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Solar Photovoltaic Cell/Module Shipments Report 2011

September 2012



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Preface

The U.S. Energy Information Administration (EIA) report, Solar Photovoltaic Cell/Module Shipments Report 2011, presents an overview of the U.S. solar photovoltaic industry, employment, and business activities together with comprehensive data on shipments of cells/modules in 2011. Detailed tables provide data on cell/module shipments by state, sector, end use and type.

Data in this report are based on solar photovoltaic cell/module shipments 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>.

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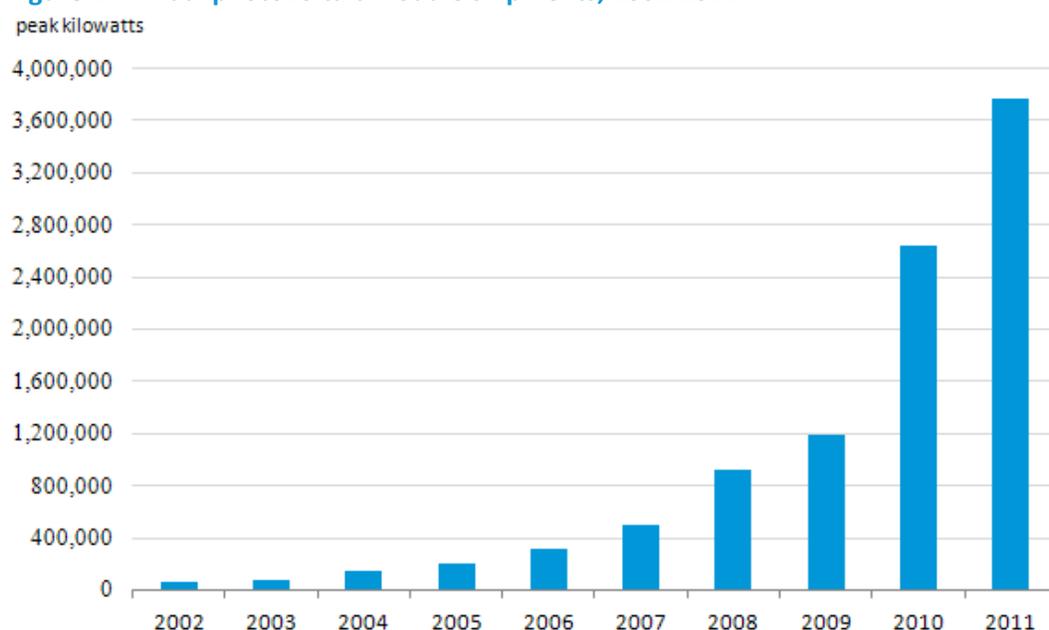
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Solar Photovoltaic Cell/Module Shipments Report 2011

Overview

The U.S. solar photovoltaic (PV) industry continued its strong growth in 2011, despite the obstacles of an increasingly tough price-competitive marketplace, bankruptcies, and closings of several solar manufacturers. Total shipments of PV modules in 2011 hit a record high, increasing from 2,644,498 peak kilowatts (kWdc¹ peak) in 2010 to 3,772,075 peak kilowatts (Figure 1 and Table 3). This represents a nearly 43-percent increase from 2010. Growth was spurred, in part, by declining PV cell and module prices (Figure 2 and Table 4) caused by competitive pressures. The solar Investment Tax Credit (ITC), and the 1603 Treasury Program² in particular, which was set to expire on December 31, 2011, also supported this growth. Consequently, the solar industry rushed to construct projects by the end of 2011 as the deadline for the grant program drew near.

Figure 1. Annual photovoltaic module shipments, 2002-2011



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

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

² The 1603 Treasury Program is a federal grant program that gives solar and other renewable energy projects developers a direct cash grant in lieu of the Section 48 Investment Tax Credit (ITC). Applicants are eligible for a 1603 payment only if they commenced construction on projects by December 31, 2011 and complete construction by December 31, 2016.

Industry status

In 2011, there were 120 companies, comprising PV manufacturers, importers and exporters, reporting shipments of PV cells and modules (Table 1). This marks an increase of 7 percent from the 112 companies reporting shipments in 2010.

Many of the companies reporting PV shipments in 2011 also reported being involved in one or more of the following photovoltaic-related activities (Table 1):

- 63 companies were involved in module and/or cell manufacturing
- 57 designed modules or systems
- 35 developed prototype modules
- 22 developed prototype systems
- 65 were involved in wholesale distribution
- 29 were involved in retail distribution
- 32 installed PV systems

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

- 22 plan to introduce new single-crystal silicon modules
- 17 plan to introduce new cast silicon modules
- 14 plan to introduce new thin-film modules.
- 5 plan to introduce new concentrator photovoltaic modules.

Of the 120 companies, 97 had 90 percent or more of their companywide revenues in photovoltaic-related activities, 6 had 50 to 89 percent, 3 had 10 to 49 percent, and 14 had less than 10 percent (Table 1).

Employment in PV-related activities reported on the EIA-63B survey decreased nearly 10 percent, from 17,487 full-time equivalent (FTE)³ employees in 2010 to 15,777 FTE in 2011.

³ 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.

