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Solar Photovoltaic Cell/Module Shipments Report 2012

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Preface

The U.S. Energy Information Administration (EIA) report, *Solar Photovoltaic Cell/Module Shipments Report 2012*, presents an overview of the U.S. solar photovoltaic industry, employment, and business activities together with comprehensive data on shipments of cells/modules in 2012. Detailed tables provide data on cell/module shipments by state, sector, end use, and type.

This report is based on information reported on Form EIA-63B, “Annual Photovoltaic Cell/Module Shipments Report.” Shipments as reported by respondents are for terrestrial (land-based) use only. Shipments intended for applications in space programs (satellites, military projects, etc.) are excluded.

Prior editions of this report are on the EIA website at <http://www.eia.gov/renewable/reports.cfm?t=214>.

Definitions for terms used in this report are in EIA’s Energy Glossary at <http://www.eia.gov/tools/glossary>.

Table of Contents

Contacts	ii
Preface	iii
Solar Photovoltaic Cell/Module Shipments Report 2012	1
Overview	1
Industry status	2
Value, average price, and average efficiency	3
U.S. manufactured	4
Imports.....	4
Exports	4
U.S. shipments	5
Shipments by geography	5
Shipments by sector	5
Shipments by grid or off-grid	5
Inventory.....	6

Tables

Table 1. U.S. photovoltaic industry status, 2012	7
Table 2. Value, average, price, and average efficiency of photovoltaic cell and module shipments by type, 2012.....	8
Table 3. Annual photovoltaic module shipments, 2003-2012.....	9
Table 4. Average price of photovoltaic cells and modules, 2003-2012.....	9
Table 5. Source and disposition of photovoltaic cell shipments by type, 2012.....	10
Table 6. Source and disposition of photovoltaic module shipments by type, 2012.....	10
Table 7. Origin of U.S. manufactured photovoltaic module shipments by state and type, 2012	11
Table 8. Origin of photovoltaic module import shipments by country and type, 2012	12
Table 9. Destination of photovoltaic module export shipments by country and type, 2012.....	13
Table 10. U.S. photovoltaic module shipments by state/territory and type, 2012	15
Table 11. U.S. photovoltaic module shipments by sector, end use, and type, 2012.....	17
Table 12. U.S. photovoltaic module shipments by end use, sector, and type, 2012.....	18
Table 13. U.S. photovoltaic module shipments to residential sector by state/territory and type, 2012	19
Table 14. U.S. photovoltaic module shipments to commercial sector by state/territory and type, 2012	21
Table 15. U.S. photovoltaic module shipments to industrial sector by state/territory and type, 2012	23
Table 16. U.S. photovoltaic module shipments to electric power sector by state/territory and type, 2012	24
Table 17. U.S. photovoltaic module shipments to grid-connected centralized PV system by state/territory and type, 2012.....	25
Table 18. U.S. photovoltaic module shipments to grid-connected distributed PV system by state/territory and type, 2012.....	26
Table 19. U.S. photovoltaic module shipments to off-grid domestic PV system by state/territory and type, 2012.....	28
Table 20. U.S. photovoltaic module shipments to off-grid non-domestic PV system by state/territory and type, 2012.....	30

Figures

Figure 1. Annual photovoltaic module shipments, 2003-2012.....	2
Figure 2. Average price of photovoltaic cells and modules, 2003-2012.....	3

Solar Photovoltaic Cell/Module Shipments Report 2012

Overview

A total of 122 companies reported having shipments of photovoltaic (PV) cells and modules in 2012, two more than the number in 2011. In contrast, the number of companies involved in PV cell and/or module manufacturing activities decreased by more than 22%, from 63 companies in 2011 to 49 companies in 2012. These divergent trends reflect the continuing oversupply of solar panels, intense price competition, and the competition, in particular from Asian manufacturers, which have resulted in a large number of bankruptcies and closings of solar companies within the U.S. industry.

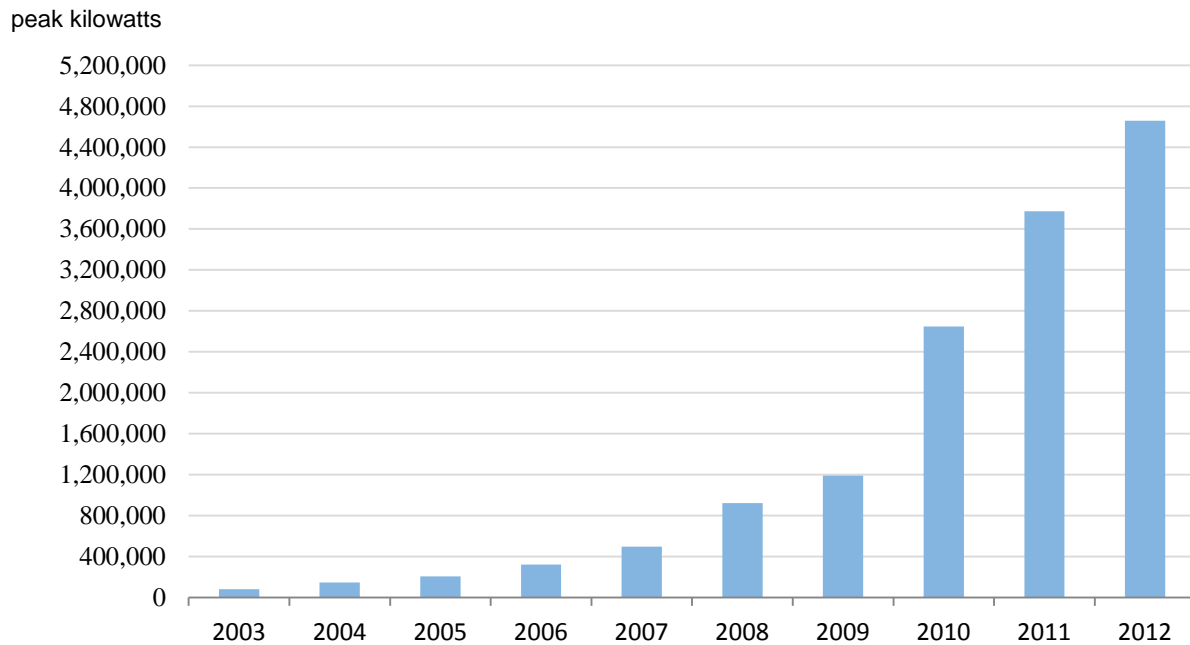
U.S. PV manufacturing declined by more than 38% in 2012, from 1,161,589 peak kilowatts (kWdc)¹ peak in 2011 to 714,918 peak kilowatts in 2012. Employment in PV-related activities was adversely affected by bankruptcies in 2012, including several PV manufacturers. The number of full-time equivalent (FTE)² employees decreased by more than 20% from 15,777 FTE in 2011 to 12,575 FTE in 2012.

