

FORM EIA-63B
ANNUAL PHOTOVOLTAIC CELL/MODULE SHIPMENTS REPORT

GENERAL INFORMATION AND INSTRUCTIONS

I. Purpose

Form EIA-63B is designed to provide the data necessary for the U.S. Energy Information Administration (EIA), a part of the U.S. Department of Energy (DOE), to carry out its responsibilities for tracking photovoltaic shipments in the photovoltaic cell/module industry and for providing information concerning the size and status of the industry. The data collected will be published in the Renewable Energy Annual and also be available through EIA's Internet site at <http://www.eia.doe.gov/fuelrenewable.html>.

II. Who Should Respond to This Survey

This report is mandatory and required pursuant to the authority granted to the Department of Energy (DOE) by the Federal Energy Information Administration Act of 1974 (Public Law 93-275). Form EIA-63B is to be submitted by companies (whether U.S. or foreign-based) that operate under the laws and regulations pertaining to the conduct of commerce within the United States and its territories and possessions and that engage in photovoltaic-related activities within the United States, its territories, and possessions specifically directed toward photovoltaic cells/modules manufacturing, shipping, importing, and/or exporting activities. Companies involving photovoltaic-related activities during the survey year can be classified in any of the following categories: (1) manufacturer; (2) brand name manufacturer (private label owner); (3) subsidiary or business unit of overseas manufacturer; (4) U.S. registered publicly traded overseas manufacturer; (5) importer; (6) exporter.

III. Where to Submit Completed Forms

Submit your data electronically using EIA's secure internet data collection system (e-file). This system uses security protocols to protect information against unauthorized access during transmission. All respondents for whom EIA has an e-mail address will be notified of the procedure for submitting using the e-file system.

If you need an alternate means of filing your response or have questions about the data requested on Form EIA-63B, please contact the Survey Manager, Peter Wong at peter.wong@eia.doe.gov or (202) 586-7574.

Please retain a completed copy of this form for your files.

IV. When to Submit Completed Forms

The survey year is from January 1 through December 31 each year. Respondents have **60** days from receipt of notification to comply to submit the Form EIA-63B.

V. Sanctions

The timely submission of Form EIA-63B by those required to report is mandatory under Section 13(b) of the Federal Energy Administration Act of 1974 (FEAA) (Public Law 93-275), as

amended. Failure to respond may result in a penalty of not more than \$2,750 per day for each civil violation, or a fine of not more than \$5,000 per day for each criminal violation. The government may bring a civil action to prohibit reporting violations, which may result in a temporary restraining order or a preliminary or permanent injunction without bond. In such civil action, the court may also issue mandatory injunctions commanding any person to comply with these reporting requirements. **Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

VI. Provisions Regarding Confidentiality of Information

The information reported on this form will be protected and not disclosed to the public to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. §552, the Department of Energy regulations, 10 C.F.R. §1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. §1905.

The Federal Energy Administration Act requires the EIA to provide company-specific data to other Federal agencies when requested for official use. The information reported on this form may also be made available, upon request, to another component of the Department of Energy (DOE); to any Committee of Congress, the Government Accountability Office, or other Federal agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order. The information may be used for any nonstatistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes.

Disclosure limitation procedures are applied to the statistical data published from Form EIA-63B survey information on the dollar value of shipments and complete systems to ensure that the risk of disclosure of identifiable information is very small.

For all other data published from the Form EIA-63B, disclosure limitation procedures are not applied. Thus, there may be some statistics that are based on data from fewer than three respondents, or that are dominated by data from one or two large respondents. In these cases, it may be possible for a knowledgeable person to estimate the information reported by a specific respondent.