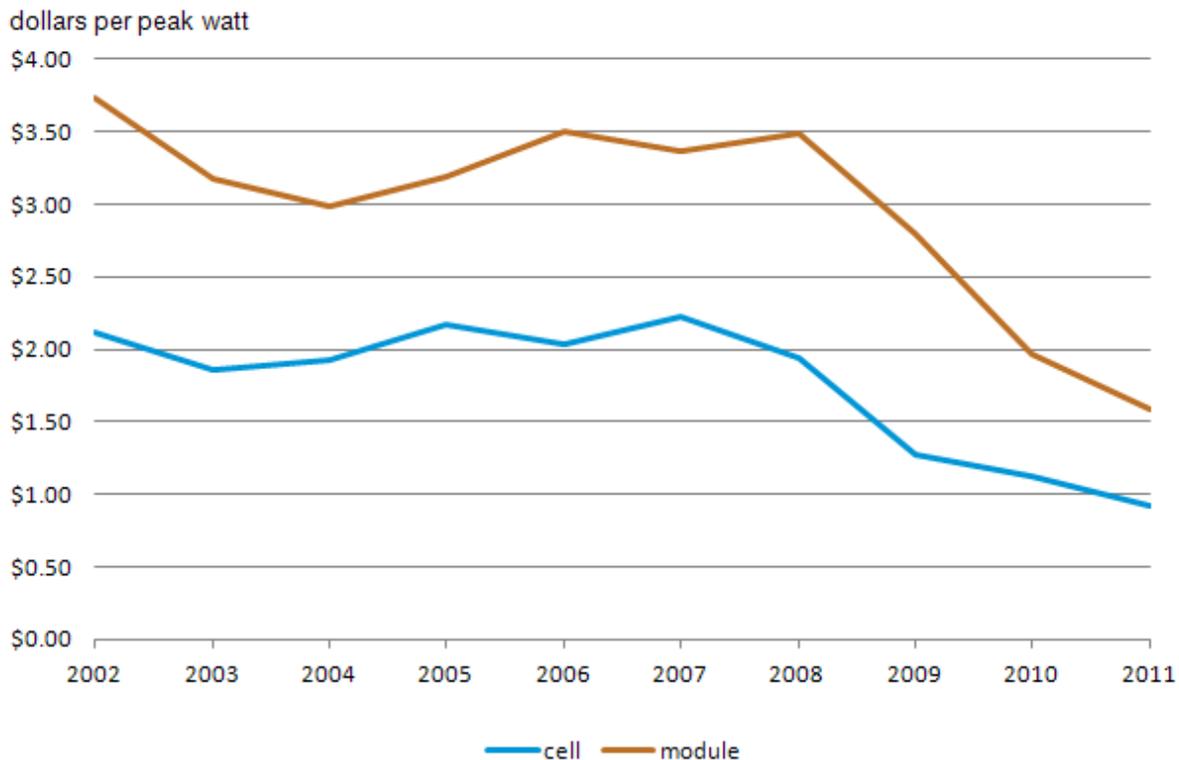
Based on company reports, 75 companies had no change in or higher employment levels, while 45 companies, including several that are no longer in business, had decreases. Note that the EIA-63B survey does not cover all segments of the solar PV industry, such as most installers.

Value, average price, and average efficiency

In 2011, the value of photovoltaic cell shipments totaled more than \$1.7 billion and the value of photovoltaic module shipments reached nearly \$6 billion (Table 2). Value includes charges for cooperative advertising and warranties, but does not include excise taxes and the cost of freight or transportation.

Average prices of photovoltaic cells and modules per peak watt of capacity shipped have declined steadily over the past several years. For photovoltaic cells, the average price has decreased more than 18 percent, from \$1.13 in 2010 to \$0.92 in 2011, and the average price of photovoltaic modules fell nearly 19 percent, from \$1.96 in 2010 to \$1.59 in 2011 (Figure 2 and Table 4).

Figure 2. Average price of photovoltaic cells and modules, 2002-2011



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 2011, the average energy conversion efficiencies reported by manufacturers and importers were as follows (Table 2):

- 16 percent for Crystalline Silicon PV module
- 11 percent for Thin-film PV module
- 29 percent for Concentrator PV module

U.S. manufactured

In 2011, 1,161,589 peak kilowatts of PV modules were manufactured in the United States. This is 9 percent more than in 2010. Manufacturers in California, Ohio, Oregon, and Tennessee produced almost 75 percent of the domestically manufactured PV modules (Table 7). Crystalline silicon accounted for more than 64 percent of the annual domestically manufactured PV modules, followed by thin-film modules with nearly 32 percent. Together, crystalline silicon and thin-film accounted for more than 96 percent of all PV manufacturing.

Imports

Imports of PV modules shipments totaled 3,323,865 peak kilowatts in 2011. The predominant type of import shipment was crystalline silicon modules, accounting for nearly 81 percent (2,678,848 peak kilowatts) of total imports. China (51 percent), the Philippines (21 percent), and Malaysia (16 percent) accounted for about 88 percent of total import shipments (Table 8).

Exports

Exports of PV module shipments totaled 793,939 peak kilowatts in 2011, accounting for about 21 percent of total shipments, or approximately 24 percent of PV module imports. The predominant type of export shipment was crystalline silicon modules, accounting for nearly 68 percent (538,370 peak kilowatts) of total exports. PV module shipments to Germany (19.8 percent), Canada (19.6 percent), and Italy (18.5 percent) accounted for largest shares of the export market (Table 9).

U.S. shipments

Shipment by geography

U.S. PV module shipments totaled 2,927,076 peak kilowatts in 2011. The shipments went to all 50 States, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands (Table 10).

More than 67 percent of U.S. PV module shipments (1,967,257 peak kilowatts) went to five States (in order of decreasing volume): California, New Jersey, Arizona, Colorado, and Texas. More than 50 percent (1,488,933 peak kilowatts) of domestic shipments went to California (36 percent) and New Jersey (14 percent).

Shipments by sector

U.S. PV module shipments to the commercial sector in 2011 accounted for 1,399,047 peak kilowatts, nearly 48 percent of the domestic market. Of the domestic shipments to the commercial sector, approximately 96 percent was crystalline silicon, about 3.5 percent was thin-film PV, and slightly more than 0.1 percent was concentrator PV (Table 11).

The electric power sector was the second-largest domestic market in 2011, accounting for 761,085 peak kilowatts, or 26 percent of the domestic market share. Crystalline silicon accounted for 83 percent of the electric power shipments, thin-film accounted for more than 11 percent, and concentrator accounted for nearly 6 percent.