Total shipments of PV modules continued to grow in 2012, increasing more than 23% to 4,655,005 peak kilowatts (Figure 1) with a value of \$5.3 billion. U.S. imports of PV modules increasingly supplemented domestic supplies during 2012. Import shipments increased by more than 61% from 3,323,865 peak kilowatts in 2011 to 5,360,699 peak kilowatts in 2012. U.S. exports of PV modules exhibited moderate growth in 2012, increasing about 3%, from 793,939 peak kilowatts in 2011 to 817,504 peak kilowatts.

The average price of PV modules continued to decline, falling from \$1.59 per watt in 2011 to \$1.15 per watt in 2012. Surplus supplies of PV modules helped build year-end inventories by more than 126% to 2,633,016 peak kilowatts.

¹ kWdc stands for kilowatts of direct current (DC), the type of power output by photovoltaic cells and modules. All capacity values in this report are in DC terms.

² Full-time equivalent is a unit measure of the number of employees on full-time schedules plus the number of employees on part-time schedules converted to a full-time basis.

Figure 1. Annual photovoltaic module shipments, 2003-2012

Source: U.S. Energy Information Administration (EIA), Form EIA-63B, “Annual Photovoltaic Cell/Module Shipments Report.”

Industry status

In 2012, 122 companies—comprising PV manufacturers, importers, and exporters—reported shipments of PV cells and modules. Many of the companies reporting PV shipments in 2012 also reported being involved in one or more of the following photovoltaic-related activities (Table 1):

- 49 companies were involved in module and/or cell manufacturing
- 46 designed modules or systems
- 27 developed prototype modules
- 14 developed prototype systems
- 66 were involved in wholesale distribution
- 30 were involved in retail distribution
- 21 installed PV systems

In addition, manufacturers are planning to introduce new photovoltaic-related technical products in the next calendar year (Table 1):

- 16 plan to introduce new single-crystal silicon modules
- 14 plan to introduce new cast silicon modules
- 7 plan to introduce new thin-film modules
- 3 plan to introduce new concentrator photovoltaic modules
- 1 plans to introduce new ribbon silicon modules

Of the 122 companies, 90 had 90% or more of their company-wide revenues in PV-related activities, 7 had 50-89%, 9 had 10-49%, and 16 had less than 10% (Table 1).

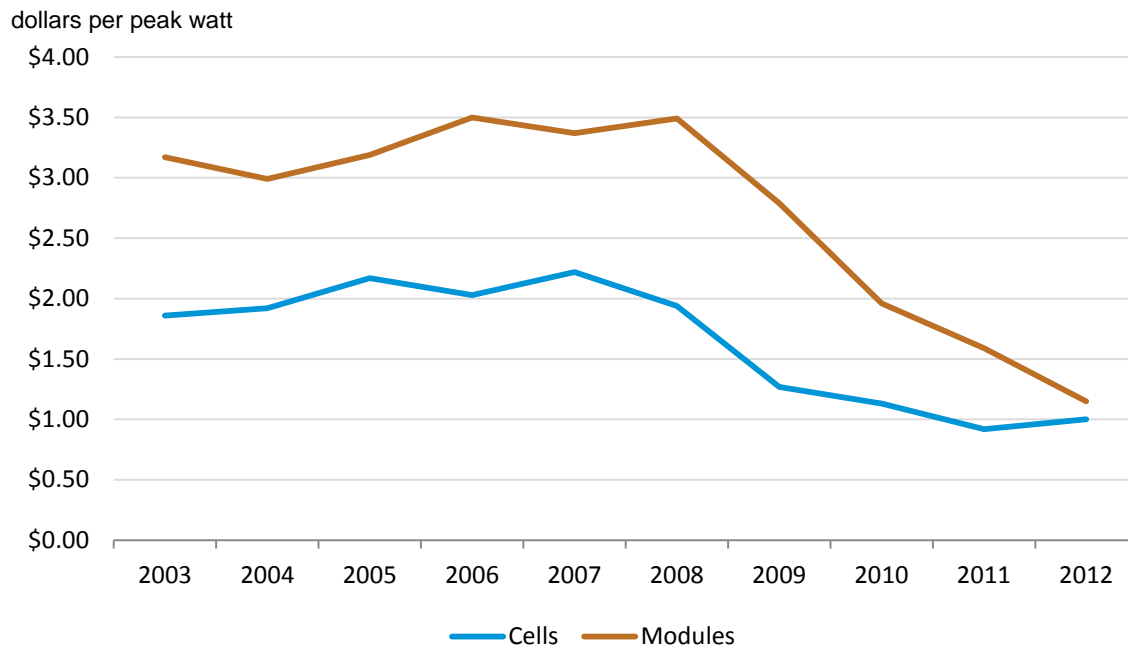
Despite more companies reporting PV shipments in 2012 than in 2011, employment in PV-related activities decreased by more than 20%, from 15,777 full-time equivalent (FTE) employees in 2011 to 12,575 FTE in 2012. A number of companies ceased operations and laid off employees during 2012, including Abound Solar, BP Solar, SpectraWatt, Inc., Transform Solar, and United Solar Ovonic LLC. Note that the EIA-63B survey does not cover all segments of the solar PV industry, such as installers.

Value, average price, and average efficiency

In 2012, the value of photovoltaic cell shipments totaled more than \$1.7 billion, almost the same as in 2011. The 2012 value of photovoltaic module shipments decreased to about \$5.3 billion from nearly \$6 billion in 2011 (Table 2). Value includes charges for cooperative advertising and warranties, but does not include excise taxes and the cost of freight or transportation.

The average price of photovoltaic cells per peak watt of capacity shipped rebounded nearly 9% from \$0.92 in 2011 to \$1.00 in 2012. The average price of photovoltaic modules fell nearly 28%, from \$1.59 in 2011 to \$1.15 in 2012 (Figure 2 and Table 4).

Figure 2. Average price of photovoltaic cells and modules, 2003-2012



Source: U.S. Energy Information Administration (EIA), Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

The performance of a photovoltaic module is typically measured in terms of its energy conversion efficiency, i.e., the percentage of incident solar energy (input) that the module converts to electricity (output) under standard rating conditions. In 2012, the average energy conversion efficiencies, based on company reports, were as follows (Table 2):

- 16% for Crystalline Silicon PV module
- 13% for Thin-film PV module
- 30% for Concentrator PV module

U.S. manufactured

In 2012, 714,918 peak kilowatts of PV modules were manufactured in the United States. This level marks a decrease of more than 38% from the 1,161,589 peak kilowatts of PV modules manufactured in 2011. The decrease in manufactured modules was mainly because of the oversupply of solar modules. This oversupply resulted in the price of PV modules dropping at or below costs—at which point, several EIA-63B respondents ceased operations³. During 2012, several PV manufacturers completely closed down and exited the price-competitive solar PV market. Manufacturers in California, Ohio, Oregon, and Tennessee produced nearly 90% of the domestically manufactured PV modules (Table 7). Crystalline silicon accounted for more than 61% of the annual domestically manufactured PV modules, followed by thin-film modules with nearly 38%. Together, crystalline silicon and thin-film accounted for nearly 99% of all PV module manufacturing.

