2002 Manufacturing Energy Consumption Survey

Sponsored by the Energy Information Administration
U.S. Department of Energy

Administered and Compiled by the Bureau of the Census
U.S. Department of Commerce

Form
EIA-846B
OMB Approval No.:
1905-0169
Expires: 03/31/2006

In correspondence pertaining to this report, please refer to the 10-digit Census File Number (CFN).

B

DUE DATE:

If you need additional time or have questions about what to report on this questionnaire, please call our processing office on 1-800-528-3049. Please return the completed questionnaire in the enclosed return envelope. If the envelope has been misplaced, please send to the Census Bureau address shown on the last page of the questionnaire.

Form EIA-846B is to be completed by establishments operating primarily in the Petroleum Refining Industry (**Code 324110 of the North American Industry Classification System (NAICS)**). If your establishment has received Form EIA-846B but is not a petroleum refinery, call the MECS specialist at the Census Bureau at 1-800-528-3049 to report this information. Note: Government-owned establishments that are privately operated are also required to complete this survey.
Note: the 6-digit NAICS code for this establishment is located on the mailing label above.

Reporting Requirement: This survey is **mandatory** under the Federal Energy Administration Act of 1974, Pub. Law No. 93-275, and under Title 3, Subtitle B, of the Omnibus Budget Reconciliation Act of 1986, Pub. Law No. 99-509, as amended by Title 1, Subtitle G, of the Energy Policy Act of 1992, Pub. Law No. 102-486.
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.
Per the Paperwork Reduction Act of 1995, you are not required to respond to any Federally-sponsored collection of information unless it displays a valid OMB Approval Number. The valid OMB Approval Number for this information collection (1905-0169) is displayed at the top left of this page.

See pages 1 through 4 for Frequently Asked Questions about the Manufacturing Energy Consumption Survey and for instructions for completing this questionnaire.

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Frequently Asked Questions Concerning the 2002 MANUFACTURING ENERGY CONSUMPTION SURVEY (MECS)

Why have a MECS?
The Manufacturing Energy Consumption Survey (MECS) collects data on energy consumption and usage patterns for the manufacturing sector of the U.S. economy. The information will be used to publish aggregate statistics on the following: consumption of energy for fuel and nonfuel uses, energy characteristics of establishments in the manufacturing sector, energy consumption by end use, technologies currently in use by U.S. manufacturers, energy prices, electricity generation onsite, fuel switching capability, and participation in energy-management activities. This information will be used by the U.S. Department of Energy (DOE) to implement policy plans effectively. See MECS web site at: http://www.eia.doe.gov/emeu/mecs/ .

What is a manufacturing establishment?
The reporting unit for the Manufacturing Energy Consumption Survey (MECS) is the manufacturing establishment. A manufacturing establishment is an economic unit at a single physical location, for the mechanical or chemical transformation of materials or substances into new products.

An establishment is not necessarily identical to a business concern or firm, either of which may consist of one or more establishments. A company may consist of one or more establishments that are engaged in separate or distinct activities. These establishments may be situated at one location and separated physically as well as economically.

Manufacturing operations are generally conducted in facilities described as plants, factories, or mills, characteristically using power-driven machines and materials-handling equipment. Manufacturing also includes such activities as the assembly of components of manufactured products and the blending of materials such as lubricating oil, plastics, resins, or liquors.

What should I report for?
If this establishment has previously completed the Census of Manufactures (CM), conducted by the U.S. Census Bureau, then the reporting boundaries for the MECS should correspond to those used for the CM. Each reporting unit should be treated as a separate establishment ONLY if that was the determination made for the CM. Do not consolidate CM establishments for reporting on the MECS. See Census of Manufactures web site: http://help.econ.census.gov/econhelp/resources/mc-33/SEC_MC-33.html .

What is NAICS?
Since 1997, federal agencies have used the North American Industry Classification System (NAICS). NAICS is unique in that its conceptual framework is based on production processes. Therefore, economic units that have similar production processes are classified in the same industry.

What is the reporting period?
The period covered by this report for most establishments is calendar year 2002 (January 1 through December 31, 2002). The exception will be for those establishments whose ownership or operation changed during 2002. Indicate the reporting period covered in Section 1: Establishment Information.

Do I have to fill out this questionnaire?
Yes. This survey is **mandatory** under the Federal Energy Administration Act of 1974, Pub. Law No. 93-275, and under Title 3, Subtitle B, of the Omnibus Budget Reconciliation Act of 1986, Pub. Law No. 99-509, as amended by Title 1, Subtitle G, of the Energy Policy Act of 1992, Pub. Law No. 102-486. Response is required by law from establishments included in the MECS sample and receiving the MECS questionnaire. Failure to respond may result in criminal fines, civil penalties, and other sanctions as provided by law.

Are these data confidential?
Yes. Under Section 9 of Title 13, U.S. Code, your report to the Census Bureau is confidential. It may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

What if I have questions?
If you have any questions about what to report on this questionnaire, please call the Census Bureau at 1-800-528-3049.

