Supporting Statement for
Form EIA-63A, "Annual Solar Thermal Collector/Reflector Shipments Report,"
Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report," and
Form EIA-902, "Annual Geothermal Heat Pump Shipments Report"
OMB Number 1905-0196

Introduction

The Energy Information Administration (EIA) requests approval for a three-year extension with revisions to Forms EIA-63A, "Annual Solar Thermal Collector, EIA-63B, "Photovoltaic Module/Cell Manufacturers Surveys," and Form EIA-902, "Annual Geothermal Heat Pump Manufacturers Survey."

All forms EIA-63A and EIA-63B are currently covered under OMB number 1905-0196.

For Form EIA-63A, EIA proposes the following new elements:

1. Identification information
   EIA proposes to standardize the identification information on all 3 forms contained in this clearance to match those being used for all recleared forms in the coal, nuclear, and alternate fuels areas. Information will be collected for each reporting entity as follows:
   a) entity information; b) form preparer information; c) preparer's supervisor information; d) parent company information (if relevant); and e) parent company contact information. For each of these, the following information will be collected: identification number or symbol; name; street/suite address; city; state; zip code; telephone number; facsimile number, uniform resource locator (i.e., web address) if relevant; and e-mail address. An appropriate title will also be requested from items b) through e) above. For items d) and e), the parent company's country will be collected.
2. Company Status
   This section was previously labeled, "Manufacturing Status." The proposed section collects much of the same data in a different format. However, it adds as categories required to report entities that are either a) U.S. Registered Publicly Traded companies which manufacture relevant products overseas or b) a U.S. subsidiary or business unit of an overseas manufacturer. Also, it distinguishes between companies that manufacture relevant products under their own brand name and those that manufacture products under a private label for other manufacturers. Finally, any firm that either makes private label products or receives private label products is asked to provide appropriate identification and contact information in order to avoid potentially serious duplicate reporting problems.
3. Industry status—relabelled from Manufacturing and Marketing Data; no change in items collected.
4. Solar Thermal Collector Data

a. At the U.S. total level, the proposed form collects beginning stocks, product manufactured, imports, purchases from other U.S. original equipment manufacturers (OEMs), product available for shipments (calculated), actual shipments excluding sales for resale (to other U.S. OEMs), sales for resale, exports, and closing period inventory. Previously, only total collector shipments was collected. Also, the average thermal performance efficiency rating of solar collectors shipped is collected.
b. Domestic shipments information of collector square footage, formerly collected on schedule 4.4 and 4.5, are now collected on proposed Schedule 6, part B. Domestic shipment data are now collected by state; the end use and sector categories have been modified slightly; and data is now reported sector by end use rather than reporting on end use and sector of sale separately. Also, information is additionally requested on the number of systems wherever collector square footage is requested.

5. Origin of solar thermal products
   The manufacturer's name is requested.

For Form EIA-63B, EIA proposes the following additions:

1. All changes proposed above for the EIA-63A regarding Identification, Company Status, and Industry Status are proposed for Form EIA-63B.
2. Changes proposed for solar thermal collector data on Form EIA-63A are also proposed for photovoltaic (PV) module data on Form EIA-63B.
3. PV cell and module data are proposed to be collected on separate schedules.
4. New formation to be collected on PV cells is the same as described in Section 4a under Form EIA-63A proposed additional data collections.
5. Origin of PV modules

The manufacturer's name is requested.

For Form EIA-902, EIA proposes the following additions:

All changes proposed for Form EIA-63A for solar thermal collectors are applied to the number and capacity of geothermal heat pumps collected on the proposed Form EIA-902.

The information collection proposed in this supporting statement has been reviewed in light of applicable information quality guidelines. It has been determined that the information will be collected, maintained, and used in a manner consistent with the OMB, DOE, and EIA information quality guidelines.

A. Justification

. Legal Authority

The authority for this data collection is as follows:

Section 13(b) of the Federal Energy Administration Act of 1974 (FEA Act), 15 U.S.C. § 772(b), (Public Law 93-275) states:

> "All persons owning or operating facilities or business premises who are engaged in any phase of energy supply or major energy consumption shall make available to the [Secretary] such information and periodic reports, records, documents, and other data, relating to the purposes of this Act, including full identification of all data and projections as to source, time, and methodology of development, as the [Secretary] may prescribe by regulation or order as necessary or appropriate for the proper exercise of functions under this Act."

