



IEA Implementing Agreement

# PHOTOVOLTAIC POWER SYSTEM

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**Ricerca Energetica e Innovazione in Edilizia**

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# IEA PVPS basics

- 28 members: 23 countries, EC, EPIA, SEPA, SEIA, Copper Alliance. Other 5 countries as observers
- Is aimed at strengthening the international collaboration in order to:
  - remove barriers
  - increase awareness of potential and value
  - enhance technology co-operation
- Activities are carried out along a number of technical and non-technical subjects
- More than 120 experts involved
- Currently, 6 Tasks are active



# IEA PVPS Activities (Tasks)

- **Task 1 - Exchange and dissemination of information**
- **Task 2 – Performance of PV systems (concluded 2008)**
- **Task 3 - Use of PV in stand-alone and island applications (2004)**
- **Task 5 - Grid interconnection and dispersed systems (2001)**
- **Task 6 - Design and operation of large scale plants (1997)**
- **Task 7 - PV power systems in the built environment (2001)**
- **Task 8 - Very large scale PV systems (nearing completion)**
- **Task 9 - PV services for developing countries**
- **Task 10 - Urban Scale PV Applications (2009)**
- **Task 11 - PV hybrid systems within mini-grids (2012)**
- **Task 12 - PV environmental, health & safety activities**
- **Task 13 - PV performance, quality and reliability**
- **Task 14 - High-penetration of PV systems in electricity grids**
- **Task 15 - Acceleration of BIPV (Kick-off Meeting in March 2015)**



# Economic sustainability

## Task 1 - Exchange and dissemination of information

### Activities

- National Status Report (market, policies, industry, R&D)
- ISR Trend analysis (ISR)
- Special Information Activities
  - ◆ Added values of PV
  - ◆ PV industry roadmaps
  - ◆ PV industry value chain
  - ◆ Finance and PV
  - ◆ New business models
  - ◆ Self-consumption development
  - ◆ Transitional support schemes



# Social sustainability

## Task 9 - PV services for developing countries

### Activities

- PV as a sustainable solution for
  - ◆ drinking water supply
  - ◆ health centers
  - ◆ lighting and TLC services
- Innovative business for Emerging Regions
- Promoting partnerships with Regional organization and Development bodies

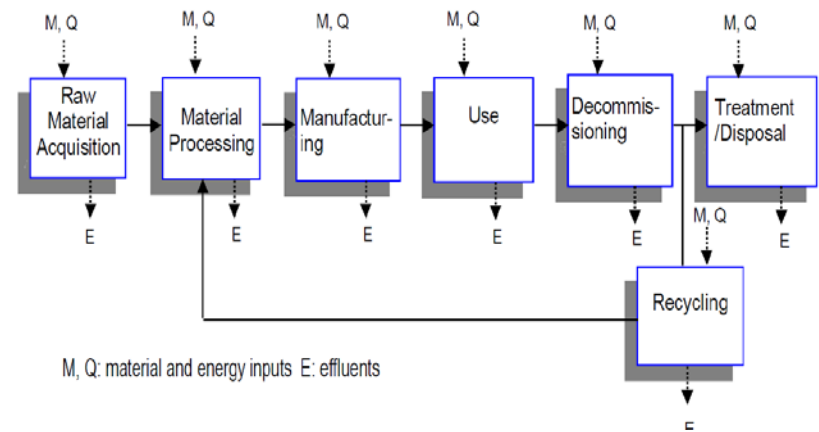
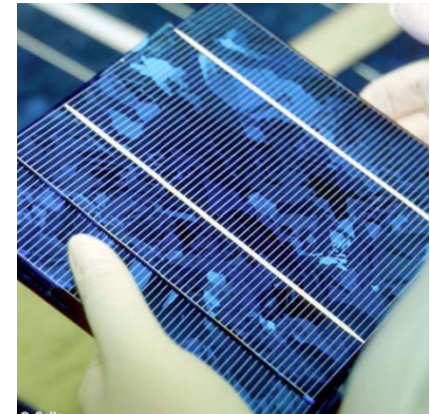