How long will this questionnaire take?
Public reporting burden for this collection of information is estimated to average eight hours per response, including the time of 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, Washington, D.C. 20585-0670; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

What if I need more time to complete the questionnaire?
The questionnaire should be returned no later than the due date specified on the front. If you need additional time, please call our processing office at 1-800-528-3049.

General Instructions

1. Use the units specified on the questionnaire for reporting all quantities. See page 5 for a list of Btu conversion factors. If your establishment uses more precise conversion values for your operations, use them, and indicate in Section 17: Remarks, the conversion factor(s) used.

2. Do not consolidate establishments. The reporting boundaries for your establishment should correspond to those used in the Census of Manufactures (CM).

   To resolve any consolidation problems, match the 10-digit Census File Number (CFN), which is located on the MECS questionnaire mailing label, with the first 10-digits of the CFN appearing on the CM mailing label.

   Responses to MECS questions should include the same activities as those considered when responding to the matching CM.

3. Report dollar amounts rounded to the nearest dollar, e.g., report $1,257.59 as $1,258.

4. If you do not maintain book records for particular items, please use carefully prepared estimates.

5. Enter zeroes in the data columns if the value is zero or none.

6. Complete all applicable sections of the questionnaire.

7. The energy sources (Sections 2 - 9), end uses (Sections 10-11), and fuel switching capability (Sections 12-13) sections of this questionnaire are designed so that all questions associated with the particular energy source within a section should be completed before going on to the next energy source. Therefore, within these sections, the questionnaire should be answered from the top of one column to the bottom of the same column, before going on to the next energy source (column).

8. The energy sources which are preprinted on the survey questionnaire are considered the most frequently consumed, but they do not represent a complete list of applicable energy sources. If your establishment has energy sources that meet the criteria for reporting, but are not preprinted on the questionnaire, please specify those energy sources in Section 9 and enter the data there. (See Reporting Criteria, under Sections 2 through 9 of the Section-specific instructions).

9. The following definitions for units are used throughout the questionnaire:
   Btu = British thermal unit(s)
   One barrel = 42 gallons
   One short ton = 2,000 pounds

Section-Specific Instructions

Section 1: Establishment Information
In this section, indicate any changes in the establishment ownership during 2002 and indicate the period covered by this filing, whether the calendar year or other period. Indicate whether this establishment is a refinery or has both refinery and nonrefinery operations.

Sections 2 through 9: Energy Sources (Fuels)

Reporting Criteria
An energy source (fuel) should be reported on this questionnaire if the energy source was consumed as a fuel (that is, for heat, power, or electricity generation) anywhere on the establishment site.

Unlike the 1998 and previous MECS questionnaires, it is no longer necessary to report your establishment's use of energy for non-fuel (i.e., feedstock) purposes for the petrochemical portion of the establishment.

Data are collected for the following energy sources (fuels):
Section 2: Electricity
Section 3: Steam and Industrial Hot Water
Section 4: Natural Gas
Section 5: Petroleum-based Energy Sources Consumed
Section 6: Coal (Anthracite, Bituminous & Subbituminous, and Lignite)
Section 7: Breeze and Coal Coke
Section 8: Hydrogen and Wood Fuel & Wood/Paper Refuse
Section 9: Other Energy Sources

Report Coal Tar in Section 9.

Before making additional entries in Section 9, note that the preprinted entry "Waste and Byproduct Gases" (Question 75) includes all waste gas streams (for example, refinery gas, fuel gas, vent gas, plant gas, off gas, still gas, and other waste gases) produced onsite, except hydrogen.

Sections 10 and 11:
Estimated End-Use Percent Consumption
These sections of the survey are intended to provide information on the purposes for which various energy sources are used in the manufacturing sector. See specific instructions for completing these sections at the beginning of each section.

Section 10 covers Electricity, Total Natural Gas and Total Coal.
Section 11 covers Total Liquefied Petroleum Gases (LPG) and Natural Gas Liquids (NGL), Total Diesel Fuel and Distillate Fuel Oil, and Residual Fuel Oil.

Examples of End-Use Reporting

Example 1 - If coal is consumed in boilers to generate steam, some of which is passed through an extractor/condensing turbine generator, all coal consumption would be reported in question 115, column 3 (any boiler fuel used in a CHP and/or cogeneration process).

Example 2 - If the establishment can identify energy for emissions controls, it should be reported in Other Direct Nonprocess Use (question 127 or 143) depending on the applicable energy source).

Sections 12 and 13: Fuel-Switching Capability
These sections are intended to measure the short-term capability of your establishment to use substitute energy sources in place of those actually consumed in 2002. These substitutions are limited to those that could actually have been introduced *within 30 days without extensive modifications.*

Section 12 covers Electricity, Total Natural Gas and Total Coal.
Section 13 covers Total Liquefied Petroleum Gases (LPG) and Natural Gas Liquids (NGL), Total Diesel Fuel and Distillate Fuel Oil, and Residual Fuel Oil.