Imports

Imports of PV modules shipments increased more than 61% from 3,323,865 peak kilowatts in 2011 to 5,360,699 peak kilowatts in 2012. The predominant type of import shipment in 2012 was crystalline silicon modules, accounting for nearly 66% (3,536,090 peak kilowatts) of total imports. China (35%), Malaysia (33%), and the Philippines (nearly 8%) accounted for more than 76% of total import shipments (Table 8). Despite stiff U.S. import tariffs on Chinese photovoltaic products last year⁴, imports of Chinese modules increased nearly 12% from 1,691,670 peak kilowatts in 2011 to 1,890,740 peak kilowatts in 2012. In contrast, the U.S. market share of PV modules from China decreased sharply from 51% in 2011 to 35% in 2012.

Exports

Exports of PV module shipments increased nearly 3% in 2012, from 793,939 peak kilowatts in 2011 to 817,504 peak kilowatts in 2012. The predominant type of export shipment was crystalline silicon modules, accounting for about 72% (585,713 peak kilowatts) of total exports. PV module shipments to Japan (24.3%), India (18.5%), Germany (11.9%), and Italy (10.3%) accounted for the largest shares of the export market (Table 9).

³ CNBC - Does US Solar Industry Stand a Chance Against China? <http://www.cnbc.com/id/48166949>

⁴ Reuters - U.S. sets new tariffs on Chinese solar imports at <http://www.reuters.com/article/2012/05/17/us-china-trade-idUSBRE84G19U20120517>

U.S. shipments

Shipments by geography

U.S. PV module shipments totaled 3,796,873 peak kilowatts in 2012. The shipments went to all 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands (Table 10).

About 75% of U.S. PV module shipments (2,846,042 peak kilowatts) went to five states (in order of decreasing volume): California, Arizona, New Jersey, Hawaii, and North Carolina. California (48%) and Arizona (15%) accounted for 63% (2,379,047 peak kilowatts) of the domestic shipments.

Shipments by sector

U.S. PV module shipments to the commercial sector in 2012 accounted for 1,635,661 peak kilowatts, slightly more than 43% of the domestic market. Of the domestic shipments to the commercial sector, approximately 99.6% were crystalline silicon, and the remaining 0.4% were thin-film (Table 11).

The electric power sector was the second-largest domestic market in 2012, accounting for 1,465,311 peak kilowatts, or nearly 39% of the domestic market share. Crystalline silicon accounted for about 81% of the electric power shipments, thin-film accounted for nearly 19%, and concentrator accounted for about 0.5%.

Shipments to the residential sector amounted to 672,078 peak kilowatts, or nearly 18% of the domestic market share. More than 98% of its shipments were crystalline silicon, and the balance were thin-film.

The industrial sector, with 0.6 percent of domestic shipments, was the smallest domestic sales market, totaling 23,823 peak kilowatts. Nearly 83% of the shipments were crystalline silicon, and the remaining 17% were thin-film.

Shipments by grid or off-grid

U.S. PV module shipments to grid-connected distributed PV systems in 2012 accounted for 2,315,209 peak kilowatts, or slightly less than 61% of the domestic market. Of the domestic shipments to grid-connected distributed PV systems, more than 99% were crystalline silicon, and less than 1% were thin-film (Table 12).

U.S. PV module shipments to grid-connected centralized PV systems were the second-largest domestic market in 2012, accounting for 1,465,311 peak kilowatts, or nearly 39% of the domestic market share. Nearly 81% of the shipments were crystalline silicon, about 19% were thin-film, and slightly more than 0.5% were concentrator.

PV module shipments to off-grid domestic PV systems such as households and communities not connected to the utility grid amounted to 10,947 peak kilowatts, or less than 0.3% of the domestic market share. More than 88% of total domestic shipments were crystalline silicon, and slightly less than 12% were thin-film.

Other off-grid non-domestic PV systems such as water pumping, remote communications, and safety and protection devices, at locations without the presence of the utility grid, accounted for slightly more

than 0.1% of domestic shipments. This was the smallest domestic end-use market, totaling 5,406 peak kilowatts. About 53% were crystalline silicon and about 47% were thin-film.

Inventory

In 2012, U.S. inventories of PV modules at year-end totaled 2,633,016 peak kilowatts (Table 6). This level is more than 126%, or 1,469,168 peak kilowatts, higher than the year-end inventories of the previous year (1,163,848 peak kilowatts). Compared with output, this was 1,918,098 peak kilowatts more than the 714,918 peak kilowatts of PV modules manufactured in the United States during the year.

Table 1. U.S. photovoltaic industry status, 2012

Reporting Companies, total number of:	122
Employment, full-time equivalent employees:	12,575
Involved in Photovoltaic-related Activities, number of reporting companies:	
Module and/or Cell Manufacturing	49
Module or System Design	46
Prototype Module Development	27
Prototype Systems Development	14
Wholesale Distribution	66
Retail Distribution	30
Installation	21
Non-module System Component	14
Sales as a Percent of Total Company Revenue, number of reporting companies:	
90-100%	90
50-89%	7
10-49%	9
Less than 10%	16
Companies Expecting to Introduce New Photovoltaic-related Products in 2013, by product type and number:	
Crystalline Silicon	
Single-Crystal Silicon Modules	16
Cast Silicon Modules	14
Ribbon Silicon Modules	1
Thin-Film	
Amorphous Silicon Modules	3
Other (Thin-Film Modules)	4
Concentrators	3
Non-module Components	-

- = No data reported

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 2. Value, average, price, and average efficiency of photovoltaic cell and module shipments by type, 2012

Value, total shipments (cells):	thousand dollars
Total Cells:	\$1,730,679
Crystalline Silicon	\$1,662,662
Thin-Film	\$52,423
Concentrator	\$15,594
Price, average value (cells):	dollars per watt
Total Cells:	\$1.00
Crystalline Silicon	\$1.04
Thin-Film	\$0.64
Concentrator	\$0.37
Value, total shipments (modules):	thousand dollars
Total Modules:	\$5,341,383
Crystalline Silicon	\$4,810,364
Thin-Film	\$509,105
Concentrator	\$21,915
Price, average value (modules):	dollars per watt
Total Modules:	\$1.15
Crystalline Silicon	\$1.18
Thin-Film	\$0.92
Concentrator	\$1.59
Average Energy Conversion Efficiency, modules shipped:	percent per peak kilowatt
Crystalline Silicon	16%
Thin-Film	13%
Concentrator	30%