Shipments to the residential sector amounted to 754,212 peak kilowatts, or nearly 26 percent of the domestic market share. About 95 percent of the shipments were crystalline silicon and close to 5 percent was thin-film.

The industrial sector, with about 0.4 percent of domestic shipments, was the smallest domestic sales market, totaling 12,732 peak kilowatts. More than 85 percent of the shipments was crystalline silicon, 0.02 percent was thin-film, and close to 15 percent was concentrator.

Shipments by grid or off-grid

U.S. PV module shipments to grid-connected distributed PV systems in 2011 accounted for 2,152,947 peak kilowatts, or nearly 74 percent of the domestic market. Of the domestic shipments to grid-connected distributed PV systems, 96 percent was crystalline silicon, nearly 4 percent was thin-film, and less than 0.2 percent was concentrator (Table 12).

U.S. PV module shipments to grid-connected centralized PV systems were the second-largest domestic market in 2011, accounting for 761,085 peak kilowatts, or 26 percent of the domestic market share. Nearly 83 percent of shipments was crystalline silicon, 11 percent was thin-film, and 6 percent was concentrator.

PV module shipments to off-grid domestic PV systems such as households and communities not connected to the utility grid amounted to 7,656 peak kilowatts, or less than 0.3 percent of the domestic market share. More than 95 percent of total domestic shipments was crystalline silicon, slightly more than 1 percent was thin-film, and nearly 4 percent was concentrator.

Other off-grid non-domestic PV systems such as water pumping, remote communications, safety and protection devices, at locations without the presence of the utility grid, accounted for less than 0.2 percent of domestic shipments. This was the smallest domestic end-use market, totaling 5,369 peak kilowatts. More than 64 percent was crystalline silicon and nearly 36 percent was thin-film.

Inventory

In 2011, U.S. inventories of PV modules at yearend totaled 1,163,848 kilowatts (Table 6). This is 205 percent, or 782,659 peak kilowatts, higher than the yearend inventories of the previous year (381,189 peak kilowatts). Compared with industrial output, this was 2,259 peak kilowatts more than the 1,161,589 peak kilowatts of PV modules manufactured in the United States during the year.

Table 1. U.S. photovoltaic industry status, 2011

Reporting Companies, total number of:	120
Employment, full-time equivalent employees:	15,777
Involved in Photovoltaic-related Activities, number of reporting companies:	
Module and/or Cell Manufacturing	63
Module or System Design	57
Prototype Module Development	35
Prototype Systems Development	22
Wholesale Distribution	65
Retail Distribution	29
Installation	32
Non-module System Component	9
Sales as a Percent of Total Company Revenue, number of reporting companies:	
90-100%	97
50-89%	6
10-49%	3
Less than 10%	14
Companies Expecting to Introduce New Photovoltaic-related Products in 2011, by product type and number:	
Crystalline Silicon	
Single-Crystal Silicon Modules	22
Cast Silicon Modules	17
Ribbon Silicon Modules	-
Thin-Film	
Amorphous Silicon Modules	4
Other (Thin-Film Modules)	10
Concentrators	5
Non-module Components	1

- = 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, 2011

Value, total shipments (cells):		thousand dollars
Total Cells:		\$1,725,663
Crystalline Silicon		\$1,625,437
Thin-Film		\$48,457
Concentrator		\$51,769
Price, average value (cells):		dollars per watt
Total Cells:		\$0.92
Crystalline Silicon		\$0.98
Thin-Film		\$0.73
Concentrator		\$0.36
Value, total shipments (modules):		thousand dollars
Total Modules:		\$5,990,348
Crystalline Silicon		\$5,370,231
Thin-Film		\$556,987
Concentrator		\$63,130
Price, average value (modules):		dollars per watt
Total Modules:		\$1.59
Crystalline Silicon		\$1.63
Thin-Film		\$1.28
Concentrator		\$1.32
Average Energy Conversion Efficiency, modules shipped:		percent per peak kilowatt
Crystalline Silicon		16%
Thin-Film		11%
Concentrator		29%

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

Table 3. Annual photovoltaic module shipments, 2002-2011

peak kilowatts

Year	Modules
2002	64,413
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

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

Table 4. Average price of photovoltaic cells and modules, 2002-2011

dollars per peak watt

Year	Average Prices	
	Cells	Modules
2002	2.12	3.74
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

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, 2011

peak kilowatts

Cell Shipments	Type			Total
	Crystalline Silicon	Thin-Film	Concentrator	
Source				
Inventory, Start-of-Year	50,956	904	9,050	60,910
Manufactured during Reporting Year	277,957	74,214	98,565	450,736
Imported during Reporting Year	1,478,195	-	352	1,478,547
Purchased from U.S. Original Equipment Manufacturer	33,348	1,132	50,920	85,401
Total Available For Shipment	1,840,457	76,250	158,887	2,075,594
Disposition				
Cells Assembled into Modules	743,016	49,865	44,511	837,392
Sales to U.S. Original Equipment Manufacturer for Resale	40,743	1,581	82,460	124,784
Export Shipments	883,340	14,891	15,566	913,797
Total Shipments	1,667,099	66,337	142,537	1,875,973
Inventory, End-of-Year	173,358	9,913	16,350	199,621

- = 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, 2011

peak kilowatts

Module Shipments	Type			Total
	Crystalline Silicon	Thin-Film	Concentrator	
Source				
Inventory, Start-of-Year	281,354	90,988	8,846	381,189
Manufactured during Reporting Year	749,397	367,225	44,967	1,161,589
Imported during Reporting Year	2,678,848	644,987	30	3,323,865
Purchased from U.S. Original Equipment Manufacturer	69,031	249	-	69,280
Total Available For Shipment	3,778,631	1,103,450	53,843	4,935,923
Disposition				
U.S. Shipments	2,709,503	170,457	47,117	2,927,076
Sales to U.S. Original Equipment Manufacturer for Resale	40,889	10,171	-	51,060
Export Shipments	538,370	254,966	603	793,939
Total Shipments	3,288,762	435,593	47,720	3,772,075
Inventory, End-of-Year	489,869	667,856	6,123	1,163,848