Section 5(b) of the FEA Act, 15 U.S.C. §764(b), in turn, sets forth the general functions of the FEA Act. This section states that to the extent authorized by Section 5(a), 15 U.S.C. §764(a), the [Secretary] shall -

> "(1) advise the President and the Congress with respect to the establishment of a comprehensive national energy policy in relation to the energy matters for which the [Secretary] has responsibility, and, in coordination with the Secretary of State, the integration of domestic and foreign policies relating to energy resource management;
>
> "(2) assess the adequacy of energy resources to meet demands in the immediate and longer range future for all sectors of the economy and for the general public;...
>
> (9) collect, evaluate, assemble, and analyze energy information; on reserves, production demand, and related economic data;
>
> "(10) work with business, labor, consumer, and other interests and obtain their cooperation;"

As the authority for invoking FEA Section 5(b), Subsection 5(a) (15 U.S.C. §764(a)), states -

> "Subject to the provisions and procedures set forth in this Act, the [Secretary] shall be responsible for such actions as are taken to assure that adequate provision is made to meet the energy needs of the Nation. To that end, he shall make such plans and direct and conduct such programs related to the production, conservation, use, control, distribution, rationing, and allocation of all forms of energy as are appropriate in connection with those authorities or functions-
>
> "(3) otherwise specifically vested in the [Secretary] by the Congress."

The authority for invoking Section 5(a)(3) of the FEA Act is provided, in turn, by the Department of Energy Organization Act, Public Law 95-91, Section 102(6), 42 U.S.C. §7112(6), which states the DOE shall ... "place major emphasis on the development and commercial use of solar, geothermal, recycling, and other technologies utilizing renewable energy resources..."

Section 52(a) of the FEA Act, 15 U.S.C. §790a(a), makes provisions for the [Secretary] to establish...

> "...a National Energy Information System.... The System shall contain such information as is required to provide a description of and facilitate analysis of energy supply and consumption within and affecting the United States..."

In addition, Section 52(b)(3), 15 U.S.C. §790a(b)(3), states that, at a minimum, the System will provide information sufficient to carry out statistical and forecasting activities to identify and allow analysis of...

> "(3) the sensitivity of energy resource reserves, exploration, development, production, transportation, and consumption to economic factors, environmental constraints, technological improvements, and substitutability of alternate energy sources";

The Energy Information Administration was established by Section 205 of the Department of Energy Organization Act, 42 U.S.C. §7135 (Pub. Law 95-91). The proposed forms will provide data to help EIA fulfill its legislative mandates.

2. Needs and Uses of Data

Data developed from the annual surveys forms, EIA-63A, EIA-63B and EIA-902 will be published in the Energy Information Administration's publication, Renewable Energy Annual used by industry, the DOE, and other government agencies. It will be the only reliable, accurate, independent, publicly available information source on the manufacture and shipments of solar

thermal collectors, photovoltaic modules/cells, and geothermal heat pumps. This information is used by the Department to assess the contribution of solar/photovoltaics (solar/pv) to satisfying the U.S. demand for energy, the use of solar/pv as alternatives to fossil-based fuels, and the amount of energy both consumed and displaced[1] by space heating using geothermal heat pumps. The data derived from the surveys will be widely used in business development, company-level and State-level planning, program management, import/export assessment, and other important facets of the domestic solar/pv industry.

The survey data are also used by the office of DOE's Assistant Secretary for Energy Efficiency and Renewable Energy (EE). EE uses the information to assess the market penetration and uses of solar/pv devices and geothermal heat pumps in the United States. Data to be collected focus primarily on imports, manufacturing, and shipments (including exports) of the devices. EIA's Office of Coal, Nuclear, Electric and Alternate Fuels uses the data to respond to customer requests for current activities and production levels of the solar/pv and geothermal heat pump industries and to assess their roles in overall energy consumption. The data will be used by the organizations listed below.