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 3. Annual photovoltaic module shipments, 2003-2012

peak kilowatts

Year	Modules
2003	80,062
2004	143,274
2005	204,996
2006	320,208
2007	494,148
2008	920,693
2009	1,188,879
2010	2,644,498
2011	3,772,075
2012	4,655,005

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 4. Average price of photovoltaic cells and modules, 2003-2012

dollars per peak watt

Year	Average Prices	
	Cells	Modules
2003	1.86	3.17
2004	1.92	2.99
2005	2.17	3.19
2006	2.03	3.50
2007	2.22	3.37
2008	1.94	3.49
2009	1.27	2.79
2010	1.13	1.96
2011	0.92	1.59
2012	1.00	1.15

Note: Dollars are not adjusted for inflation.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 5. Source and disposition of photovoltaic cell shipments by type, 2012

peak kilowatts

Cell Shipments	Type			Total
	Crystalline Silicon	Thin-Film	Concentrator	
Source				
Inventory, Start-of-Year	173,358	9,913	16,350	199,621
Manufactured during Reporting Year	294,760	85,867	29,472	410,099
Imported during Reporting Year	1,225,389	-	3,713	1,229,102
Purchased from U.S. Original Equipment Manufacturer	3,774	4,592	-	8,366
Total Available For Shipment	1,697,281	100,372	49,535	1,847,188
Disposition				
Cells Assembled into Modules	437,230	52,565	8,453	498,247
Sales to U.S. Original Equipment Manufacturer for Resale	42,282	1,815	8,115	52,212
Export Shipments	1,124,135	27,807	25,795	1,177,737
Total Shipments	1,603,647	82,187	42,363	1,728,197
Inventory, End-of-Year	93,634	18,185	7,173	118,992

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 6. Source and disposition of photovoltaic module shipments by type, 2012

peak kilowatts

Module Shipments	Type			Total
	Crystalline Silicon	Thin-Film	Concentrator	
Source				
Inventory, Start-of-Year	489,869	667,856	6,123	1,163,848
Manufactured during Reporting Year	437,710	268,755	8,453	714,918
Imported during Reporting Year	3,536,090	1,824,609	-	5,360,699
Purchased from U.S. Original Equipment Manufacturer	48,455	101	-	48,556
Total Available For Shipment	4,512,124	2,761,321	14,575	7,288,021
Disposition				
U.S. Shipments	3,491,729	297,462	7,682	3,796,873
Sales to U.S. Original Equipment Manufacturer for Resale	10,452	27,818	2,357	40,627
Export Shipments	585,713	228,025	3,766	817,504
Total Shipments	4,087,895	553,305	13,805	4,655,005
Inventory, End-of-Year	424,229	2,208,016	771	2,633,016

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 7. Origin of U.S. manufactured photovoltaic module shipments by state and type, 2012

peak kilowatts

State	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	-	2,396	-	2,396	0.34%
California	112,139	47,043	771	159,953	22.37%
Colorado	-	82	-	82	0.01%
Delaware	12,349	-	-	12,349	1.73%
Florida	5,219	-	-	5,219	0.73%
Georgia	5,053	-	-	5,053	0.71%
Illinois	3,928	1	-	3,929	0.55%
Iowa	-	1,358	-	1,358	0.19%
Michigan	-	378	-	378	0.05%
Minnesota	656	-	-	656	0.09%
Nevada	-	-	7,682	7,682	1.07%
New Jersey	879	-	-	879	0.12%
New Mexico	23,024	-	-	23,024	3.22%
New York	773	-	-	773	0.11%
North Carolina	94	-	-	94	0.01%
Ohio	-	217,449	-	217,449	30.42%
Oregon	68,121	8	-	68,129	9.53%
Tennessee	194,955	-	-	194,955	27.27%
Texas	1,518	41	-	1,559	0.22%
Washington	1,477	-	-	1,477	0.21%
Wisconsin	7,525	-	-	7,525	1.05%
Total	437,710	268,755	8,453	714,918	100.00%

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 8. Origin of photovoltaic module import shipments by country and type, 2012

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Canada	345	-	-	345	0.01%
China	1,889,329	1,411	-	1,890,740	35.27%
Czech Republic	1,037	-	-	1,037	0.02%
France	18,000	-	-	18,000	0.34%
Germany	23,388	83,973	-	107,362	2.00%
Hong Kong	18,093	-	-	18,093	0.34%
India	19,790	-	-	19,790	0.37%
Japan	15,409	129,057	-	144,465	2.69%
Korea, South	352,343	-	-	352,343	6.57%
Malaysia	174,511	1,604,028	-	1,778,539	33.18%
Mexico	350,389	5,860	-	356,250	6.65%
Philippines	415,000	-	-	415,000	7.74%
Poland	84,000	-	-	84,000	1.57%
Singapore	80,267	279	-	80,546	1.50%
Spain	14,532	-	-	14,532	0.27%
Switzerland	837	-	-	837	0.02%
Taiwan	78,820	-	-	78,820	1.47%
Total	3,536,090	1,824,609	-	5,360,699	100.00%

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 9. Destination of photovoltaic module export shipments by country and type, 2012

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Angola	150	-	-	150	0.02%
Antigua and Barbuda	1	-	-	1	*
Argentina	2,069	-	-	2,069	0.25%
Aruba	12	-	-	12	*
Australia	13,299	196	-	13,495	1.65%
Austria	-	435	-	435	0.05%
Bahamas	100	-	-	100	0.01%
Barbados	1,862	-	-	1,862	0.23%
Belgium	57,459	-	-	57,459	7.03%
Belize	7	-	-	7	*
Bermuda	1	-	-	1	*
Brazil	2,128	1,342	-	3,470	0.42%
British Virgin Islands	4	-	-	4	*
Bulgaria	464	1,204	-	1,668	0.20%
Canada	24,607	24,580	-	49,187	6.02%
Chile	405	3	-	408	0.05%
China	5,909	22,801	-	28,710	3.51%
Colombia	204	120	-	324	0.04%
Costa Rica	97	2	-	98	0.01%
Cyprus	30	-	-	30	*
Denmark	2,705	40	-	2,745	0.34%
Dominican Republic	842	-	-	842	0.10%
El Salvador	195	-	-	195	0.02%
Estonia	-	1	-	1	*
Fiji	278	-	-	278	0.03%
Finland	-	2	-	2	*
France	21,829	17	-	21,846	2.67%
Germany	72,053	24,897	-	96,950	11.86%
Ghana	2	-	-	2	*
Greece	14,624	21	-	14,645	1.79%
Guatemala	108	-	-	108	0.01%
Guyana	57	-	-	57	0.01%
Haiti	431	-	-	431	0.05%
Honduras	74	-	-	74	0.01%
Hong Kong	1,963	362	-	2,325	0.28%
India	2,339	149,148	-	151,486	18.53%
Indonesia	57	-	-	57	0.01%
Ireland	-	23	-	23	*
Israel	6,896	3	-	6,899	0.84%
Italy	80,907	1,787	1,431	84,124	10.29%
Jamaica	480	-	-	480	0.06%
Japan	198,104	150	-	198,254	24.25%
Jordan	33	-	-	33	*
Kenya	540	-	-	540	0.07%
Korea, South	3,136	22	-	3,158	0.39%
Kuwait	-	1	-	1	*
Malaysia	65	2	-	67	0.01%

See footnotes at end of table.