# Environmental sustainability

## Task 12 - Environmental Health and Safety issues

### Activities

- LCA and EPBT
- Collection and Recycling (Technical and economical aspects)
- Avoided impacts and external costs
- EH&S in Manufacturing Facilities (risk factors, accident prevention, pollution identify)

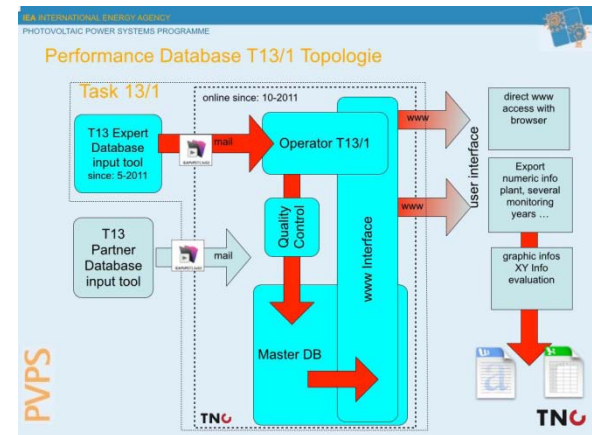


# Technical sustainability (1)

## Task 13 - Performance and Reliability of PV Systems

### Activities

- System Performance Analysis
- Reliability Assessment
- PV Module characterisation
- Monitoring and Diagnostic techniques
- Failure analysis
- identification of system Improvements

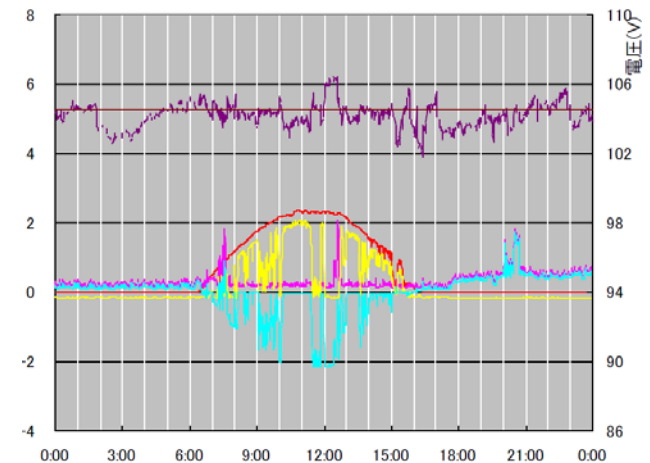


# Technical sustainability (2)

## Task 14 - High PV Penetration in Electricity Grids

### Activities

- High PV Penetration Solutions for
  - Local Distribution Grids
  - Central PV Generation Scenarios
- PV Generation in Correlation to Energy Demand
- Smart Inverter Technology





# Architectural sustainability

## TASK 7 PV in the built environment

- Architectural Design
- Systems Technologies
- Non-Technical Barriers
- Potential for BIPV
- Economic Evaluation

(concluded in 2001)

## TASK 10 Urban scale PV applications

- Economics and Institutional Factors
- Urban PV Electricity Policies
- Deveopment of technical factors
- Urban Planning

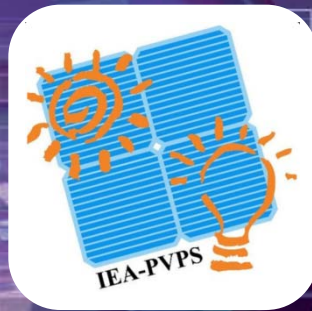
(concluded in 2009)

## New TASK (15) Acceleration of BIPV

- Expected results
- Market expansion of BIPV products
  - Harmonization of specifications for BIPV components and systems

(2015 - 2018)





**THANK YOU FOR YOUR KIND  
ATTENTION !**

*[www.iea-pvps.org](http://www.iea-pvps.org)*