See further definitions and instructions for completing this section at the beginning of the section.

Continue to next page

Specific Instructions for Completing Form EIA-846B, cont.

Section 14: Energy-Management Activities
In this section, indicate whether your establishment participated in the energy-management activities during 2002 and the source (s) of the financial support to implement the energy-management activity.

Section 15: Technologies
Indicate any of the technologies used in the establishment for general uses and cogeneration.

Section 16: Establishment Size
This section asks for the number of buildings and total square footage associated with this establishment. See the specific instructions in this section for the definition of what should be counted as a building.

Section 17: Remarks
Please provide any explanations that may be helpful to us in understanding your reported data. Indicate any Btu conversion factors used, if different from those provided on page 5. If additional space is needed, attach a separate sheet, including the 10-digit Census File Number (CFN) located on the mailing label on the front page of this questionnaire.

Section 18: Contact Information
Enter address and other contact information for the person most knowledgeable about completing this questionnaire and the person whom we should contact if we have any questions concerning this filing.

Btu Conversion Factors Table

Following are Btu conversion factors and other useful factors that should be used only if you do not know the actual Btu factor of the fuels consumed at your establishment site.

If your establishment uses more precise conversion values for your operations, use them in place of the approximations given below and identify in Section 17: Remarks (page 51), the conversion factor(s) used, if different from those listed below.

Energy Source	Conversion Factor(s)	Energy Source	Conversion Factor(s)
Acetylene	21,600 Btu/pound 1,500 Btu/cubic foot	Liquefied Petroleum Gas (LPG)	3.612 million Btu/barrel 0.08600 million Btu/gallon 4.5 pounds/gallon
Bagasse	4,081 Btu/pound	Natural Gas	1.029 million Btu/1,000 cubic feet 10.29 therms/1,000 cubic feet 1 therm = 100,000 Btu
Biomass	5,300 Btu/pound	Petroleum Coke	6.024 million Btu/barrel 30.12 million Btu/short ton 5 barrels/short ton
Breeze	19.8 million Btu/short ton	Propane	3.836 million Btu/barrel 0.09133 million Btu/gallon
Butane	4.326 million Btu/barrel 0.10300 million Btu/gallon	Pulping Liquor or Black Liquor	11 million Btu/short ton
Coal	22.489 million Btu/short ton	Residual Fuel Oil	6.287 million Btu/barrel
Coal (use for coke plants only)	27.426 million Btu/short ton	Roundwood	21.5 million Btu/cord 17.2 million Btu/short ton 0.014 million Btu/board foot
Coal Coke	24.8 million Btu/short ton	Sawdust (7% Moisture)	8,000 Btu/pound
Distillate Fuel Oil	5.825 million Btu/barrel	Steam	1,200 Btu/pound
Electricity	3,412 Btu/kilowatthour	Still Gas or Waste Gas or Refinery Gas	6 million Btu/barrel 1,029 Btu/cubic foot
Ethane	3.082 million Btu/barrel 0.07338 million Btu/gallon	Waste Materials (Wastepaper)	7,500 Btu/pound
Hydrogen	61,084 Btu/pound 325.11 Btu/cubic foot 35,600 Btu/gallon	Waste Oils and Tars	6 million Btu/barrel
Industrial Hot Water	140 Btu/pound 7.84 pounds/gallon	(Green) Wood Chips (50% Moisture)	10 million Btu/short ton
Isobutane	3.974 million Btu/barrel 0.09462 million Btu/gallon	Wood Waste (50% Moisture)	9 million Btu/short ton

Other Definitions:

Btu = British thermal unit(s)
One barrel = 42 gallons
One short ton = 2,000 pounds

See examples of how to calculate different physical units on the next page.

Btu Conversion Factor Calculations

Examples of calculations to convert from physical quantities to Btu

1. Your establishment consumed 250 cubic feet of hydrogen in 2002.

The Btu equivalent calculated as:

250 cubic feet x *325.11 Btu per cubic foot* (from the Btu Conversion Factors Table)
=81,277.50 Btu or
=0.0813 million Btu

2. Your establishment consumed 300 pounds of hydrogen in 2002.

The Btu equivalent is calculated as:

300 pounds x *61,084 Btu per pound* (from the Btu Conversion Factors Table)
= 18,325,200 Btu or
= 18.325 million Btu

3. Your establishment consumed 150,000 cubic feet of natural gas in 2002.

The Btu equivalent is calculated as:

150 thousand cubic feet x *1.029 million Btu per 1000 cubic feet* (from the Btu Conversion Factors Table)
= 154.35 million Btu

4. Your establishment consumed 85 therms of natural gas in 2002.

The Btu equivalent is calculated as:

85 x *100,000 Btu* (1 therm = 100,000 Btu, from the Btu Conversion Factors Table)
= 8,500,000 Btu or
= 8.5 million Btu