Table 9. Destination of photovoltaic module export shipments by country and type, 2012 (cont.)

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Mauritius	25	-	-	25	*
Mexico	7,401	36	2,335	9,772	1.20%
Netherlands	67	25	-	92	0.01%
Netherlands Antilles	51	-	-	51	0.01%
New Zealand	50	-	-	50	0.01%
Nicaragua	84	-	-	84	0.01%
Nigeria	136	-	-	136	0.02%
Palau	95	-	-	95	0.01%
Panama	65	288	-	353	0.04%
Peru	143	-	-	143	0.02%
Philippines	1	-	-	1	*
Saint Lucia	50	-	-	50	0.01%
Saudi Arabia	2,229	-	-	2,229	0.27%
Senegal	135	-	-	135	0.02%
Seychelles	82	-	-	82	0.01%
Sierra Leone	175	-	-	175	0.02%
Singapore	28	15	-	43	0.01%
South Africa	3,205	-	-	3,205	0.39%
Spain	5,369	17	-	5,386	0.66%
Sweden	-	5	-	5	*
Switzerland	20,292	8	-	20,300	2.48%
Taiwan	-	17	-	17	*
Tanzania	270	-	-	270	0.03%
Thailand	22,171	-	-	22,171	2.71%
Trinidad and Tobago	7	-	-	7	*
Turkey	4	441	-	445	0.05%
United Arab Emirates	93	-	-	93	0.01%
United Kingdom	6,826	16	-	6,842	0.84%
Uruguay	1	-	-	1	*
Venezuela	1	-	-	1	*
Zimbabwe	135	-	-	135	0.02%
Total	585,713	228,025	3,766	817,504	100.00%

* = Less than 0.01%.

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 10. U.S. photovoltaic module shipments by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1,522	s	-	1,522	0.04%
Alaska	101	s	-	101	*
American Samoa	60	-	-	60	*
Arizona	500,971	61,514	-	562,485	14.81%
Arkansas	596	2	-	597	0.02%
California	1,661,860	154,702	-	1,816,562	47.84%
Colorado	39,922	311	7,682	47,915	1.26%
Connecticut	16,892	521	-	17,412	0.46%
Delaware	25,751	5	-	25,755	0.68%
District of Columbia	1,660	5	-	1,665	0.04%
Florida	39,651	461	-	40,112	1.06%
Georgia	56,281	167	-	56,447	1.49%
Guam	36	-	-	36	*
Hawaii	121,420	2,405	-	123,825	3.26%
Idaho	654	39	-	693	0.02%
Illinois	58,754	22,896	-	81,650	2.15%
Indiana	3,447	3,581	-	7,028	0.19%
Iowa	1,657	8	-	1,665	0.04%
Kansas	1,309	3	-	1,312	0.03%
Kentucky	2,286	2	-	2,289	0.06%
Louisiana	15,264	11	-	15,275	0.40%
Maine	3,715	21	-	3,736	0.10%
Maryland	43,546	10,067	-	53,613	1.41%
Massachusetts	68,071	160	-	68,231	1.80%
Michigan	7,572	36	-	7,608	0.20%
Minnesota	4,132	18	-	4,150	0.11%
Mississippi	1,231	-	-	1,231	0.03%
Missouri	5,635	16	-	5,652	0.15%
Montana	4,531	s	-	4,532	0.12%
Nebraska	99	s	-	99	*
Nevada	38,306	785	-	39,091	1.03%
New Hampshire	5,553	6	-	5,559	0.15%
New Jersey	254,462	520	-	254,981	6.72%
New Mexico	53,119	179	-	53,298	1.40%
New York	67,739	1,001	-	68,740	1.81%
North Carolina	88,129	59	-	88,189	2.32%
North Dakota	100	-	-	100	*
Ohio	32,900	33,532	-	66,432	1.75%
Oklahoma	1,076	14	-	1,089	0.03%
Oregon	26,993	197	-	27,190	0.72%
Pennsylvania	24,013	1,806	-	25,819	0.68%
Puerto Rico	61,853	-	-	61,853	1.63%
Rhode Island	4,592	2	-	4,595	0.12%
South Carolina	1,510	9	-	1,518	0.04%
South Dakota	250	-	-	250	0.01%
Tennessee	22,308	10	-	22,318	0.59%

See footnotes at end of table.

Table 10. U.S. photovoltaic module shipments by state/territory and type, 2012 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Texas	75,001	2,285	-	77,286	2.04%
Utah	17,481	2	-	17,483	0.46%
Vermont	7,865	s	-	7,865	0.21%
Virgin Islands of the U.S.	327	-	-	327	0.01%
Virginia	2,671	50	-	2,722	0.07%
Washington	3,445	50	-	3,495	0.09%
West Virginia	746	-	-	746	0.02%
Wisconsin	12,004	2	-	12,006	0.32%
Wyoming	659	1	-	660	0.02%
Total	3,491,729	297,461	7,682	3,796,873	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 11. U.S. photovoltaic module shipments by sector, end use, and type, 2012

peak kilowatts

Sector	End Use	Type			Total
		Crystalline Silicon	Thin-Film	Concentrator	
Residential	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	658,756	10,568	-	669,324
	Off-grid Domestic PV System	1,492	1,263	-	2,755
	Off-grid Non-domestic PV System	-	-	-	-
Total		660,248	11,831	-	672,078
Commercial	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	1,625,708	5,784	-	1,631,492
	Off-grid Domestic PV System	2,662	6	-	2,668
	Off-grid Non-domestic PV System	28	1,473	-	1,500
Total		1,628,398	7,263	-	1,635,661
Industrial	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	11,394	3,000	-	14,393
	Off-grid Domestic PV System	5,524	-	-	5,524
	Off-grid Non-domestic PV System	2,829	1,077	-	3,906
Total		19,746	4,077	-	23,823
Electric Power	Grid-connected Centralized PV System	1,183,337	274,292	7,682	1,465,311
	Grid-connected Distributed PV System	-	-	-	-
	Off-grid Domestic PV System	-	-	-	-
	Off-grid Non-domestic PV System	-	-	-	-
Total		1,183,337	274,292	7,682	1,465,311
Total U.S. Photovoltaic Module Shipments		3,491,729	297,462	7,682	3,796,873

