

Report on the Solar Europe Industrial Initiative

**SET Plan
Conference
2009**

**Stockholm
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<http://ie.jrc.ec.europa.eu/>
<http://www.jrc.ec.europa.eu/>



Solar Europe Industry Initiative

2007 PV sector turn over 9-10 Bio €

2003-2008 CAGR 89% in EU

8 Bio of SEI until 2020 is below 1% of expected turnover

Aggressive technology approach requires increasing market support

Introduction of European-wide incentives

The potential financial pay-off will be massive

R&D results on factory floor by 2016

2020 “Warm-up” for after 2020, “than it is easy sailing”

R&D Roadmap

PV has a short-term & long term agenda:

Short-term for immediate results to industry

Long-term to prepare post 2020 technology

Basic research must not be forgotten

**Very good cost-sharing between private / public
funding demonstrated already now**

R&D plus Volume, equal key factors for success

The Market Analyst:

How realistic is a 12% share of PV electricity:

- 462 TWH, 390 GW cumulative installed
- CAGR of 35% for 12 years needed
- 2013 milestone 30 GW world, 17.5 Europe
- Huge markets and R%D have started outside Europe (US, China, India) keep EU leadership
- More than 35% have been demonstrated
- 100 GW annual installation in 2020

Required:

- Feed-in Tariffs (fine tuned!)
- Grid Management
- World-wide Emission Trading

The Investor:

More focus gives more impact

Storage may require an initiative of its own

(not PV only)

Will Europe keep leadership?

Financing:

Funding before 2013?

Where is private R&D money coming from?

New PV technologies are less bankable

Need new financial instruments, complementing grants by loan or loan guarantees

The Investor: Baseline and Projected Data?

	SETIS	IEA PV Roadmap	New Energy Finance	Solar Europe Initiative
PV Cost 2007 [€/kWh]	0.52-0.88 (2007)	0.17-0.33 (2008)	0.14-0.38 (2008)	0.18-0.36 (I) 0.25-0.45 R (2009)
PV Cost 2020 [€/kWh]	0.27-0.46	0.07-0.14		0.08-0.17 (I) 0.12-0.22 (R)
Global installed Capacity in 2020 [GW]	46	210 (world)		120 180 380

Major Road-Map Features

PV share 4% - 6% - 12% Paradigm shift scenario

Two major Roadmap “Highways”

COST REDUCTION (<2015)

Market deployment Measures

Intensive & continuous R&D

SET

FLEXIBLE ELECTRICITY GRID (<2020)

PV System Integration

SEII

Smart Grid & Integration of other RES

Key Strengths

Strong Industry Base

Clear vision on how to achieve the 12%

Wide ranging R&D options focused on two major goals

Pay-off thinking: Investment now returns 2020

Major issues identified by the Roadmap

Excellent Governance:

Vision: 12%

Roadmap: SET For 2020

Instruments: SEII

Platform: Existing EU PV TP

Weaknesses

Continuous Market push required

Sustainable support schemes, FiT

Perception on decision-maker level that PV is too expensive

Learning-Curve “Paradox”: All happens now, but low cost in some years..

So far weak financial instruments to bridge from today’s R&D investment to tomorrow’s Payback

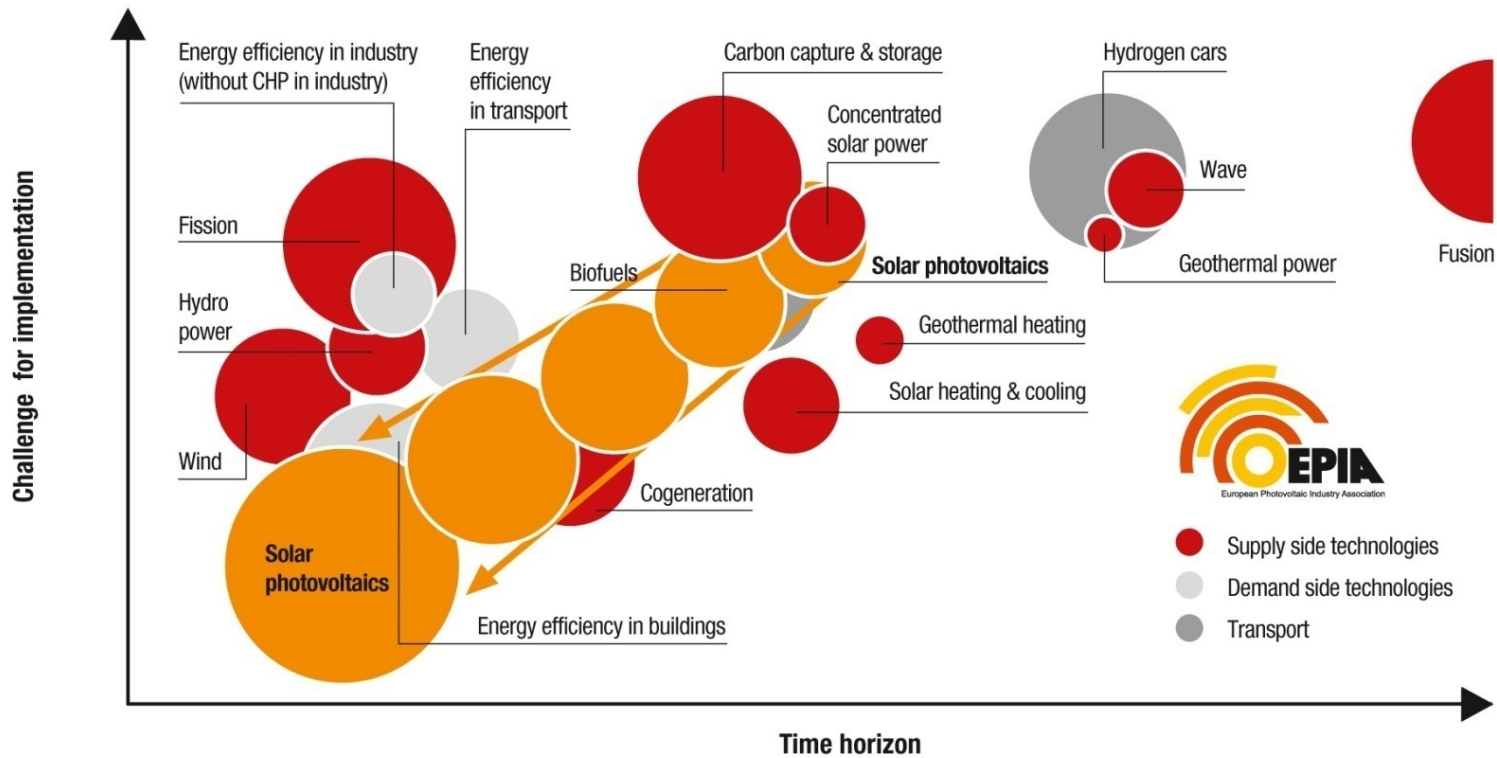
Reluctant Utilities

Strong International Competition (CN/TW..)

1. EU to involve Pro-actively to shape a **coherent policy on FiT** to avoid stop/go markets
2. Formulate Pro-actively Policies **address international Competition**
3. **Innovate financing** to make higher risk technology research bankable (Guaranteed loans at low cost) and to **bridge into 2020**
4. Manage on a University level the upcoming bottleneck of **Human Resources**
5. Launch a **basic research** initiative including international cooperation
6. Develop transparent up-date and review mechanisms for **SETIS**

Solar Europe Industrial Initiative in a Nutshell

PV positioning and potential



Source: European Commission "SET Plan presentation - Community Research", December 2007, modified by A.T. Kearney.

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