- = 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, 2011

peak kilowatts

State	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	25,042	1,931	-	26,973	2.32%
California	93,756	48,573	756	143,085	12.32%
Colorado	-	34,983	-	34,983	3.01%
Delaware	18,274	-	-	18,274	1.57%
Florida	2,723	-	-	2,723	0.23%
Georgia	400	-	-	400	0.03%
Illinois	3,485	-	-	3,485	0.30%
Iowa	-	1,949	-	1,949	0.17%
Massachusetts	-	26	-	26	*
Michigan	-	49,864	-	49,864	4.29%
Minnesota	233	-	-	233	0.02%
Nevada	-	-	43,889	43,889	3.78%
New Jersey	15,563	-	-	15,563	1.34%
New Mexico	73,722	-	295	74,017	6.37%
New York	7,334	-	27	7,361	0.63%
Ohio	-	229,900	-	229,900	19.79%
Oregon	350,089	-	-	350,089	30.14%
Pennsylvania	883	-	-	883	0.08%
Tennessee	144,346	-	-	144,346	12.43%
Texas	7,301	-	-	7,301	0.63%
Washington	1,470	-	-	1,470	0.13%
Wisconsin	4,777	-	-	4,777	0.41%
Total	749,397	367,225	44,967	1,161,589	100.00%

* = less than 0.01 percent

- = 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, 2011

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Belgium	9,200	-	-	9,200	0.28%
China	1,684,619	7,051	-	1,691,670	50.89%
Germany	14,204	50,404	-	64,608	1.94%
Hong Kong	460	-	-	460	0.01%
India	37,948	-	-	37,948	1.14%
Japan	6,680	49,179	-	55,859	1.68%
Korea, South	23,277	-	-	23,277	0.70%
Malaysia	21,468	509,680	30	531,177	15.98%
Mexico	109,446	28,674	-	138,120	4.16%
Philippines	701,158	-	-	701,158	21.09%
Portugal	507	-	-	507	0.02%
Singapore	59,900	-	-	59,900	1.80%
Spain	29	-	-	29	*
Taiwan	9,952	-	-	9,952	0.30%
Total	2,678,848	644,987	30	3,323,865	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Angola	350	-	-	350	0.04%
Argentina	280	-	-	280	0.04%
Aruba	s	-	-	s	*
Australia	22,071	266	-	22,337	2.81%
Austria	-	335	-	335	0.04%
Barbados	209	-	-	209	0.03%
Belgium	31,561	547	-	32,108	4.04%
Belize	2	-	-	2	*
Bermuda	1	-	-	1	*
Brazil	1,780	232	-	2,012	0.25%
British Virgin Islands	62	552	-	614	0.08%
Canada	71,812	83,841	-	155,653	19.61%
Chile	401	140	17	558	0.07%
China	3,048	1,109	123	4,279	0.54%
Colombia	152	s	-	152	0.02%
Costa Rica	187	24	-	211	0.03%
Czech Republic	-	1,128	-	1,128	0.14%
Denmark	1	52	-	53	0.01%
Dominican Republic	349	-	-	349	0.04%
Ecuador	25	-	-	25	*
El Salvador	-	1	-	1	*
Fiji	26	-	-	26	*
Finland	-	1	-	1	*
France	98,574	10,794	-	109,368	13.78%
Germany	110,293	46,857	-	157,150	19.79%
Greece	362	4	80	446	0.06%
Guatemala	30	-	-	30	*
Haiti	412	-	-	412	0.05%
Honduras	2	-	-	2	*
Hong Kong	2,809	731	-	3,540	0.45%
Hungary	-	1	-	1	*
India	5,663	75,582	65	81,310	10.24%
Indonesia	-	70	-	70	0.01%
Ireland	-	15	-	15	*
Israel	3,335	132	-	3,467	0.44%
Italy	125,277	21,704	34	147,015	18.52%
Jamaica	1,149	-	-	1,149	0.14%
Japan	13,117	5,241	s	18,358	2.31%
Jordan	-	-	3	3	*
Kenya	417	1	-	418	0.05%
Korea, South	26,505	2,878	1	29,384	3.70%
Malawi	22	-	-	22	*
Malaysia	1	-	-	1	*
Mali	333	-	-	333	0.04%

See footnotes at end of table.

Table 9. Destination of photovoltaic module export shipments by country and type, 2011 (cont.)

peak kilowatts

Country	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Mexico	2,494	24	266	2,784	0.35%
Netherlands	s	18	-	18	*
Netherlands Antilles	-	74	-	74	0.01%
New Zealand	-	48	-	48	0.01%
Nicaragua	35	-	-	35	*
Nigeria	417	-	-	417	0.05%
Norway	-	2	-	2	*
Pakistan	10	s	-	10	*
Panama	2	111	-	113	0.01%
Peru	398	-	-	398	0.05%
Poland	-	61	-	61	0.01%
Portugal	-	19	-	19	*
Qatar	-	s	14	14	*
Russia	-	s	-	0	*
Saint Kitts and Nevis	16	-	-	16	*
Saudi Arabia	1	s	-	1	*
Singapore	-	328	-	328	0.04%
South Africa	-	220	-	220	0.03%
Spain	12,146	997	-	13,143	1.66%
Sweden	-	1	-	1	*
Switzerland	-	1	-	1	*
Taiwan	-	42	-	42	0.01%
Tajikistan	200	-	-	200	0.03%
Tanzania	333	-	-	333	0.04%
Thailand	-	533	-	533	0.07%
Trinidad and Tobago	1	-	-	1	*
Turkey	-	23	-	23	*
United Arab Emirates	201	-	-	201	0.03%
United Kingdom	1,331	224	-	1,554	0.20%
Venezuela	1	-	-	1	*
Zimbabwe	167	-	-	167	0.02%
Total	538,370	254,966	603	793,939	100.00%

* = Less than 0.01 percent.