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 12. U.S. photovoltaic module shipments by end use, sector, and type, 2012

peak kilowatts

End Use	Sector	Type			Total
		Crystalline Silicon	Thin-Film	Concentrator	
Grid-connected Centralized PV System	Residential	-	-	-	-
	Commercial	-	-	-	-
	Industrial	-	-	-	-
	Electric Power	1,183,337	274,292	7,682	1,465,311
Total		1,183,337	274,292	7,682	1,465,311
Grid-connected Distributed PV System	Residential	658,756	10,568	-	669,324
	Commercial	1,625,708	5,784	-	1,631,492
	Industrial	11,394	3,000	-	14,393
	Electric Power	-	-	-	-
Total		2,295,858	19,351	-	2,315,209
Off-grid Domestic PV System	Residential	1,492	1,263	-	2,755
	Commercial	2,662	6	-	2,668
	Industrial	5,524	-	-	5,524
	Electric Power	-	-	-	-
Total		9,678	1,269	-	10,947
Off-grid Non-domestic PV System	Residential	-	-	-	-
	Commercial	28	1,473	-	1,500
	Industrial	2,829	1,077	-	3,906
	Electric Power	-	-	-	-
Total		2,856	2,550	-	5,406
Total U.S. Photovoltaic Module Shipments		3,491,729	297,462	7,682	3,796,873

- = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 13. U.S. photovoltaic module shipments to residential sector by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	481	-	-	481	0.07%
Alaska	73	-	-	73	0.01%
American Samoa	60	-	-	60	0.01%
Arizona	52,936	s	-	52,937	7.88%
Arkansas	428	-	-	428	0.06%
California	367,048	6,406	-	373,454	55.57%
Colorado	21,231	152	-	21,383	3.18%
Connecticut	3,248	2	-	3,250	0.48%
Delaware	1,704	5	-	1,708	0.25%
District of Columbia	385	-	-	385	0.06%
Florida	6,889	31	-	6,919	1.03%
Georgia	3,630	3	-	3,633	0.54%
Guam	36	-	-	36	0.01%
Hawaii	56,406	1,294	-	57,700	8.59%
Idaho	319	22	-	341	0.05%
Illinois	938	-	-	938	0.14%
Indiana	730	2	-	731	0.11%
Iowa	299	s	-	299	0.04%
Kansas	899	3	-	902	0.13%
Kentucky	507	-	-	507	0.08%
Louisiana	10,777	5	-	10,782	1.60%
Maine	851	19	-	869	0.13%
Maryland	10,703	10	-	10,713	1.59%
Massachusetts	10,095	20	-	10,115	1.51%
Michigan	852	25	-	877	0.13%
Minnesota	2,140	4	-	2,144	0.32%
Mississippi	256	-	-	256	0.04%
Missouri	1,655	8	-	1,663	0.25%
Montana	396	-	-	396	0.06%
Nebraska	88	-	-	88	0.01%
Nevada	5,208	710	-	5,918	0.88%
New Hampshire	3,775	-	-	3,775	0.56%
New Jersey	26,257	171	-	26,428	3.93%
New Mexico	4,598	21	-	4,619	0.69%
New York	17,970	551	-	18,521	2.76%
North Carolina	8,312	s	-	8,312	1.24%
North Dakota	20	-	-	20	*
Ohio	3,934	66	-	4,001	0.60%
Oklahoma	281	10	-	291	0.04%
Oregon	1,973	75	-	2,048	0.30%
Pennsylvania	5,170	8	-	5,179	0.77%
Puerto Rico	1,238	-	-	1,238	0.18%
Rhode Island	60	-	-	60	0.01%
South Carolina	780	s	-	781	0.12%

See footnotes at end of table.

Table 13. U.S. photovoltaic module shipments to residential sector by state/territory and type, 2012 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
South Dakota	45	-	-	45	0.01%
Tennessee	2,889	2	-	2,891	
Texas	7,966	2,185	-	10,151	1.51%
Utah	6,970	-	-	6,970	1.04%
Vermont	2,064	-	-	2,064	0.31%
Virgin Islands of the U.S.	70	-	-	70	0.01%
Virginia	688	8	-	696	0.10%
Washington	2,354	11	-	2,365	0.35%
West Virginia	89	-	-	89	0.01%
Wisconsin	1,357	-	-	1,357	0.20%
Wyoming	119	1	-	120	0.02%
Total	660,248	11,831	-	672,078	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 14. U.S. photovoltaic module shipments to commercial sector by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1,040	s	-	1,041	0.06%
Alaska	19	s	-	19	*
Arizona	85,326	346	-	85,672	5.24%
Arkansas	168	2	-	170	0.01%
California	718,461	2,094	-	720,556	44.05%
Colorado	18,066	159	-	18,225	1.11%
Connecticut	7,859	518	-	8,377	0.51%
Delaware	19,843	s	-	19,844	1.21%
District of Columbia	1,276	5	-	1,281	0.08%
Florida	29,054	404	-	29,458	1.80%
Georgia	51,285	163	-	51,449	3.15%
Hawaii	60,748	1,110	-	61,858	3.78%
Idaho	334	17	-	352	0.02%
Illinois	15,929	13	-	15,942	0.97%
Indiana	2,717	4	-	2,721	0.17%
Iowa	1,358	8	-	1,366	0.08%
Kansas	410	-	-	410	0.03%
Kentucky	1,779	2	-	1,782	0.11%
Louisiana	3,962	6	-	3,968	0.24%
Maine	2,832	2	-	2,835	0.17%
Maryland	26,002	161	-	26,163	1.60%
Massachusetts	54,292	140	-	54,432	3.33%
Michigan	6,573	11	-	6,584	0.40%
Minnesota	1,992	14	-	2,006	0.12%
Mississippi	975	-	-	975	0.06%
Missouri	3,905	9	-	3,914	0.24%
Montana	4,135	s	-	4,135	0.25%
Nebraska	11	s	-	11	*
Nevada	8,100	35	-	8,135	0.50%
New Hampshire	1,778	6	-	1,784	0.11%
New Jersey	194,429	348	-	194,778	11.91%
New Mexico	23,146	37	-	23,183	1.42%
New York	47,484	444	-	47,927	2.93%
North Carolina	57,140	59	-	57,199	3.50%
North Dakota	80	-	-	80	*
Ohio	8,677	94	-	8,771	0.54%
Oklahoma	269	3	-	272	0.02%
Oregon	19,247	122	-	19,370	1.18%
Pennsylvania	18,385	722	-	19,107	1.17%
Puerto Rico	60,615	-	-	60,615	3.71%
Rhode Island	4,532	2	-	4,534	0.28%
South Carolina	729	8	-	738	0.05%
South Dakota	29	-	-	29	*
Tennessee	18,653	8	-	18,661	1.14%

See footnotes at end of table.