Table of Contents for Form EIA-846B

Continue to next page

Section 1: Establishment Information

1. **Did ownership of this establishment change during 2002?**

Census use only 00011

1 ☐ **No ➔ Go to question 2.**

2 ☐ **Yes, Establishment was sold during the year ➔ complete all sections of this questionnaire for activities that occurred in 2002 prior to the sale. Go to question 2**

3 ☐ **Yes, Establishment was bought during the year➔ complete all sections of the questionnaire for activities that occurred in 2002 after the sale. Go to question 2**

2. **Mark the answer which best describes this establishment at the end of 2002:**

00010

1 ☐ **a. In operation . . . . . ➔ Go to question 4, next page**

2 ☐ **b. Ceased operation . . . . . ➔ enter date:** _____ Month/Day/Year **Go to question 4, next page**

3 ☐ **c. Sold or leased TO another operator . . . . . ➔ enter date:** _____ Month/Day/Year **Go to question 3**

If none of the above, go to question 4, next page.

3. **Enter the following information only if this establishment was sold or leased to another operator during 2002; otherwise, go to question 4, next page.**

_____ _____

Name of new owner or operator **Employer Identification (EI) Number (9 digits)**

_____

Number and Street

_____ _____ -

City **State** **ZIP Code (9 digits)**

Continue to next page

Section 1: Establishment Information, cont.

4. **Enter the reporting period for the information reported on this questionnaire. Unless there are special circumstances like those reported above, this reporting period should be from January 1, 2002 to December 31, 2002.**

From: _____ **To:** _____

Month/Day/Year Month/Day/Year

5. **Indicate the correct description of this establishment.**

Definition of Refinery:

For the purpose of this survey, a refinery is an installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons and alcohol. Processes used by a refinery include fractional distillation, cracking (both catalytic and hydro cracking), coking, reforming, alkylation, isomerization, polymerization, hydro treating, and sweetening. Products include, but are not limited to, unfinished oils, motor gasoline, aviation gasoline, special naphthas, kerosene, distillate fuel oil, residual fuel oil, lubricating oils, asphalt and road oil, waxes, petroleum coke, still gas, and petrochemical feedstocks.

Definition of Nonrefinery (Petrochemical):

A nonrefinery is an installation that produces substances by the chemical treatment of raw materials derived from petroleum or natural gas. Among the final products are plastics (including synthetic rubbers), synthetic fibers, chemicals, drugs, and detergents. A nonrefinery is also called a petrochemical operation.

Please check the reporting boundaries of the Census of Manufactures (CM) to determine if your establishment is considered to include an adjacent nonrefinery (petrochemical operation). See Census of Manufactures web site at: http://help.econ.census.gov/econhelp/resources/mc-33/SEC_MC-33.html .

Census use only 18010

(Check one box only)

1 ☐ **Establishment consists of REFINERY operations ONLY. (There may be nonrefinery (petrochemical) operations co-located, but those operations are identified as a separate establishment for purposes of the Census of Manufactures.)**

2 ☐ **Establishment consists of *both* REFINERY *and* NONREFINERY operations. For this survey questionnaire, report for the entire establishment, including both refinery and nonrefinery operations, unless those operations are identified as a separate establishment for purposes of the Census of Manufactures. If nonrefinery identified as a separate establishment, then box 1 (above) should be checked.**

3 ☐ **Neither of the above**
➜Call the MECS specialist at 1-800-528-3049, if establishment is NOT A REFINERY. Please call before continuing questionnaire.

Go to question 6, Section 2, next page

Section 2: Electricity

Questions 6 and 7:

Total Purchased Electricity

Census use only

6. **Enter the total quantity of electricity purchased from all sources by this establishment and delivered to this establishment site during 2002.**

10061 _____ Kilowatthours

7. **Enter total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the purchased electricity reported in question 6.**

10062 $ _____ U.S. Dollars

Include all expenditures regardless of when payment was actually made.

Questions 8 through 10:

Electricity Purchased from Local Utility

8. **During 2002, did this establishment purchase any electricity from your local utility?**

10011

1 ☐ **Yes ➔ Go to question 9**

2 ☐ **No ➔ Go to question 11**

By local utility, we mean the company in your local area that produces and/or delivers electricity and is legally obligated to provide service to the general public within its franchise area.

Exclude electricity purchased from companies such as independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.

9. **Enter the quantity of electricity purchased <u>from your local utility</u> by this establishment and delivered to this establishment site during 2002.**

10010 _____ Kilowatthours

Exclude quantities:
1) purchased centrally within your company, but outside of this establishment,
2) delivered from other establishments of your company,
3) for which payment was made in-kind, or
4) purchased from independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.

Note: the sum of the quantities reported in questions 9 and 12 should equal the quantity reported in question 6.

10. **Enter the total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the purchased electricity reported in question 9.**

10020 $ _____ U.S. Dollars

Include all expenditures regardless of when payment was actually made.

Note: the sum of the expenditures reported in questions 10 and 13 should equal the total expenditures reported in question 7.

