

Overview and contributions to global sustainable PV deployment

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IEA PVPS basics

- One of the more than 40 technology cooperation programmes within the IEA
- 27 members: 23 countries, EC, EPIA, SEPA, SEIA, most recent member: Belgium
- Members from East Asia: China, Japan, Korea, Malaysia
- Activities are carried out collaboratively on a country basis along a number of technical and non-technical subjects
- Currently, 7 projects (Tasks) are active
- Globally, more than 120 experts work together in these projects

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Relevant PVPS issues

- Scenario work
- Market development and trends
- Policy framework
- Business models
- New technologies and applications
- Urban and rural implementation
- Large scale deployment
- Environmental aspects
- Quality and reliability
- Grid integration



IEA PVPS Tasks

- Task 1 Exchange and dissemination of information on PV power systems
- Task 2 Operational performance, maintenance and sizing of PV power systems and subsystems (concluded 2008)
- Task 3 Use of PV power systems in stand-alone and island applications (concluded 2004)
- Task 5 Grid interconnection of building integrated and other dispersed PV systems (concluded 2001)
- Task 6 Design and operation of modular PV plants for large scale power generation (concluded 1997)
- Task 7 PV power systems in the built environment (concluded 2001)
- Task 8 Very large scale PV power generation systems
- Task 9 Deployment of PV technologies: co-operation with developing countries
- Task 10 Urban Scale PV Applications (concluded 2009)
- Task 11 PV hybrid systems within mini-grids
- Task 12 PV environmental, health & safety activities
- Task 13 PV performance, quality and reliability (new 2010)
- Task 14 High-penetration of PV systems in electricity grids (new 2010)

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Unique global platform of reference Global network of expertise

Broad variety of stakeholders

Independent, objective and neutral analysis

Recommendations

Communication & interaction

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Environmental sustainability

Task 12: Environmental, Health and Safety

- Common methodologies for LCA
- Latest LCA and LCI results
- Energy Payback Time
- Recycling

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Safety issues



Technical sustainability (1)

Task 13: Performance, quality and reliability

- Performance analysis
- Failure analysis
- PV Module Characterisation
- Reliability Assessment



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Technical sustainability (2)

Task 14: High PV penetration in electric grids

- Implications of high PV penetration (e.g. local distribution grids)
- Solutions for high PV penetration
- Measures for high PV penetration
- Smart technologies

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Economic sustainability

Task 1: PV market analysis

- Understanding PV market development mechanisms and the regulatory context
- Measures to avoid "go and stop"
- Healthy growth of PV markets
- Sustainable industry development
- New business models



Social sustainability

Task 1 and Task 9

- Customer perspective
- Fair prices
- Energy services and rural PV deployment
- Education
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- Market transparency

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Global sustainability

- Working with a global perspective
- OECD and non-OECD countries
- Resource issues
- Outreach in membership
- Broadening the market base
- Partnership with other programmes and international organisations



Evolution over time

- From technology to solutions
- From few to many different markets
- From the special case to the mainstream
- From technology offer to customer demand
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- From policy to business

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Conclusions

- PV markets will continue to develop, grow and diversify
- Several sustainability issues increasingly become relevant as markets and contributions of PV become more important
- New policies and business models will be needed and developed
- PV will (have to) move from policy driven to business driven markets



Thank you for your attention !

- http://www.iea-pvps.org
- http://www.iea.org



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