Table 14. U.S. photovoltaic module shipments to commercial sector by state/territory and type, 2012 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Texas	17,437	99	-	17,536	1.07%
Utah	7,861	2	-	7,863	0.48%
Vermont	5,424	s	-	5,424	0.33%
Virgin Islands of the U.S.	257	-	-	257	0.02%
Virginia	1,584	42	-	1,625	0.10%
Washington	842	39	-	881	0.05%
West Virginia	655	-	-	655	0.04%
Wisconsin	10,648	2	-	10,650	0.65%
Wyoming	45	-	-	45	*
Total	1,628,398	7,263	-	1,635,661	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 15. U.S. photovoltaic module shipments to industrial sector by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alaska	9	-	-	9	0.04%
Arizona	550	3,000	-	3,550	14.90%
California	600	-	-	600	2.52%
Colorado	625	-	-	625	2.62%
Florida	200	-	-	200	0.84%
Georgia	364	-	-	364	1.53%
Hawaii	25	-	-	25	0.10%
Illinois	50	-	-	50	0.21%
Kentucky	s	-	-	s	*
Louisiana	525	-	-	525	2.20%
Maine	32	-	-	32	0.13%
Maryland	200	-	-	200	0.84%
Michigan	147	-	-	147	0.62%
Missouri	75	-	-	75	0.31%
Nebraska	s	-	-	s	*
Nevada	150	-	-	150	0.63%
New Jersey	276	-	-	276	1.16%
New Mexico	468	-	-	468	1.96%
Ohio	10,398	-	-	10,398	43.65%
Oklahoma	526	-	-	526	2.21%
Pennsylvania	458	1,076	-	1,534	6.44%
South Dakota	176	-	-	176	0.74%
Tennessee	1	-	-	1	0.00%
Texas	2,000	1	-	2,001	8.40%
Utah	370	-	-	370	1.55%
Vermont	377	-	-	377	1.58%
Virginia	400	-	-	400	1.68%
Washington	250	-	-	250	1.05%
West Virginia	1	-	-	1	0.01%
Wyoming	495	-	-	495	2.08%
Total	19,746	4,077	-	23,823	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Table 16. U.S. photovoltaic module shipments to electric power sector by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	362,159	58,167	-	420,326	28.69%
California	575,751	146,202	-	721,953	49.27%
Colorado	-	-	7,682	7,682	0.52%
Connecticut	5,785	-	-	5,785	0.39%
Delaware	4,204	-	-	4,204	0.29%
Florida	3,508	27	-	3,535	0.24%
Georgia	1,002	-	-	1,002	0.07%
Hawaii	4,241	2	-	4,242	0.29%
Illinois	41,838	22,883	-	64,721	4.42%
Indiana	-	3,575	-	3,575	0.24%
Maryland	6,641	9,896	-	16,537	1.13%
Massachusetts	3,684	-	-	3,684	0.25%
Michigan	-	s	-	s	*
Nevada	24,848	40	-	24,888	1.70%
New Jersey	33,500	-	-	33,500	2.29%
New Mexico	24,907	121	-	25,028	1.71%
New York	2,286	6	-	2,292	0.16%
North Carolina	22,677	-	-	22,677	1.55%
Ohio	9,891	33,372	-	43,263	2.95%
Oregon	5,772	-	-	5,772	0.39%
Tennessee	765	-	-	765	0.05%
Texas	47,598	-	-	47,598	3.25%
Utah	2,280	-	-	2,280	0.16%
Total	1,183,337	274,292	7,682	1,465,311	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 17. U.S. photovoltaic module shipments to grid-connected centralized PV system by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	362,159	58,167	-	420,326	28.69%
California	575,751	146,202	-	721,953	49.27%
Colorado	-	-	7,682	7,682	0.52%
Connecticut	5,785	-	-	5,785	0.39%
Delaware	4,204	-	-	4,204	0.29%
Florida	3,508	27	-	3,535	0.24%
Georgia	1,002	-	-	1,002	0.07%
Hawaii	4,241	2	-	4,242	0.29%
Illinois	41,838	22,883	-	64,721	4.42%
Indiana	-	3,575	-	3,575	0.24%
Maryland	6,641	9,896	-	16,537	1.13%
Massachusetts	3,684	-	-	3,684	0.25%
Michigan	-	s	-	s	*
Nevada	24,848	40	-	24,888	1.70%
New Jersey	33,500	-	-	33,500	2.29%
New Mexico	24,907	121	-	25,028	1.71%
New York	2,286	6	-	2,292	0.16%
North Carolina	22,677	-	-	22,677	1.55%
Ohio	9,891	33,372	-	43,263	2.95%
Oregon	5,772	-	-	5,772	0.39%
Tennessee	765	-	-	765	0.05%
Texas	47,598	-	-	47,598	3.25%
Utah	2,280	-	-	2,280	0.16%
Total	1,183,337	274,292	7,682	1,465,311	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 18. U.S. photovoltaic module shipments to grid-connected distributed PV system by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1,513	-	-	1,513	0.07%
Alaska	84	-	-	84	*
American Samoa	60	-	-	60	*
Arizona	138,052	3,343	-	141,394	6.11%
Arkansas	590	-	-	590	0.03%
California	1,082,819	7,138	-	1,089,957	47.08%
Colorado	39,132	293	-	39,425	1.70%
Connecticut	11,105	485	-	11,590	0.50%
Delaware	21,547	5	-	21,551	0.93%
District of Columbia	1,659	-	-	1,659	0.07%
Florida	35,900	269	-	36,170	1.56%
Georgia	55,272	25	-	55,297	2.39%
Guam	36	-	-	36	*
Hawaii	117,149	2,396	-	119,545	5.16%
Idaho	646	22	-	668	0.03%
Illinois	16,857	-	-	16,857	0.73%
Indiana	3,438	2	-	3,440	0.15%
Iowa	1,654	s	-	1,654	0.07%
Kansas	1,307	3	-	1,310	0.06%
Kentucky	2,283	-	-	2,283	0.10%
Louisiana	14,735	5	-	14,741	0.64%
Maine	3,682	19	-	3,700	0.16%
Maryland	36,700	10	-	36,710	1.59%
Massachusetts	64,380	115	-	64,495	2.79%
Michigan	7,560	33	-	7,593	0.33%
Minnesota	4,124	4	-	4,128	0.18%
Mississippi	1,230	-	-	1,230	0.05%
Missouri	5,547	8	-	5,555	0.24%
Montana	4,487	-	-	4,487	0.19%
Nebraska	97	-	-	97	*
Nevada	13,300	710	-	14,010	0.61%
New Hampshire	5,552	-	-	5,552	0.24%
New Jersey	220,741	507	-	221,248	9.56%
New Mexico	27,740	54	-	27,793	1.20%
New York	65,406	704	-	66,110	2.86%
North Carolina	65,166	46	-	65,212	2.82%
North Dakota	100	-	-	100	*
Ohio	22,803	71	-	22,875	0.99%
Oklahoma	538	13	-	551	0.02%
Oregon	21,051	184	-	21,235	0.92%
Pennsylvania	23,773	572	-	24,345	1.05%
Puerto Rico	61,814	-	-	61,814	2.67%
Rhode Island	4,592	-	-	4,592	0.20%

See footnotes at end of table.