Continue to next page

Section 2: Electricity, cont.

Questions 11 through 13:

Electricity Purchased from Sources Other than Local

Census use only

11. **During 2002, did this establishment purchase any electricity from sources other than the local utility?**

10031

1 ☐ **Yes ➔ Go to question 12**

2 ☐ **No ➔ Go to question 14**

Sources other than local utilities include generators of electricity such as independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.

12. **Enter the total quantity of electricity purchased from sources other than your local utility by this establishment and delivered to this establishment site during 2002.**

10030

Kilowatthours

Include purchases from offsite nonutility power producers for any onsite use, e.g., production of heat and power, lighting or space conditioning, or electrolysis.

Note: the sum of the quantities reported in questions 9 and 12 should equal the quantity reported in question 6.

13. **Enter the total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the purchased electricity reported in question 12.**

10040

$

U.S. Dollars

Include all expenditures regardless of when payment was actually made.

Note: the sum of the expenditures reported in questions 10 and 13 should equal the total expenditures reported in question 7.

Question 14:

Electricity Transfers

14. **Enter the quantity of electricity transferred from outside establishments and delivered to this establishment site during 2002.**

10050

Kilowatthours

Include quantities:
1) delivered from any other establishment(s) in your company,
2) transferred from other establishments of your company for which payment was not made,
3) purchased centrally within your company, separate from this establishment, or
4) for which payment was made in-kind.

Exclude the purchases reported in questions 9 and 12.

Continue to next page

Section 2: Electricity, cont.

Question 15:

Total Electricity Received Onsite

Census use only

15. **Total Quantities of Electricity Received Onsite:**

10060

➢ **Enter the sum of the quantities reported in questions 6 and 14.**

✏**Copy this quantity to Question 147, column 1, page 42.**

Kilowatthours

Sum of questions 6 and 14

Copy to Question 147, column 1, page 42

Questions 16 through 19:

Sold or Leased CHP/Cogeneration Units

16. **Since January 1, 1999 has your establishment sold or leased CHP/cogeneration units to any other establishment(s)?**

10301

Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).

1 ☐ **Yes ➔ Go to Question 17**

2 ☐ **No ➔ Go to Question 20**

3 ☐ **Don't Know ➔ Go to Question 20**

17. **In 2002, did your establishment receive any electricity from the other establishment(s) referred to in Question 16?**

10302

1 ☐ **Yes ➔ Go to Question 18**

2 ☐ **No ➔ Go to Question 20**

18. **Approximately what percentage of the electricity reported in Question 12 was <u>purchased</u> from the establishment(s) referred to in Question 16?**

10310 ____ **%**

19. **Approximately what percentage of the electricity reported in Question 14 was <u>transferred in</u> from the establishment(s) referred to in Question 16?**

10320 ____ **%**

Continue to next page

Section 2: Electricity, cont.

Questions 20 through 23:

Electricity Generated Onsite

Census use only

20. **Enter the quantity of electricity generated onsite by CHP/cogeneration units at this establishment during 2002.**

10070 _____ Kilowatthours

Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).

Include all cogeneration facilities at this establishment site.

21. **Enter the quantity of electricity generated onsite during 2002 from each of the following:**

a. Solar Power 10081 **a.** _____ Kilowatthours

b. Wind Power 10082 **b.** _____ Kilowatthours

c. Hydropower 10083 **c.** _____ Kilowatthours

d. Geothermal Power 10084 **d.** _____ Kilowatthours

Exclude any electricity produced as part of a cogeneration process, that is, electricity generated from geothermal steam before the steam itself is used. (This should be reported in question 20.)

22. **Enter the quantity of electricity generated onsite during 2002 by processes other than those reported in questions 20 and 21.**

10090 _____ Kilowatthours

For example, electricity generated by diesel generators should be reported here.

23. **Total Onsite Generation of Electricity**:

➢**Enter the sum of the quantities reported in questions 20, 21, and 22.** 10100 _____ Kilowatthours

Sum of questions 20, 21 and 22

Continue to next page

Section 2: Electricity, cont.

Questions 24 through 26:

Electricity Sales and Transfers Offsite

Census use only

24. **Enter the quantity of electricity sold or transferred to <u>utilities</u> during 2002.**

Include quantities exchanged for the same or any other energy source(s).

Exclude sales to independent power producers, small power producers, or co-generators not located at this establishment.

10110 _____ Kilowatthours

25. **Enter the quantity of electricity sold or transferred to any establishments <u>other than utilities</u> during 2002.**

Include:
1) sales to independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not located at this establishment, and
2) quantities exchanged for the same or any other energy source(s).

10120 _____ Kilowatthours

26. **Total Electricity Sales and Transfers Offsite**:

➢ **Enter the sum of the quantities reported in questions 24 and 25.**

10130 _____ Kilowatthours
Sum of questions 24 and 25

Question 27:

Total Onsite Consumption of Electricity

27. ➢ **Enter the sum of the quantities reported in questions 15 and 23 minus the quantity reported in question 26.**

✏ **Copy this quantity to question 114, column 1, page 36.**

10140 _____ Kilowatthours
Copy this quantity to question 114, column 1, page 36

28. **Is electricity the ONLY energy source used in this establishment for any purpose?**
(This means that no natural gas, coal, fuel oil, steam or any other fuel is used in this establishment.)