- = 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 10. U.S. photovoltaic module shipments by State/territory and type, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1,208	333	-	1,541	0.05%
Alaska	111	s	-	111	*
American Samoa	1,800	-	-	1,800	0.06%
Arizona	199,473	29,719	512	229,704	7.85%
Arkansas	508	2	-	510	0.02%
California	1,017,343	45,733	3,062	1,066,138	36.42%
Colorado	94,601	363	36,366	131,331	4.49%
Connecticut	21,948	668	-	22,616	0.77%
Delaware	24,299	4	-	24,303	0.83%
District of Columbia	1,107	18	-	1,125	0.04%
Florida	45,778	920	-	46,698	1.60%
Georgia	12,411	294	-	12,705	0.43%
Guam	114	-	-	114	*
Hawaii	57,293	2,006	-	59,299	2.03%
Idaho	670	66	-	736	0.03%
Illinois	3,820	33	3	3,855	0.13%
Indiana	3,185	219	-	3,404	0.12%
Iowa	663	3,550	-	4,213	0.14%
Kansas	389	12	-	401	0.01%
Kentucky	942	s	-	942	0.03%
Louisiana	6,083	20	-	6,103	0.21%
Maine	928	3	-	931	0.03%
Maryland	76,662	3,174	-	79,836	2.73%
Massachusetts	67,647	2,288	42	69,977	2.39%
Michigan	6,036	123	-	6,159	0.21%
Minnesota	4,267	37	-	4,305	0.15%
Mississippi	1,893	s	-	1,893	0.06%
Missouri	55,724	184	-	55,908	1.91%
Montana	740	7	-	746	0.03%
Nebraska	89	3	-	92	*
Nevada	70,434	10,282	177	80,893	2.76%
New Hampshire	8,138	44	-	8,182	0.28%
New Jersey	401,043	21,752	-	422,795	14.44%
New Mexico	70,351	11,641	6,864	88,856	3.04%

See footnotes at end of table.

Table 10. U.S. photovoltaic module shipments by State/territory and type, 2011 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
New York	57,794	2,192	-	59,986	2.05%
North Carolina	82,814	1,101	41	83,956	2.87%
North Dakota	2,484	s	-	2,484	0.08%
Northern Mariana Islands	6	-	-	6	*
Ohio	16,311	24,690	-	41,002	1.40%
Oklahoma	306	19	-	325	0.01%
Oregon	23,510	544	-	24,054	0.82%
Pennsylvania	71,203	2,649	-	73,853	2.52%
Puerto Rico	20,616	s	-	20,616	0.70%
Rhode Island	7,299	1	-	7,301	0.25%
South Carolina	515	2,571	-	3,085	0.11%
South Dakota	77	-	-	77	*
Tennessee	14,726	14	-	14,740	0.50%
Texas	114,874	2,365	50	117,289	4.01%
Utah	3,385	30	-	3,415	0.12%
Vermont	15,156	3	-	15,159	0.52%
Virgin Islands of the U.S.	465	145	-	610	0.02%
Virginia	5,558	560	-	6,118	0.21%
Washington	3,389	7	-	3,397	0.12%
West Virginia	1,468	-	-	1,468	0.05%
Wisconsin	8,773	66	-	8,839	0.30%
Wyoming	1,073	s	-	1,073	0.04%
Total	2,709,503	170,457	47,117	2,927,076	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

Sector	End Use	Type			Total
		Crystalline Silicon	Thin-Film	Concentrator	
Residential	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	715,150	34,996	-	750,146
	Off-grid Domestic PV System	3,900	82	-	3,983
	Off-grid Non-domestic PV System	83	-	-	83
Total		719,134	35,078	-	754,212
Commercial	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	1,346,055	47,613	1,395	1,395,063
	Off-grid Domestic PV System	34	1	270	305
	Off-grid Non-domestic PV System	1,772	1,907	-	3,679
Total		1,347,861	49,521	1,665	1,399,047
Industrial	Grid-connected Centralized PV System	-	-	-	-
	Grid-connected Distributed PV System	5,853	s	1,884	7,738
	Off-grid Domestic PV System	3,387	s	-	3,387
	Off-grid Non-domestic PV System	1,605	1	-	1,607
Total		10,846	2	1,884	12,732
Electric Power	Grid-connected Centralized PV System	631,662	85,855	43,568	761,085
	Grid-connected Distributed PV System	-	-	-	-
	Off-grid Domestic PV System	-	-	-	-
	Off-grid Non-domestic PV System	-	-	-	-
Total		631,662	85,855	43,568	761,085
Total U.S. Photovoltaic Module Shipments		2,709,503	170,457	47,117	2,927,076

- = 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 12. U.S. photovoltaic module shipments by end use, sector, and type, 2011

peak kilowatts

End Use	Sector	Type			Total
		Crystalline Silicon	Thin-Film	Concentrator	
Grid-connected Centralized PV System	Residential	-	-	-	-
	Commercial	-	-	-	-
	Industrial	-	-	-	-
	Electric Power	631,662	85,855	43,568	761,085
Total		631,662	85,855	43,568	761,085
Grid-connected Distributed PV System	Residential	715,150	34,996	-	750,146
	Commercial	1,346,055	47,613	1,395	1,395,063
	Industrial	5,853	s	1,884	7,738
	Electric Power	-	-	-	-
Total		2,067,059	82,610	3,279	2,152,947
Off-grid Domestic PV System	Residential	3,900	82	-	3,983
	Commercial	34	1	270	305
	Industrial	3,387	s	-	3,387
	Electric Power	-	-	-	-
Total		7,322	83	270	7,675
Off-grid Non-domestic PV System	Residential	83	-	-	83
	Commercial	1,772	1,907	-	3,679
	Industrial	1,605	1	-	1,607
	Electric Power	-	-	-	-
Total		3,460	1,908	-	5,369
Total U.S. Photovoltaic Module Shipments		2,709,503	170,457	47,117	2,927,076