VII. Filing Forms with Federal Government and Estimated Reporting Burden

Respondents are not required to file or reply to any Federal collection of information unless it has a valid OMB control number. Public reporting burden for this collection of information is estimated to average 4.5 hours per response including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Energy Information Administration, Statistics and Methods Group, EI-70, 1000 Independence Ave., S.W., Washington, D.C. 20585-0670, and the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

SPECIFIC INSTRUCTIONS

SCHEDULE 1: IDENTIFICATION

In Schedule 1, the respondent is required to provide and verify the following information. Please contact the survey manager listed on page 1 of the instructions if any of the information needs to be updated

Part A: Reporting entity name, reporting entity URL, reporting entity street address, reporting entity suite address, reporting entity city, reporting entity state, reporting entity zip code, reporting entity official contact name, reporting entity official title, reporting entity official phone number, reporting entity official fax number, and reporting entity official e-mail address.

Part B: Form preparer name, form preparer title, form preparer company URL, form preparer street address, form preparer suite address, form preparer city, form preparer state, form preparer zip code, form preparer phone number, form preparer fax number, and form preparer e-mail address.

Part C: Entity supervisor name, entity supervisor title, entity supervisor company URL, entity supervisor street address, entity supervisor suite address, entity supervisor city, entity supervisor zip code, entity supervisor phone number, entity supervisor fax number, and entity supervisor e-mail address.

Part D: Parent company name, parent company official contact name, parent company street address, parent company suit address, parent company city, parent company state, parent company zip code, parent company international phone number, parent company official contact phone number, parent company official contact fax number, and parent company official e-mail address.

Part E: Parent contact name, parent contact title, parent contact company URL, parent contact street address, parent contact suit address, parent contact city, parent contact state, parent contact zip code, parent contact international phone number, parent contact phone number, parent contact fax number, and parent contact E-mail.

SCHEDULE 2: COMPANY STATUS (Respondent Business Type)

Part A: Select the business types that best describe the responding company's involvement in photovoltaic-related activities. The responding company may be classified using multiple business types. (See glossary entries at the glossary section).

SCHEDULE 3: INDUSTRY STATUS

Part A: (a-h) Report only on activities that are photovoltaic-related.

Part B: (a-g) Check the appropriate boxes if you are planning to introduce a new photovoltaic-related product. A new photovoltaic-related product is differentiated from a modified existing product if the "new" product is different enough to warrant a new model number and requires retesting or recertification under existing industry standards.

Part C: Enter the total number of full-time equivalent employees engaged in photovoltaic-related activities during the survey year. (See glossary entry for "Full-time equivalent employee" on page 7.)

Part D: "Photovoltaic-related activities" includes all activities listed in schedule 3 part A.

SCHEDULE 4: PHOTOVOLTAIC SHIPMENTS STATUS

Photovoltaic Cell/Module Types					
Crystalline Silicon			Thin-Film		Concentrator
Single Crystal	Cast	Ribbon	Amorphous Silicon	Other (Specify)	

Part A: For each type of photovoltaic cell that the responding company had in inventory, manufactured, imported, or exported, select the type of cell from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections. Photovoltaic cells intended for applications in space programs (satellites, military projects, etc.) are to be excluded.

4A.a (Product Available): (1-4) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) available in inventory at the beginning of the report period, manufactured during the report period, imported during the report period, and the cumulative total available for shipment. The cumulative total should be the sum of (1-3). The total column should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

4A.b (Shipments): (1-4) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) assembled by the respondent during the report period, shipped within U.S. (sold within U.S. only), exported (sold overseas), and the total shipments. Total shipments should be the sum of (1-3). Photovoltaic cells which are shipped to U.S. based photovoltaic module manufacturers should not be reported. Incomplete cells, such as wafers, should not be reported. The total column should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

4A.c (Revenue): (1-2) Enter the total value received for the total photovoltaic cell shipments in schedule 4A.b.4 by type. The value reported should be the total value received for cells only (not complete systems) at your company's net billing price, freight-on-board factory, including charges for cooperative advertising and warranties. Do not include excise taxes, freight, or transportation. Report values to the nearest dollar. Verify that the average value is equal to the dollar value of the total shipments divided by the quantity of total shipments (schedule 4A.c.1 divided by schedule 4A.b.4). The total column should contain the total revenue for all photovoltaic cell types in a given row.