10149

1 ☐ **Yes, no other fuels ➔ Go to Section 10, page 36**

2 ☐ **No ➔ Go to Section 3, next page**

Go to question 29, Section 3, next page

Section 3: Steam and Industrial Hot Water

29. **Report quantities in millions of British thermal units (Btu).**

If you keep your records for steam in pounds, use a factor of 1,200 Btu per pound of steam to convert your data into Btu. Industrial hot water should be reported at 140 Btu per pound and 7.84 pounds per gallon.

If you have more accurate Btu conversion factors for your establishment, use them instead of the more general factors given above and in the Btu Conversion Factors Table on page 5 and indicate the factor(s) used in Section 17: Remarks, page 51.

Answer all appropriate questions for steam, before answering the questions for industrial hot water.

	Census use only	11 Steam ▼	12 Industrial Hot Water ▼
30. **Was this energy source (column) either purchased or consumed in this establishment during 2002?** **If neither source is used, go to question 50, Section 4, page 22.**	000	1☐ Yes ➔ Go to question 31 2☐ No ➔ Go to next column	1☐ Yes ➔ Go to question 31 2☐ No ➔ Go to Section 4, page 22

Questions 31 and 32:

Total Purchased

31. **Enter the total quantity of steam or hot water purchased from all sources by this establishment and delivered to this establishment site during 2002.**	061	Million Btu	Million Btu
32. **Enter total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the quantity reported in question 31.** Include all expenditures regardless of when payment was actually made.	062	$ U.S. Dollars	$ U.S. Dollars

Continue to next page

Section 3: Steam and Industrial Hot Water, cont.

	Census use only	11 Steam ▼	12 Industrial Hot Water ▼

Questions 33 through 35:

Purchased from Local Utility

33. **During 2002, did this establishment purchase any steam or hot water from your local utility?**

012

By local utility, we mean the company in your local area that produces and/or delivers electricity and is legally obligated to provide service to the general public within its franchise area.

Exclude energy purchased from companies such as independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.

11 Steam	12 Industrial Hot Water
1 ☐ Yes ➔ Go to question 34	1 ☐ Yes ➔ Go to question 34
2 ☐ No ➔ Go to question 36	2 ☐ No ➔ Go to question 36

34. **Enter the quantity of steam or hot water purchased <u>from your local utility</u> by this establishment and delivered to this establishment site during 2002.**

010

Exclude quantities:
1) purchased centrally within your company, but outside of this establishment,
2) delivered from other establishments of your company,
3) for which payment was made in-kind, or
4) purchased from independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.

Note: the sum of the quantities reported in questions 34 and 37 should equal the quantity reported in question 31.

11 Steam	12 Industrial Hot Water
Million Btu	Million Btu

35. **Enter the total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the purchased energy reported in question 34.**

020

Include all expenditures regardless of when payment was actually made.

Note: the sum of the expenditures reported in questions 35 and 38 should equal the total expenditures reported in question 32.

11 Steam	12 Industrial Hot Water
$	$
U.S. Dollars	U.S. Dollars

Continue to next page

Section 3: Steam and Industrial Hot Water, cont.

	Census use only	11 Steam ▼	12 Industrial Hot Water ▼
Questions 36 through 38: **Purchased from Sources Other than Local Utility**			
36. **During 2002, did this establishment purchase any steam or hot water from <u>sources other than the local utility</u>?** **Sources other than local utilities include generators of electricity such as independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not owned by your company.** Include purchases from district heating facilities and any other entities (other than local utilities) providing steam or hot water.	032	1 ☐ Yes ➔ Go to Question 37 2 ☐ No ➔ Go to Question 39	1 ☐ Yes ➔ Go to Question 37 2 ☐ No ➔ Go to Question 39
37. **Enter the quantity purchased from <u>sources other than your local utility</u> by this establishment and delivered to this establishment site during 2002.** Include purchases from offsite nonutility power producers for any onsite use, e.g., production of heat and power, lighting or space conditioning. Note: the sum of the quantities reported in questions 34 and 37 should equal the quantity reported in question 31.	030	Million Btu	Million Btu
38. **Enter the total expenditures, including all applicable taxes and any delivery, management, transportation, and demand charges, for the purchased energy reported in question 37.** Include all expenditures regardless of when payment was actually made. Note: the sum of the expenditures reported in questions 35 and 38 should equal the quantity reported in question 32.	040	$ U.S. Dollars	$ U.S. Dollars
Question 39: **Transfers**			
39. **Enter the total quantity transferred from outside establishments and delivered to this establishment site during 2002.** Include quantities: 1) delivered from any other establishment(s) in your company, 2) transferred from other establishments of your company for which payment was not made, 3) purchased centrally within your company, separate from this establishment, or 4) for which payment was made in-kind. Exclude the purchases reported in questions 34 and 37.	050	Million Btu	Million Btu

Continue to next page

Section 3: Steam and Industrial Hot Water, cont.