- = 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 13. U.S. photovoltaic module shipments to residential sector by State/territory and type, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	441	5	-	442	0.06%
Alaska	11	-	-	11	*
Arizona	47,184	59	-	47,242	6.26%
Arkansas	384	2	-	386	0.05%
California	311,026	6,903	-	317,929	42.15%
Colorado	21,964	33	-	21,997	2.92%
Connecticut	5,923	3	-	5,927	0.79%
Delaware	4,724	4	-	4,727	0.63%
District of Columbia	136	7	-	142	0.02%
Florida	14,418	79	-	14,497	1.92%
Georgia	2,287	5	-	2,288	0.30%
Guam	7	-	-	7	*
Hawaii	39,856	858	-	40,714	5.40%
Idaho	548	30	-	577	0.08%
Illinois	250	3	-	253	0.03%
Indiana	336	28	-	364	0.05%
Iowa	49	5	-	54	0.01%
Kansas	179	3	-	183	0.02%
Kentucky	623	5	-	623	0.08%
Louisiana	3,174	8	-	3,182	0.42%
Maine	494	-	-	494	0.07%
Maryland	48,113	105	-	48,218	6.39%
Massachusetts	17,591	8	-	17,599	2.33%
Michigan	913	18	-	931	0.12%
Minnesota	403	1	-	404	0.05%
Mississippi	66	-	-	66	0.01%
Missouri	626	1	-	627	0.08%
Montana	347	5	-	352	0.05%
Nebraska	79	-	-	79	0.01%
Nevada	9,791	2,266	-	12,058	1.60%
New Hampshire	7,826	13	-	7,839	1.04%
New Jersey	102,913	104	-	103,017	13.66%
New Mexico	5,901	21	-	5,923	0.79%
New York	20,780	1,415	-	22,196	2.94%

See footnotes at end of table.

Table 13. U.S. photovoltaic module shipments to residential sector by State/territory and type, 2011 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
North Carolina	5,299	2	-	5,301	0.70%
North Dakota	98	s	-	98	0.01%
Northern Mariana Islands	6	-	-	6	*
Ohio	1,696	21,277	-	22,972	3.05%
Oklahoma	95	s	-	96	0.01%
Oregon	3,829	36	-	3,864	0.51%
Pennsylvania	16,696	299	-	16,995	2.25%
Puerto Rico	452	s	-	452	0.06%
Rhode Island	1,096	-	-	1,096	0.15%
South Carolina	91	10	-	102	0.01%
South Dakota	10	-	-	10	*
Tennessee	226	11	-	238	0.03%
Texas	13,323	1,298	-	14,621	1.94%
Utah	1,392	26	-	1,418	0.19%
Vermont	1,091	2	-	1,093	0.14%
Virgin Islands of the U.S.	14	-	-	14	*
Virginia	1,904	120	-	2,025	0.27%
Washington	1,615	3	-	1,618	0.21%
West Virginia	101	-	-	101	0.01%
Wisconsin	651	9	-	660	0.09%
Wyoming	85	s	-	85	0.01%
Total	719,134	35,078	-	754,212	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	441	s	-	442	0.06%
Alaska	100	s	-	100	0.01%
American Samoa	1,800	-	-	1,800	0.13%
Arizona	56,847	2,249	-	59,096	4.22%
Arkansas	124	s	-	124	0.01%
California	516,782	7,575	1,464	525,821	37.58%
Colorado	32,839	331	-	33,170	2.37%
Connecticut	5,819	665	-	6,484	0.46%
Delaware	3,768	s	-	3,768	0.27%
District of Columbia	971	12	-	983	0.07%
Florida	17,276	840	-	18,117	1.29%
Georgia	10,123	294	-	10,417	0.74%
Guam	107	-	-	107	0.01%
Hawaii	17,437	1,148	-	18,585	1.33%
Idaho	122	37	-	159	0.01%
Illinois	2,274	28	3	2,305	0.16%
Indiana	2,849	190	-	3,040	0.22%
Iowa	574	7	-	580	0.04%
Kansas	210	9	-	219	0.02%
Kentucky	320	-	-	320	0.02%
Louisiana	2,609	12	-	2,621	0.19%
Maine	434	3	-	437	0.03%
Maryland	28,520	3,069	-	31,589	2.26%
Massachusetts	35,789	2,280	-	38,069	2.72%
Michigan	5,123	104	-	5,227	0.37%
Minnesota	3,864	36	-	3,901	0.28%
Mississippi	1,827	s	-	1,827	0.13%
Missouri	1,057	183	-	1,241	0.09%
Montana	174	s	-	174	0.01%
Nebraska	10	3	-	13	0.00%
Nevada	22,065	215	177	22,457	1.61%
New Hampshire	312	31	-	343	0.02%
New Jersey	255,035	17,780	-	272,814	19.50%
New Mexico	10,342	144	-	10,485	0.75%
New York	27,657	754	-	28,412	2.03%
North Carolina	46,798	1,098	21	47,917	3.42%

See footnotes at end of table.

