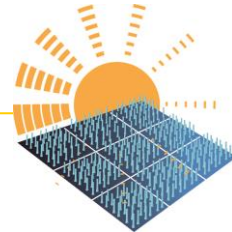
The Clusters are invited to come together in this second General Assembly and Workshop to share views and meet the European key PV and nanotechnology stakeholders. The overall goal is to present and discuss innovative solutions to foster the integration of PV, for cost-reduction through the development of new efficient technological options, considering the whole value-chain for the innovative technologies, taking into account consumer and market factors.

The Opening Session will be followed by 7 technical sessions dedicated to the Clusters, meeting this goal by addressing different PV technologies and research and innovation challenges. Projects from various Programmes will be represented.

In the sessions, the projects of each Cluster will be introduced, focusing on the benefits and barriers of the technological approach used, including nanotechnology. Each session will be followed by a discussion to help consolidating the information.

The expected results in terms of innovative enabling technologies, industrial uptake perspectives, patents, and industrial impact in the short and longer term, will be identified and debated in the last day to contribute to the set-up of a strategy for PV for 2020.

It is planned to conclude the event with a cross-cutting session on nanotechnology-based innovation, with the participation of all the key European initiatives, including the European Technology Integrating and Innovation Platform on Nanotechnology (NANOFutures) and EMIRI (Energy Materials Industrial Research Initiative). A technical visit to IREC's laboratories and to a PV plant in the area will be also organized during the 2013 edition of the Workshop and General Assembly.



PARTICIPATION

The Workshop can be attended upon *invitation only* and there is no attendance fee.

It is addressed to:

- partners of the EU-funded projects active in PV and in nanotechnology
- PV national representatives from the Member States
- PV technical experts
- EC Project Officers from the Programmes concerned
- representatives of the European Photovoltaic Technology Platform
- representatives of NANOFutures (European Technology Integrating and Innovation Platform on Nanotechnology)
- any other PV and nanotechnology stakeholder – upon invitation by the organisers.

Please reply to the invitation to: pvclustersworkshop@irec.cat

VENUE

The Workshop will take place at the “Aula Magna” (Lecture Hall) of the historical building of the University of Barcelona:
Gran Via de les Corts Catalanes, 585
08007 Barcelona, Spain

The Workshop will be organised by the SCALENANO project and hosted by IREC (Catalonia Institute for Energy Research), <http://www.irec.cat/>

For more information, please contact:

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Scientific Committee

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