	Census use only	11 Steam ▼	12 Industrial Hot Water ▼
Questions 40 through 43: **Sold or Leased CHP/Cogeneration Units**			
40. **Since January 1, 1999 has your establishment sold or leased CHP/cogeneration units to any other establishment(s)?** Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).	301	1 ☐ Yes ➔ Go to Question 41 2 ☐ No ➔ Go to Question 44 3 ☐ Don't Know ➔ Go to Question 44	1 ☐ Yes ➔ Go to Question 41 2 ☐ No ➔ Go to Question 44 3 ☐ Don't Know ➔ Go to Question 44
41. **In 2002, did your establishment receive any steam or hot water from the other establishment(s) referred to in Question 40?**	302	1 ☐ Yes ➔ Go to Question 42 2 ☐ No ➔ Go to Question 44	1 ☐ Yes ➔ Go to Question 42 2 ☐ No ➔ Go to Question 44
42. **Approximately what percentage of the steam or hot water reported in Question 37 was purchased from the establishment(s) referred to in Question 40?**	310	%	%
43. **Approximately what percentage of the steam or hot water reported in Question 39 was transferred in from the establishment(s) referred to in Question 40?**	320	%	%

Continue to next page

	Census use only	11 Steam ▼	12 Industrial Hot Water ▼

Questions 44 through 46:

Onsite Production

44. Enter the quantity produced onsite by CHP/cogeneration units at this establishment during 2002. — 070

Million Btu | Million Btu

Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).

Include all cogeneration facilities at this establishment site.

45. Enter the quantity produced onsite during 2002, from each of the following:

a. Solar Power	081 **a.**	Million Btu	Million Btu
b. Wind Power	082 **b.**	Million Btu	Million Btu
c. Hydropower	083 **c.**	Million Btu	Million Btu
d. Geothermal Power	084 **d.**	Million Btu	Million Btu

46. Enter the quantity produced onsite during 2002 by processes other than those reported in questions 44 and 45. — 090

Million Btu | Million Btu

Steam and hot water produced in boilers that are <u>not</u> associated with CHP/cogeneration should be reported here.

Continue to next page

		Census use only	11 Steam ▼	12 Industrial Hot Water ▼
	Questions 47 and 48: **Sales and Transfers**			
47.	**Enter the quantity sold or transferred to <u>utilities</u> during 2002.** Include quantities exchanged for the same or any other energy source(s). Exclude sales to independent power producers, small power producers, or co-generators not located at this establishment.	110	Million Btu	Million Btu
48.	**Enter the quantity sold or transferred to any establishments <u>other than utilities</u> during 2002.** Include: 1) sales to independent power producers, small power producers, brokers, marketers, marketing subsidiaries of utilities, or co-generators not located at this establishment, and 2) quantities exchanged for the same or any other energy source(s).	121	Million Btu **Go to Question 30, next column**	Million Btu **Go to Question 50, next page**
49.	**➢Answer Questions 30 through 48 for both energy sources (columns).**			

Go to question 50, Section 4, next page

Section 4: Natural Gas

Census use only

50. **Was natural gas either purchased or consumed in this establishment during 2002?**

30000

1 ☐ **Yes ➔ Go to question 51**

2 ☐ **No ➔ Go to Section 5, page 25**

Natural gas refers to natural gas delivered to your establishment through a pipeline.

Excluded as natural gas are any bottled gases such as liquefied petroleum gas (LPG) or propane, which are reported in Section 5 of this questionnaire.

Questions 51 through 55:

Total Natural Gas

51. **Enter the total quantity of natural gas consumed as a fuel for the production of heat, steam, power, or generation of electricity onsite at this establishment in 2002.**

30060

1,000 cubic feet (mcf)

Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel.

Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning.

Include natural gas consumed by vehicles intended primarily for use onsite, e.g., forklifts, intra-plant shuttles, loaders and other materials-handling equipment operated solely within the boundaries of the establishment site.

Copy to question 114, column 2, page 36

Copy to question 147, column 2, page 42

✏ **Copy this quantity to question 114, column 2, page 36.**

✏ **Copy this quantity to question 147, column 2, page 42.**

52. **Enter the total quantity of natural gas purchased from all sources by this establishment for any use in 2002.**

30010

1,000 cubic feet (mcf)

Include quantities that were purchased for any onsite use, e.g., process heating or cooling, building heating or cooling, machine drive, or as raw material input to any manufacturing operation (feedstock).

Exclude quantities:
1) purchased centrally within your company,
2) delivered from other establishments of your company, or
3) for which payment was made in-kind.