4A.d (Inventory at Close of Report Period): (1) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) that remain in inventory at the end of the report year. These values should be equal to the difference between schedule 4A.a.4 and schedule 4A.b.4. The total column should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

Part B: For each type of photovoltaic module that the responding company had in inventory, manufactured, imported, or exported, select the type of module from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections. Photovoltaic

modules intended for applications in space programs (satellites, military projects, etc.) are to be excluded.

4B.a (Product Available): (1-4) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems available in inventory at the beginning of the report period, manufactured during the report period, imported during the report period, and the cumulative total available for shipment. The cumulative total should be the sum of (1-3). The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

4B.b (Shipments): (1-3) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems shipped within U.S. (sold within U.S.), exported (sold overseas), and the total shipments. Total shipments should be the sum of (1-2). When exported, incomplete modules and un-encapsulated cells are also included. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

4B.c (Revenue): (1-2) Enter the total values received for the total photovoltaic module shipments in schedule 4B.b.3 by type. The values reported should be the total values received for both modules only and for complete systems (including balance of system (BOS) components) at your company's net billing price, freight-on-board factory, including charges for cooperative advertising and warranties. Do not include excise taxes, freight, or transportation. Report values to the nearest dollar. Verify that the average value is equal to the dollar value of the total shipments divided by the quantity of total shipments (schedule 4B.c.1 divided by schedule 4B.b.3). The total column should contain the total revenue for all photovoltaic module types in a given row.

4B.d (Inventory at Close of Report Period): (1) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems that remain in inventory at the end of the report year. These values should be equal to the difference between schedule 4B.a.4 and schedule 4B.b.3. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

4B.e (Efficiency): (1) For each type of photovoltaic module, enter the energy conversion efficiency of the corresponding photovoltaic (PV) devices, which convert sunlight directly to electricity by means of PV modules (under standard conditions), in percent of the energy in light converted to electricity.

SCHEDULE 5: ORIGIN OF PHOTOVOLTAIC MODULES

Part A: For each type of photovoltaic module that the responding company imported, select the type of module from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections.

List the country(ies) from which the photovoltaic modules reported in schedule 4B.a.3 were imported. Enter the name of each manufacturer of the imported modules and select the country of origin from the drop-down lists. For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems imported during the report period. The values in the total row should equal the values from schedule

4B.a.3. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

Part B: For each type of photovoltaic module that the responding company manufactured within the U.S., select the type of module from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections.

List the state(s) in which the photovoltaic modules reported in schedule 4B.a.2 were manufactured. Select the state in which the modules were manufactured from the drop-down lists. For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems manufactured in U.S. during the report period. The values in the total row should equal the values from schedule 4B.a.2. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

SCHEDULE 6: DESTINATION OF PHOTOVOLTAIC MODULES

Part A: For each type of photovoltaic module that the responding company exported, select the type of module from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections.

List the country(ies) to which photovoltaic modules reported in schedule 4B.b.2 were exported. Enter the name of each recipient of the exported modules and select the destination country from the drop-down lists. For each type of photovoltaic modules, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems exported during the report period. The values in the total row should equal the values from schedule 4B.b.2. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

Part B: For each type of photovoltaic module that the responding company shipped within the U.S., select the type of module from the drop-down lists. The columns in the data entry section of the form will change to reflect the selections. Then select the state to which the modules were shipped from another drop-down list. After entering the relevant data into the form for one state, repeat the process for each additional state that received photovoltaic module shipments.

6B.a (U.S. Shipments by State and Sector): (1-5) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems shipped to each sector. Specify whether the photovoltaic module was new or a retrofit. (See glossary entry for "Retrofit" on page 9.) The values in the total row should equal the values from schedule 4B.b.1. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

The sector categories in schedule 6B.a are:

6B.a (1) Residential: Solar applications related to any building used for residential occupancy that has a system for heating, cooling, or both.

