

# Statistics for the German solar power industry (photovoltaics)

## 1) Source of all data

Unless otherwise stated: German Solar Industry Association (BSW-Solar)

We would appreciate it if you quoted "BSW-Solar/www.solarwirtschaft.de" as a source.

## 2) Queries

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## 3) Free film, photo and graphic material, press releases, solar information, etc.

Photographs and graphics as well as information about TV footage can be found in German on the website of BSW-Solar at [www.solarwirtschaft.de/presse](http://www.solarwirtschaft.de/presse).

## 4) Consumer information for your target groups

Extensive information about technical and financing aspects of solar energy can be found on the websites of the German KfW Banking group and the BSW-Solar [www.solartechnikberater.de](http://www.solartechnikberater.de) (for home owners) and [www.solarintegration.de](http://www.solarintegration.de) (building contractors, architects). All of these websites are available in German only.

For economic aspects which are less concerned with the practical application of solar technology we recommend visiting our website [www.solarwirtschaft.de](http://www.solarwirtschaft.de).

## 5) Photovoltaic (solar energy) industry in Germany – Brief overview from the end of 2008

Number of photovoltaic companies (incl. installers and suppliers):	approx. 10,000
of which are producers of cells, modules and other components:	> 100
New capacity installed in Germany in 2008*:	approx. 1,650 MWp
Growth of new capacity installed from 2007 to 2008*	approx. 44 per cent
Industry turnover 2008*:	approx. 9.5 billion euros
Proportion of value added in Germany:	> 65 per cent
Reduction in costs for photovoltaic installations since 2006:	approx. 35 per cent
Proportion of German electricity consumption 2008/2020*/2050*:	approx. 1 % / 7 % / 25%
CO <sub>2</sub> savings in 2008*:	approx. 2.5 billion metric tons
Development of production capacities for photovoltaics technology since 2000:	increased well over tenfold
Number of jobs in 2004/ 2008/ 2013*/ 2020*:	ap. 17,000/53,000/68,000/ >100,000
Export quota PV industry 2004/ 2008 / 2013/ 2020*:	approx. 14 % / 48% / 70% / 80%
Export earnings (industry and suppliers) 2004/ 2008/ 2013*/ 2020*:	approx. 0.27/6/14/20 bn. €

All quoted figures relate to sales of plant engineering. Sales of traded solar energy are not included.

## 6) Sales in the German photovoltaic industry in Billions of €

Year	(Silicon, Wafer, Cells, Modules)	PV-supplier (machine manufacturer)
2000	0.22	n.a.
2001	0.34	n.a.
2002	0.26	n.a.
2003	0.49	n.a.

2004	1.65	n.a.
2005	2.79	0.23
2006	4.45	0.47
2007	6.14	0.9
2008	9.5	2.39

#### 7) Development of newly installed, grid-connected solar power in Germany

Total		new installations
1990	0.6 MWp	1.4 MWp
2000	42 MWp	100 MWp
2001	78 MWp	178 MWp
2002	80 MWp	258 MWp
2003	150 MWp	408 MWp
2004	600 MWp	1,000 MWp
2005	847 MWp	1,847 MWp
2006	796 MWp	2,643 MWp
2007	1,151 MWp	3,794 MWp
2008	1,650 MWp	5,444 MWp
2009*	approx. 2,000 MWp	approx. 7,500 MWp

in addition, around 40 MWp are installed in "off-grid systems" (i.e. not connected to the power grid)

#### 8) PV power generation (total in gigawatt hours)

Year	2001	2002	2003	2004	2005	2006	2007	2008*
PV output in GWh	76	162	313	557	1,282	2,200	3,100	4,300

Source: 2001-2007: VDN or BDEW, 2008: estimated by BSW-Solar

#### 9) Solar module production in Germany

Year	Production of solar module in Megawatts (all module types)
2000	15
2001	21
2002	29
2003	80
2004	159
2005	219
2006	350
2007	659
2008	1.243

#### 10) Export

	2004	2005	2006	2007	2008	2013*
Sales outside Germany in millions of € (total) (Industry + suppliers)	273	603	1,695	2,700	6,200	approx. 14,000
Export quota (Industry)	14 %	19 %	34 %	38 %	48 %	approx. 70 %

Export quota (Suppliers)	30 %	31 %	37 %	40 %	68 %	approx. 84 %
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#### 11) Construction and expansion of production: net investment in the German photovoltaics industry

According to statistics from BSW-Solar, the German photovoltaic industry invested more than 2 billion euros in the construction, expansion and modernization of solar factories in 2008.

Year	2001	2002	2003	2004	2005	2006	2007	2008	2013*
Net investment in millions of €	111	96	159	294	668	1,312	1,866	2,183	2,850

#### 12) Expenditure on research and development in the German photovoltaic industry

According to surveys from BSW-Solar, investment in research and development from both suppliers and industry rose from almost 30 million euros in 2004 to around 163 million euros in 2008.

Year	2001	2002	2003	2004	2005	2006	2007	2008	2013*
R&D expenditure in millions of €	9.8	9.2	16	30	65	103	123	163	approx. 282

#### 13) Number of jobs in the German photovoltaic industry

1998	ca. 1,500	
1999	ca. 2,500	
2000	ca. 3,100	
2001	ca. 4,000	
2002	ca. 4,300	
2003	ca. 6,500	
2004	ca. 17,200	
2005	ca. 22,300	
2006	ca. 29,600	
2007	ca. 40,400	
2008	ca. 53,300	

Within the photovoltaic sector,  
employment in the individual parts  
of the value added chain is as  
follows:

Industry and suppliers: 56 per cent,  
Installers: 35 per cent,  
Distribution: 10 per cent

#### 14) Photovoltaics price index

Average end-customer prices (system prices) for installed roof-mounted systems of up to 100 Kilowatt peak per kilowatt peak

Source: independent, representative survey of 100 installers conducted by EUPD-Research

Quarterly	Price [€]
Q2 2006	5000
Q4 2006	4800
Q1 2007	4568
Q2 2007	4448
Q3 2007	4395
Q4 2007	4354
Q1 2008	4303
Q2 2008	4275
Q3 2008	4254
Q4 2008	4216
Q1 2009	3922

Q2 2009	3620
Q3 2009	3263

The figures refer to the net system price per kilo watt peak (kWp).

\* BSW-Solar estimates or predictions