. **Industry**

The data to be collected using Forms EIA-63A, EIA-63B, and EIA-902 are considered by EIA to be the only reliable data available on these industries. Because solar and photovoltaic devices are cost-competitive with other energy devices in some applications, the industry has the potential for an increasing growth rate and is a source for potentially satisfying a larger percentage of the U.S. energy demand. The demand for energy efficiency and reduced environmental emissions are expected to be factors in the demand for solar/pv devices. The industry members, neither individually nor collectively, have been able to maintain data collection efforts, unlike some other energy industries.

The solar thermal manufacturing industry consists of approximately 100 manufacturers while the photovoltaic module/cell manufacturing industry consists of about 80 manufacturers. A major issue during the past 3 years has been the rapid growth and change in product movements within the solar industry. From 5 years ago, the number of firms supplying solar products to U.S. end users has risen from 30-40 to between 100 and 200. Furthermore, product supply chains have become quite complicated. Many end users are importing directly from foreign suppliers, and a number of foreign suppliers have established non-production U.S. sales units. The percentage of solar products, particularly PV modules, supplied in these manners has grown quite high. Therefore, EIA has decided to widen the scope of its surveys to include subsidiary or business units of overseas manufacturers and U.S. registered publicly traded overseas manufacturers. Such new entities account for a large percentage of non-U.S. manufacturer imports and obviate

1 Energy consumed: The use of energy such as fossil-based fuels as a source of heat or power.
Energy displaced: Energy from fossil-based fuels that would have been consumed by conventional technologies had not the use of alternative technologies such as the use of solar and geothermal as source of heat or power.

the need to trace every U.S. project importing products, thus greatly reducing total government and respondent burden. The EIA-63A/B surveys will be the sole source of detailed industry level information.

Geothermal heat pumps have generally been installed until recently only in "greenfield" (new) applications because of the extensive earth movement involved. However, in suitable climates they can typically consume or displace a substantial amount of the energy normally consumed for space heating. Demand for geothermal heat pumps has been increasing, as the demand for energy efficiency has increased. Recently, geothermal heat pumps have been in use long enough that there is now a nascent replacement market. As in the solar/PV industries, industry members have, neither individually nor collectively, been able to maintain data collection efforts. (The geothermal heat pump manufacturing industry consists of approximately 15 manufacturers.) This survey will be the sole source of detailed industry level information.

The data from all 3 forms will be used by industry to gauge market penetration levels. In corporate planning, the data will be used to identify problems, to target geographic locations, and to develop marketing strategies. The data will also be used also in planning regional activities. The primary informational areas of Forms EIA-63A/B and EIA-902 of specific interest to industry are:

- Amounts Produced (square feet for solar thermal collectors, peak kilowatthours for photovoltaic modules/cells, and total Btu output value of geothermal heat pumps) of manufactured and imported devices;

- Destinations of Shipments (by State, types of domestic customer, and exports)

EIA projects that the use of solar/pv devices and geothermal heat pumps will increase in the future—see Annual Energy Outlook 2010. As a result of this, it is expected that the industry will grow and these surveys will continue to provide information needed to gauge the status and changes in their respective industries. Also, in 2005, Congress passed the Energy Policy Act of 2005. Section 206 of this Act contains financial support provisions for residential renewable energy equipment. EIA has analyzed this legislation and concluded that if Congress were to authorize funding for Section 206, the impact on renewable energy equipment, especially geothermal heat pumps, would be substantial. Also, some states (e.g., Arizona) have passed mandatory "set aside" requirements for solar/PV energy in their renewable portfolio standards. Finally, the surveys will continue to provide information needed by the DOE program offices to accurately assess relevant programs.

b. Office of the Assistant Secretary for Energy Efficiency and Renewable Energy (EE) of the Department of Energy (DOE)

EE makes policy decisions regarding energy efficiency and renewable energy programs at the DOE. As part of this function, the EE makes decisions regarding the direction and focus of the

solar/pv and geothermal heat pump technologies and industry trends and programs. Independent, reliable national data on the shipments of such devices are unavailable from any source other than these surveys. The survey results will be the only survey-based information regarding the industry and will be useful to the Assistant Secretary in making policy decisions regarding the program areas.

3. Technical Considerations

The survey forms are designed to minimize respondent burden while still satisfying the requirements for data from the DOE and user communities. The surveys are collected through an internet-based data collection system. Surveys may also be submitted via fax and e-mail. A respondent may also submit their survey response by mailing it in, however few are submitted by this means.