Table 14. U.S. photovoltaic module shipments to commercial sector by State/territory and type, 2011 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
North Dakota	32	-	-	32	*
Ohio	14,152	2,934	-	17,086	1.22%
Oklahoma	10	19	-	29	*
Oregon	19,682	508	-	20,190	1.44%
Pennsylvania	53,234	2,350	-	55,584	3.97%
Puerto Rico	8,158	-	-	8,158	0.58%
Rhode Island	1,196	1	-	1,197	0.09%
South Carolina	423	2,560	-	2,983	0.21%
South Dakota	67	-	-	67	*
Tennessee	13,097	3	-	13,100	0.94%
Texas	97,510	1,066	-	98,575	7.05%
Utah	1,993	4	-	1,998	0.14%
Vermont	10,216	1	-	10,217	0.73%
Virgin Islands of the U.S.	452	145	-	596	0.04%
Virginia	3,653	439	-	4,092	0.29%
Washington	1,774	4	-	1,779	0.13%
West Virginia	1,367	-	-	1,367	0.10%
Wisconsin	8,123	57	-	8,179	0.58%
Wyoming	s	s	-	s	*
Total	1,347,861	49,521	1,665	1,399,047	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	170	-	50	220	1.73%
California	943	-	1,598	2,541	19.96%
Colorado	135	-	-	135	1.06%
Connecticut	95	-	-	95	0.75%
Florida	60	-	-	60	0.47%
Illinois	210	-	-	210	1.65%
Louisiana	300	-	-	300	2.36%
Massachusetts	-	-	42	42	0.33%
Missouri	110	-	-	110	0.86%
Montana	219	-	-	219	1.72%
New Jersey	3	-	-	3	0.02%
New Mexico	200	-	144	344	2.70%
New York	2,290	-	-	2,290	17.99%
Oklahoma	200	-	-	200	1.57%
Oregon	-	s	-	s	*
Pennsylvania	436	-	-	436	3.43%
Rhode Island	446	-	-	446	3.50%
Texas	4,041	2	50	4,093	32.15%
Wyoming	988	-	-	988	7.76%
Total	10,846	2	1,884	12,732	100.00%

* = Less than 0.01 percent.

- = 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 16. U.S. photovoltaic module shipments to electric power sector by State/territory and type, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	95,272	27,411	462	123,145	16.18%
California	188,593	31,254	-	219,847	28.89%
Colorado	39,664	-	36,366	76,030	9.99%
Connecticut	10,111	-	-	10,111	1.33%
Delaware	15,808	-	-	15,808	2.08%
Florida	14,024	-	-	14,024	1.84%
Georgia	-	s	-	s	*
Illinois	1,086	1	-	1,087	0.14%
Indiana	-	1	-	1	0.00%
Iowa	40	3,539	-	3,579	0.47%
Maryland	29	-	-	29	0.00%
Massachusetts	14,266	-	-	14,266	1.87%
Michigan	-	1	-	1	*
Missouri	53,931	-	-	53,931	7.09%
Montana	-	1	-	1	0.00%
Nevada	38,578	7,800	-	46,378	6.09%
New Jersey	43,093	3,868	-	46,961	6.17%
New Mexico	53,908	11,476	6,720	72,104	9.47%
New York	7,067	22	-	7,089	0.93%
North Carolina	30,717	1	20	30,738	4.04%
North Dakota	2,354	-	-	2,354	0.31%
Ohio	464	479	-	943	0.12%
Pennsylvania	837	s	-	838	0.11%
Puerto Rico	12,006	-	-	12,006	1.58%
Rhode Island	4,561	-	-	4,561	0.60%
Tennessee	1,403	-	-	1,403	0.18%
Texas	-	s	-	s	*
Vermont	3,849	-	-	3,849	0.51%
Virginia	1	-	-	1	*
Total	631,662	85,855	43,568	761,085	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	95,272	27,411	462	123,145	16.18%
California	188,593	31,254	-	219,847	28.89%
Colorado	39,664	-	36,366	76,030	9.99%
Connecticut	10,111	-	-	10,111	1.33%
Delaware	15,808	-	-	15,808	2.08%
Florida	14,024	-	-	14,024	1.84%
Georgia	-	s	-	s	*
Illinois	1,086	1	-	1,087	0.14%
Indiana	-	1	-	1	*
Iowa	40	3,539	-	3,579	0.47%
Maryland	29	-	-	29	*
Massachusetts	14,266	-	-	14,266	1.87%
Michigan	-	1	-	1	*
Missouri	53,931	-	-	53,931	*
Montana	-	1	-	1	0.00%
Nevada	38,578	7,800	-	46,378	6.09%
New Jersey	43,093	3,868	-	46,961	6.17%
New Mexico	53,908	11,476	6,720	72,104	9.47%
New York	7,067	22	-	7,089	0.93%
North Carolina	30,717	1	20	30,738	4.04%
North Dakota	2,354	-	-	2,354	0.31%
Ohio	464	479	-	943	0.12%
Pennsylvania	837	s	-	838	0.11%
Puerto Rico	12,006	-	-	12,006	1.58%
Rhode Island	4,561	-	-	4,561	0.60%
Tennessee	1,403	-	-	1,403	0.18%
Texas	-	s	-	s	*
Vermont	3,849	-	-	3,849	0.51%
Virginia	1	-	-	1	*
Total	631,662	85,855	43,568	761,085	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1,207	333	-	1,540	0.07%
Alaska	107	-	-	107	*
American Samoa	1,800	-	-	1,800	0.08%
Arizona	104,004	2,306	50	106,360	4.94%
Arkansas	508	2	-	510	0.02%
California	827,620	14,220	2,792	844,632	39.23%
Colorado	54,787	195	-	54,982	2.55%
Connecticut	11,831	655	-	12,486	0.58%
Delaware	8,489	4	-	8,492	0.39%
District of Columbia	1,107	18	-	1,125	0.05%
Florida	30,548	612	-	31,160	1.45%
Georgia	12,411	230	-	12,641	0.59%
Guam	114	-	-	114	0.01%
Hawaii	57,292	2,006	-	59,299	2.75%
Idaho	669	66	-	735	0.03%
Illinois	2,687	27	3	2,717	0.13%
Indiana	3,006	215	-	3,221	0.15%
Iowa	623	7	-	630	0.03%
Kansas	376	5	-	381	0.02%
Kentucky	942	5	-	942	0.04%
Louisiana	5,774	8	-	5,782	0.27%
Maine	846	-	-	846	0.04%
Maryland	76,632	3,136	-	79,769	3.71%
Massachusetts	53,080	2,270	42	55,392	2.57%
Michigan	6,035	109	-	6,144	0.29%
Minnesota	4,267	22	-	4,289	0.20%
Mississippi	1,893	-	-	1,893	0.09%
Missouri	1,667	184	-	1,851	0.09%
Montana	506	5	-	511	0.02%
Nebraska	82	-	-	82	*
Nevada	31,354	2,482	177	34,012	1.58%
New Hampshire	8,137	15	-	8,152	0.38%
New Jersey	357,695	17,841	-	375,536	17.44%
New Mexico	16,226	121	144	16,491	0.77%
New York	50,625	1,704	-	52,329	2.43%

See footnotes at end of table.