Table 18. U.S. photovoltaic module shipments to grid-connected distributed PV system by state/territory and type, 2012 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
South Carolina	1,503	s	-	1,504	0.06%
South Dakota	74	-	-	74	*
Tennessee	21,536	2	-	21,537	0.93%
Texas	25,272	2,254	-	27,526	1.19%
Utah	14,752	-	-	14,752	0.64%
Vermont	7,864	-	-	7,864	0.34%
Virgin Islands of the U.S.	327	-	-	327	0.01%
Virginia	2,244	14	-	2,258	0.10%
Washington	3,169	46	-	3,215	0.14%
West Virginia	741	-	-	741	0.03%
Wisconsin	11,990	-	-	11,990	0.52%
Wyoming	162	1	-	163	0.01%
Total	2,295,858	19,351	-	2,315,209	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 19. U.S. photovoltaic module shipments to off-grid domestic PV system by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	9	-	-	9	0.08%
Alaska	17	-	-	17	0.15%
Arizona	759	1	-	760	6.94%
Arkansas	6	-	-	6	0.05%
California	3,286	1,262	-	4,548	41.55%
Colorado	790	3	-	793	7.24%
Connecticut	2	-	-	2	0.01%
Delaware	1	-	-	1	0.01%
District of Columbia	1	s	-	1	0.01%
Florida	242	1	-	243	2.22%
Georgia	6	-	-	6	0.06%
Hawaii	30	-	-	30	0.27%
Idaho	7	-	-	7	0.07%
Illinois	59	-	-	59	0.54%
Indiana	7	-	-	7	0.07%
Iowa	3	-	-	3	0.02%
Kansas	1	-	-	1	0.01%
Kentucky	3	-	-	3	0.03%
Louisiana	528	-	-	528	4.83%
Maine	2	-	-	2	0.01%
Maryland	205	-	-	205	1.87%
Massachusetts	7	-	-	7	0.06%
Michigan	11	-	-	11	0.10%
Minnesota	8	-	-	8	0.08%
Mississippi	1	-	-	1	0.01%
Missouri	88	-	-	88	0.80%
Montana	44	-	-	44	0.40%
Nebraska	1	-	-	1	0.01%
Nevada	158	s	-	158	1.45%
New Hampshire	1	-	-	1	0.01%
New Jersey	21	1	-	22	0.20%
New Mexico	445	-	-	445	4.06%
New York	47	-	-	47	0.43%
North Carolina	286	-	-	286	2.62%
North Dakota	s	-	-	s	*
Ohio	5	s	-	5	0.05%
Oklahoma	33	-	-	33	0.30%
Oregon	160	-	-	160	1.46%
Pennsylvania	15	-	-	15	0.14%
Puerto Rico	40	-	-	40	0.36%
Rhode Island	1	-	-	1	0.01%

See footnotes at end of table.

Table 19. U.S. photovoltaic module shipments to off-grid domestic PV system by state/territory and type, 2012 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
South Carolina	6	-	-	6	0.06%
South Dakota	1	-	-	1	0.01%
Tennessee	8	-	-	8	0.07%
Texas	2,128	1	-	2,129	19.45%
Utah	79	-	-	79	0.72%
Vermont	1	-	-	1	0.01%
Virginia	28	-	-	28	0.25%
Washington	26	-	-	26	0.23%
West Virginia	4	-	-	4	0.04%
Wisconsin	15	-	-	15	0.14%
Wyoming	47	-	-	47	0.43%
Total	9,678	1,269	-	10,947	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."

Table 20. U.S. photovoltaic module shipments to off-grid non-domestic PV system by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	-	s	-	s	0.01%
Alaska	-	s	-	s	*
Arizona	1	3	-	4	0.08%
Arkansas	-	2	-	2	0.03%
California	4	101	-	105	1.94%
Colorado	-	15	-	15	0.28%
Connecticut	-	36	-	36	0.66%
Delaware	-	s	-	s	*
District of Columbia	-	5	-	5	0.09%
Florida	s	164	-	164	3.03%
Georgia	1	142	-	142	2.63%
Hawaii	-	8	-	8	0.14%
Idaho	-	17	-	17	0.32%
Illinois	-	13	-	13	0.25%
Indiana	1	4	-	5	0.10%
Iowa	-	8	-	8	0.15%
Kansas	1	-	-	1	0.01%
Kentucky	-	2	-	2	0.04%
Louisiana	-	6	-	6	0.11%
Maine	32	2	-	34	0.63%
Maryland	-	161	-	161	2.98%
Massachusetts	-	45	-	45	0.83%
Michigan	1	3	-	3	0.06%
Minnesota	-	14	-	14	0.26%
Missouri	-	9	-	9	0.16%
Montana	-	s	-	s	*
Nebraska	-	s	-	s	*
Nevada	-	35	-	35	0.65%
New Hampshire	-	6	-	6	0.11%
New Jersey	200	12	-	212	3.92%
New Mexico	27	4	-	32	0.59%
New York	-	291	-	291	5.38%
North Carolina	-	13	-	13	0.24%
Ohio	200	89	-	289	5.34%
Oklahoma	506	s	-	506	9.36%
Oregon	9	13	-	22	0.41%
Pennsylvania	225	1,234	-	1,459	26.99%
Rhode Island	-	2	-	2	0.04%

See footnotes at end of table.

Table 20. U.S. photovoltaic module shipments to off-grid non-domestic PV system by state/territory and type, 2012

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
South Carolina	-	8	-	8	0.15%
South Dakota	175	-	-	175	3.24%
Tennessee	-	8	-	8	0.14%
Texas	3	30	-	33	0.61%
Utah	370	2	-	372	6.88%
Vermont	-	s	-	s	*
Virginia	400	36	-	436	8.07%
Washington	251	5	-	255	4.72%
Wisconsin	-	2	-	2	0.04%
Wyoming	450	-	-	450	8.32%
Total	2,856	2,550	-	5,406	100.00%

* = Less than 0.01%.

- = No data reported.

s = Value is less than 0.5 of the table metric; value is included in any associated total.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report."