6B.a (2) Commercial: Solar applications for use in businesses where services (rather than products) are provided, such as wholesale and retail trade or health and educational services.

6B.a (3) Industrial: Solar applications for use in businesses where products (rather than services) are provided, such as the manufacture and processing of goods and basic materials.

6B.a (4) Electric Power: Shipments of photovoltaic modules to the electric power sector for use in power generation or for experimental applications (includes gas and electric utilities). Includes central stations, decentralized systems or experimental applications.

6B.a (5) Transportation: Shipments of photovoltaic modules to transportation sector that consists of all vehicles whose primary purpose is transporting people and/or goods.

6B.a (6) Total U.S. shipments by sector – The sum of new and retrofit modules in the total row should equal the values from schedule 4B.b.1.

6B.b (U.S. Shipments by State and End Use): (1-7) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems shipped within the U.S., by end use. For grid-connected end uses, enter separate values for distributed and centralized uses. (See glossary entry for "Distributed generator" on page 7.) For off-grid end uses, enter separate values for household and non-household uses. The total column should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

The end-use categories in schedule 6B.b are:

6B.b (1) Grid-connected Centralized PV System: U.S. shipments of photovoltaic modules that are connected to the electric power grid and whose output is directly fed into the grid.

6B.b (2) Grid-connected Distributed PV System: U.S. shipments of photovoltaic modules that are connected to the electric power grid and whose output is consumed mainly on site.

6B.b (3) Off-grid Domestic PV System: U.S. shipments of photovoltaic modules that are not connected to the electric power grid and are used to provide electric power to remote households or communities.

6B.b (4) Off-grid Non-domestic PV System: U.S. shipments of photovoltaic modules that are not connected to the electric power grid and are used to provide electric power for a variety of non-domestic applications.

6B.b (5) Total U.S. Shipments by End Use: The sum of all end use modules in the total row should equal the values from schedule 4B.b.1.

SCHEDULE 7: COMMENTS

Part A: This schedule provides additional space for comments. For clarification purposes, identify schedule, part, line number and column (if applicable) for each comment.

GLOSSARY

Amorphous Silicon: An alloy of silica and hydrogen, with a disordered, noncrystalline internal atomic arrangement, that can be deposited in thin-film layers (a few micrometers in thickness) by a number of deposition methods to produce thin-film photovoltaic cells on glass, metal, or plastic substrates.

Brand Name Manufacturer (Private Label Owner): A “private labeler” is the owner of a brand or trademark on the label of a manufactured product which bears a private label. A product is considered to “bear a private label” if the product or its container is labeled with the brand or trademark of a person other than the manufacturer and the manufacturer’s brand or trademark is not on the product or container. In other words, a brand name manufacturer is a company that sells manufactured products under its name but does not produce them.

Cast Silicon: Crystalline silicon obtained by pouring pure molten silicon into a vertical mold and adjusting the temperature gradient along the mold volume during cooling to obtain slow, vertically advancing crystallization of the silicon. The polycrystalline ingot thus formed is composed of large, relatively parallel, interlocking crystals. The cast ingots are sawed into wafers for further fabrication into photovoltaic cells. Cast silicon wafers and ribbon silicon sheets fabricated into cells are usually referred to as polycrystalline photovoltaic cells.

Commercial Sector: An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. *Note:* This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments

Electric Power Grid: A system of synchronized power providers and consumers connected by transmission and distribution lines and operated by one or more control centers. In the continental United States, the electric power grid consists of three systems: the Eastern Interconnect, the Western Interconnect, and the Texas Interconnect. In Alaska and Hawaii, several systems encompass areas smaller than the State (e.g., the interconnect serving Anchorage, Fairbanks, and the Kenai Peninsula; individual islands).

Electric Power Sector: An energy-consuming sector that consists of electricity only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public – i.e., North American Industry Classification System code 22.