Table 18. U.S. photovoltaic module shipments to grid-connected distributed PV system by State/territory and type, 2011 (cont.)

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
North Carolina	51,864	1,095	21	52,980	2.46%
North Dakota	121	s	-	121	0.01%
Northern Mariana Islands	6	-	-	6	*
Ohio	15,847	24,189	-	40,036	1.86%
Oklahoma	106	s	-	106	*
Oregon	23,255	540	-	23,795	1.11%
Pennsylvania	69,665	2,649	-	72,315	3.36%
Puerto Rico	8,609	-	-	8,609	0.40%
Rhode Island	2,738	-	-	2,738	0.13%
South Carolina	514	2,570	-	3,084	0.14%
South Dakota	77	-	-	77	*
Tennessee	13,323	13	-	13,336	0.62%
Texas	111,925	2,214	50	114,189	5.30%
Utah	3,384	26	-	3,411	0.16%
Vermont	11,307	2	-	11,309	0.53%
Virgin Islands of the U.S.	452	145	-	596	0.03%
Virginia	5,207	353	-	5,559	0.26%
Washington	3,385	3	-	3,388	0.16%
West Virginia	1,468	-	-	1,468	0.07%
Wisconsin	8,772	14	-	8,786	0.41%
Wyoming	85	s	-	85	*
Total	2,067,059	82,610	3,279	2,152,947	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Arizona	190	1	-	191	2.48%
California	947	27	270	1,244	16.21%
Colorado	149	-	-	149	1.95%
Florida	1,169	-	-	1,169	15.23%
Hawaii	s	-	-	s	*
Illinois	1	-	-	1	0.01%
Indiana	178	-	-	178	2.32%
Iowa	s	-	-	s	*
Kansas	13	-	-	13	0.18%
Louisiana	309	-	-	309	4.03%
Massachusetts	300	-	-	300	3.91%
Minnesota	s	-	-	s	*
Missouri	17	s	-	17	0.22%
Montana	15	-	-	15	0.19%
Nebraska	7	-	-	7	0.09%
Nevada	2	-	-	2	0.03%
New Jersey	252	-	-	252	3.28%
New Mexico	217	-	-	217	2.83%
New York	102	-	-	102	1.33%
North Dakota	9	-	-	9	0.12%
Ohio	s	-	-	s	*
Oklahoma	75	-	-	75	0.98%
Oregon	213	s	-	213	2.78%
Puerto Rico	1	s	-	1	0.02%
Texas	1,890	55	-	1,945	25.34%
Utah	s	-	-	s	0.01%
Virgin Islands of the U.S.	14	-	-	14	0.18%
Virginia	350	-	-	350	4.57%
Washington	s	-	-	s	*
Wisconsin	s	-	-	s	*
Wyoming	900	-	-	900	11.73%
Total	7,322	83	270	7,675	100.00%

* = Less than 0.01 percent.

- = 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, 2011

peak kilowatts

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Alabama	1	-	-	1	0.02%
Alaska	4	s	-	4	0.08%
Arizona	7	1	-	8	0.14%
Arkansas	-	s	-	s	*
California	184	231	-	416	7.74%
Colorado	2	169	-	170	3.17%
Connecticut	6	13	-	19	0.35%
Delaware	3	s	-	3	0.05%
Florida	37	308	-	346	6.44%
Georgia	-	64	-	64	1.20%
Hawaii	s	-	-	s	0.01%
Idaho	s	s	-	s	*
Illinois	46	4	-	51	0.94%
Indiana	s	4	-	4	0.07%
Iowa	-	4	-	4	0.07%
Kansas	-	7	-	7	0.13%
Louisiana	-	12	-	12	0.22%
Maine	82	3	-	85	1.59%
Maryland	s	38	-	38	0.71%
Massachusetts	s	18	-	18	0.34%
Michigan	1	13	-	14	0.26%
Minnesota	s	15	-	15	0.29%
Mississippi	-	s	-	s	*
Missouri	110	-	-	110	2.05%
Montana	219	s	-	219	4.08%
Nebraska	s	3	-	3	0.06%
Nevada	500	s	-	500	9.31%
New Hampshire	1	29	-	30	0.56%
New Jersey	3	43	-	46	0.87%
New Mexico	s	44	-	44	0.82%
New York	s	466	-	466	8.68%
North Carolina	232	5	-	238	4.43%
Ohio	s	22	-	22	0.41%
Oklahoma	125	19	-	144	2.68%

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, 2011 (cont.)

State/Territory	Type			Total	Percent of U.S. Total
	Crystalline Silicon	Thin-Film	Concentrator		
Oregon	41	4	-	46	0.85%
Pennsylvania	701	-	-	701	13.05%
Rhode Island	s	1	-	1	0.02%
South Carolina	1	1	-	2	0.03%
Tennessee	-	1	-	1	0.02%
Texas	1,058	96	-	1,155	21.51%
Utah	s	4	-	4	0.08%
Vermont	s	1	-	1	0.02%
Virginia	s	207	-	207	3.86%
Washington	4	4	-	8	0.15%
West Virginia	s	-	-	s	*
Wisconsin	1	52	-	53	0.99%
Wyoming	88	s	-	88	1.64%
Total	3,460	1,908	-	5,369	100.00%

* = Less than 0.01 percent.

- = 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."