4. Efforts to Identify Duplication

The EIA has searched its resources for other surveys being conducted by the DOE that might duplicate this survey and has identified only one, the Bureau of the Census' Current Industrial Report MA333M, product code 333415G (see http://www.census.gov/industry/1/ma333m05.pdf). This survey tracks annually geothermal heat pumps, but only provides information on the number of companies, total quantity sold, and total value of units sold. MA333M collects no information on the technical and performance characteristics of the heat pumps, the sectors into which they or sold or their end use, or any geographical characteristics regarding origin/destination of geothermal heat pumps. MA333M also collects data that covers PV cells and modules (see http://www.census.gov/industry/1/ma334q05.pdf), but this information includes solar cells used in computer products. The Bureau of the Census also collects monthly information on the import and export of geothermal heat pumps, solar thermal panels and PV cells and modules, but, again, only for total shipments and value. The EIA has also discussed the survey with various industry and trade representatives, and none knew of comparable data that were available on the industry.

5. Provisions for Reducing Burden on Small Business

The EIA has designed the survey so that small businesses are not unduly burdened. Most of the data requested should be readily available from accounting or sales records. In addition some sections of the form are modestly simplified. Respondents are now asked to report volumes through most of the survey. Previously requested percentages for origin/destination, which required additional calculations, are eliminated. In addition, EIA now collects these data via Internet Data Collection methods, which should result in faster submissions and fewer follow-up contacts required with respondents. Finally, the addition of new reporting categories of respondents (subsidiaries or business units of overseas manufacturers and U.S. registered publicly traded overseas manufacturers) is designed to reduce greatly the number of small importers and other U.S. firms who would otherwise be contacted in order to track down direct

solar/PV product imports.

6. Results of Collecting Data Less Frequently

The data will be collected once per year. Data collected less frequently would not be timely, and the DOE would not be able to adequately monitor changes in these important industries.

7. Special Circumstances

The data are collected in a manner consistent with the guidelines in 5 C.F.R. 1320.6 for implementing the Paperwork Reduction Act of 1995 (P. L. 104-13).

8. Summary of Consultations Outside the EIA

On April 7, 2010, a *Federal Register* notice (Vol. 75, No. 66) was published soliciting public comment on the proposed revision and extension of the surveys. The EIA received 5 public comments in response to this notice. Below is a summary of the comments and EIA's responses.

a. Comment: The proposed EIA-63B form did not have a clear path for reporting sales of cells and modules between U.S. manufacturers.

Response: The proposed survey has now added lines in Section 4 of all 3 forms that explicitly request "sales for resale." This change will also assist EIA in avoiding duplicate reporting of the same unit being "shipped" twice.

b. Comment: Requesting domestic shipments state by sector and state by end use is excessively burdensome.

Response: EIA has received many requests for state level solar/PV shipment data over the past 10 years. So long as the industry was small, EIA resisted the requests to collect state level domestic shipment data. However, the industry has grown to the point that this data is increasingly important. That said, EIA has reworked its original proposal, which included information on new versus retrofit markets and separate collections of domestic shipments state by sector and state by end use. There is now a single schedule that collects information by state, sector, and end use in a combined fashion. The proposed forms have eliminated information collection on new versus retrofit markets.

9. Decision to Provide Any Payment or Gift To Respondents

EIA will not provide any payment or gift to respondents.

10. Provisions Regarding Confidentiality of Information

The information reported on Forms EIA-63A, EIA-63B and EIA-902 **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 DOE 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 General Accounting 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 will be applied to the **financial** data published from EIA-63A, EIA-63B and EIA-902 survey information on the dollar value of shipments and complete systems to ensure that the risk of disclosure of sensitive identifiable information is very small.

Disclosure limitation procedures are not applied to the statistical data published from all the other EIA-63A, EIA-63B and EIA-902 survey information. 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.

11. Justification of Sensitive Questions

No questions of a sensitive nature are asked in this survey.

12. Respondent Burden

The estimated burden for the EIA-63A will be 560 hours per year (112 respondents x 5 per response). The estimated burden for the EIA-63B will be 735 hours per year (147 respondents x 5 per response). The estimated burden for the EIA-902 will be 120 hours per year (24 respondents x 5 per response). The Overall estimated annual burden for all three forms will be 1,415 hours.