Export (renewable equipment): A shipment of renewable equipment sent from the United States and any of its territories to a foreign country.

Full-time Equivalent Employee (FTE): A ratio that represents the number of hours that an employee works to 40 hours. Full-time employment is generally considered to be forty hours a week. An FTE is any combination of workers that combines to forty hours per week and does not necessarily equate to headcount. For example, two, half-time (twenty hours per week) workers together amount to one FTE.

Grid-connected Centralized Photovoltaic (PV) System: A solar electric or PV power production system, which performs like a central generating power plant, connected to the electric power grid and its output is directly feeds into the grid.

Grid-connected Distributed Photovoltaic (PV) System: A solar electric or PV power production system designed to install on a grid-connected consumer's premises. The electric power supplied by such a system is consumed mainly on site, the consumer will be given electricity from the grid when their power demands exceed the PV system output, and any excess may be exported to the grid.

Import (renewable equipment): A shipment of renewable equipment sent into the United States and any of its territories from foreign countries.

Industrial Sector: An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing (NAICS codes 31-33); agriculture, forestry, fishing and hunting (NAICS code 11); mining, including oil and gas extraction (NAICS code 21); and construction (NAICS code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the above-mentioned industrial activities

Manufacturer: An entity in the business of manufacturing.

Off-grid Domestic Photovoltaic (PV) System: A solar electric or PV power production system installed to provide electric power to a household or community not connected to the electric power grid.

Off-grid Non-domestic Photovoltaic (PV) System: A solar electric or PV power production system not connected to the electric power grid and is used to provide electricity for a variety of non-domestic applications such as water pumping, remote telecommunications towers, health care devices, consumer goods, etc.

Peak Kilowatt: One thousand peak watts.

Peak Watt: A manufacturer's unit indicating the amount of power a photovoltaic cell or module will produce at standard test conditions (normally 1,000 watts per square meter and 25 degrees Celsius).

Photovoltaic Cell (PVC): An electronic device consisting of layers of semiconductor materials fabricated to form a junction (adjacent layers of materials with different electronic characteristics) and electrical contacts and being capable of converting incident light directly into electricity (direct current).

Photovoltaic (PV) Conversion Efficiency: The ratio of the electric power produced by a photovoltaic device to the power of the sunlight incident on the device.

Photovoltaic Module: An integrated assembly of interconnected photovoltaic cells designed to deliver a selected level of working voltage and current at its output terminals, packaged for

protection against environmental degradation, and suited for incorporation in photovoltaic power systems.

Photovoltaic (PV) System: A complete set of component for converting sunlight into electricity by the photovoltaic process, including the array and balance of system components.

Residential Sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. *Note:* Various EIA programs differ in sectoral coverage.

Retrofit: An upgrade to an existing system. Retrofitting refers to the replacement of components of a system, but not the replacement of the entire system.

Ribbon Silicon: Crystalline silicon that is used in photovoltaic cells. Ribbon silicon is fabricated by a variety of solidification (crystallization) methods that withdraw thin silicon sheets from pools of relatively pure molten silicon.

Silicon: A semiconductor material made from silica, purified for photovoltaic applications.

Single Crystal Silicon: An extremely pure form of crystalline silicon produced by dipping a single crystal seed into a pool of molten silicon under high vacuum conditions and slowly withdrawing a solidifying single crystal boule (rod) of silicon. The boule is sawed into thin silicon wafers and fabricated into single-crystal photovoltaic cells.

Subsidiary or Business Unit of Overseas Manufacturer: An entity directly or indirectly controlled by a manufacturer that is headquartered overseas (parent company) or the logical segment of an overseas manufacturer (such as accounting, production, or marketing that representing a specific business function).

Transportation Sector: An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use. *Note:* Various EIA programs differ in sectoral coverage.

U.S. Registered Publicly Traded Overseas Manufacturer: A manufacturer that is headquartered overseas but whose stock is publicly traded on a U.S. stock exchange.