The estimated annual cost for the EIA-63A will be $37,441.60 (560 burden hours x $66.86 per hour)*. The estimated annual cost for the EIA-63B will be $49,142.10 (735 burden hours x $66.86 per hour)*. The estimated annual cost for the EIA-902 will be $8,023.20 (120 burden hours x $66.86 per hour)*. The overall estimated annual cost of the respondent burden for the renewable surveys is $94,606.90 (1,415 burden hours x $66.86 per hour).

*An average cost per hour of $66.86 is used because that is the average loaded (salary plus benefits) cost for an EIA employee. EIA assumes that the survey respondent workforce completing surveys for EIA is comparable with the EIA workforce.

13. Costs to Respondents

There are no capital and/or startup cost components or operations and maintenance items associated with this data collection. The information is maintained in the normal course of business. Therefore, other than the cost of burden hours included in Item 12 above, there are no additional costs for generating, maintaining, and providing the information.

14. Estimates of Cost to the Federal Government

Annualized cost to the Federal Government is estimated at $$306,063.00, based on estimated costs for IT development and maintenance costs, data collection and processing costs, and electronic dissemination costs.

15. Program Changes or Adjustments

For the EIA-63A, the burden change is 290 hours. The change is due to increase in frame size (from 60 respondents to 112 respondents) and "Agency Discretion" (adding more elements).

For the EIA-63B, the burden change is 510 hours. The change is due to increase in frame size (from 50 respondents to 147 respondents) and "Agency Discretion" (adding more elements).

For the EIA-902, the burden change is 52.5 hours. The change is due to increase in frame size (from 15 respondents to 24 respondents) and "Agency Discretion" (adding more elements).

16. Plans for Tabulation and Publication

The time schedule for the next annual surveys and related analysis activities is as follows:

1.	Send Notice of Reporting Requirements	01/15/11
2	Data Collection, Processing and Analysis	01/16/11-05/30/11
3.	Tabulation of Data	06/02/11-06/30/11

4. Early Release of Data to Web 8/2011
5. Publish data as part of "Renewable Energy Annual" 11/2011

17. Display of Expiration Date on Form

The OMB approval expiration date will be displayed on the Forms EIA-63A/B and EIA-902.

18. Exceptions to Certification Statement

No exceptions to the certification statement are being taken.

B. Collections of Information Employing Statistical Methods

1. Description of the Survey Plan

The notice of reporting requirements and options for reporting will be sent to approximately 300 companies comprising the universe of U.S. solar collector, photovoltaic module/cell, and geothermal heat pump manufacturers. Potential respondents will be identified from existing mailing lists; DOE and EIA databases; industry/manufacturer directories; trade publications; and personal inquiries.

2. The Sampling Methodology and Estimating Procedures

The population is so small and diverse that sampling is not feasible.

3. Maximizing the Response Rate

The EIA will use standard procedures to conduct the surveys. An introductory letter signed by an EIA official will be sent to the owner/manager of each affected U.S. manufacturer identified by EIA. To improve timeliness, accuracy and ease of reporting, respondents will be using EIA's Internal Data Collection (IDC) system as the primary mode for reporting information. Follow-up procedures consist of: (1) first email reminder to all companies that have not yet submitted completed survey forms two weeks before due date, (2) second email reminder to all companies that have not submitted completed survey forms two weeks after due date, (3) phone calls to companies that have not responded within one month, (4) a non-response letter from the Division Director to companies that do not respond within 6 weeks, (5) a non-response letter from the Office Director within 2 months, and (6) a letter from the EIA administrator within 10 weeks. Previous response rates for the survey have been 100% and EIA expects to continue to achieve close to a 100% response rate although solar and photovoltaic market activity has increased substantively over the past 3 years.

4. Test Procedures

No additional pretest of the current forms was considered necessary. In prior surveys, the companies have not indicated any problems with the surveys. Discussions with trade organizations did not produce any problems with the proposed data collections.

5. Questions

Questions regarding the Forms EIA-63A/B and EIA-902 may be directed to Fred Mayes of the Department of Energy, Energy Information Administration at (202) 586-1508. The EIA Agency Clearance Officer is Alethea Jennings at (202) 586-5879.