53. **Enter total expenditures, including all applicable taxes, delivery, transportation, management, storage and demand charges, for the purchased natural gas reported in question 52.**

30020

$

U.S. Dollars

Include all expenditures regardless of when payment was made.

Continue to next page

Section 4: Natural Gas, cont.

54. **Enter total quantity of transfers in and central purchases received of natural gas in this establishment in 2002 not included in quantity reported in question 52.**

Census use only 30030

1,000 cubic feet (mcf)

Include quantities:
1) delivered from any other establishment(s) in your company,
2) transferred from other establishments of your company for which payment was not made,
3) purchased centrally within your company, separate from this establishment, or
4) for which payment was made in-kind.

55. **Enter the quantity of natural gas that was both produced onsite in 2002 as output from a captive (onsite) well, and was at least partially consumed onsite (as a fuel or nonfuel).**

30040

1,000 cubic feet (mcf)

Questions 56 through 58:

Natural Gas Purchased from Local Utility

56. **During 2002, did this establishment purchase natural gas from your local utility?**

31011

1 ☐ **Yes ➔ Go to question 57**

2 ☐ **No ➔ Go to question 59, next page**

Local natural gas utilities produce and/or deliver natural gas and are legally obligated to provide service to the general public within their franchise area.

Exclude gas purchased from companies such as independent gas producers, gas brokers, marketers, and any marketing subsidiaries of utilities.

Answer "yes" if this establishment purchases natural gas from the local utility.

Answer "no" if this establishment does not purchase any natural gas from the local utility or if only fees to transport natural gas bought from others are paid to the local utility.

57. **Enter the total quantity of natural gas purchased from your local utility during 2002.**

31010

1,000 cubic feet (mcf)

Exclude quantities:
1) purchased centrally within your company,
2) delivered from other establishments of your company, or
3) for which payment was made in-kind.

Note: The sum of the quantities reported in questions 57 and 60 should equal the total reported in question 52.

58. **Enter total expenditures, including all applicable taxes, delivery, transportation, management, storage and demand charges, for the purchased natural gas reported in question 57.**

31020

$

U.S. Dollars

Include all expenditures regardless of when payment was made.

Note: The sum of the expenditures reported in questions 58 and 61 should equal the total expenditures reported in question 53.

Continue to next page

Questions 59 through 61:

Natural Gas Purchased from Sources Other Than Local Utility

Census use only

59. **During 2002, did this establishment purchase natural gas from sources other than your local utility?**

Sources other than your local utility include producers, brokers, marketers, and any marketing subsidiaries of utilities.

51011

1 ☐ **Yes ➔ Go to question 60**

2 ☐ **No ➔ Go to Section 5, next page**

60. **Enter the total quantity of natural gas purchased from sources other than your local utility during 2002.**

Note: The sum of the quantities reported in questions 57 and 60 should equal the total reported in question 52.

51010

1,000 cubic feet (mcf)

61. **Enter total expenditures, including all applicable taxes, delivery, transportation, management, storage and demand charges, for the purchased natural gas reported in question 60.**

Some of these charges listed above may be found on the bill from your local utility.

Include all expenditures regardless of when payment was made.

Note: The sum of the expenditures reported in questions 58 and 61 should equal the total expenditures reported in question 53.

51020

$

U.S. Dollars

Go to question 62, Section 5, next page

Section 5: Petroleum-based Energy Sources Consumed

62. **For questions 63 through 80, enter the quantity consumed onsite during 2002 as a fuel for the production of heat, steam, power, or the generation of electricity for each petroleum-based energy source (fuel) listed below.**

Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel.

Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning.

Include fuel consumed by vehicles intended primarily for use onsite, e.g., forklifts, intra-plant shuttles, loaders and other materials-handling equipment operated solely within the boundaries of the establishment site.

Energy Source ▼	Census use only	Quantity Consumed as a Fuel ▼
63. **Butane as liquefied petroleum gas (LPG) or natural gas liquid (NGL).**	36060	Gallons
36061 1 ☐ **Butane not consumed in this establishment.**		
64. **Ethane as liquefied petroleum gas (LPG) or natural gas liquid (NGL).**	37060	Gallons
37061 1 ☐ **Ethane not consumed in this establishment.**		
65. **Propane as liquefied petroleum gas (LPG) or natural gas liquid (NGL).**	38060	Gallons
38061 1 ☐ **Propane not consumed in this establishment.**		
66. **Mixtures of ethane, butane, and propane**	34060	Gallons
34061 1 ☐ **Mixtures of ethane, butane and propane not consumed in this establishment.**		
67. **Other liquefied petroleum gases (LPG) and natural gas liquids (NGL) (e.g., butylene, ethylene, propylene)**	35060	Gallons
35061 1 ☐ **Other LPG or NGL not consumed in this establishment.**		
68. **Total liquefied petroleum gases (LPG) and natural gas liquids (NGL)**	24060	**Total LPG and NGL**
➢Sum the quantities reported for questions 63 through 67. (Enter zero, if none.)		Gallons
✏ Copy this quantity to question 132, column 1, page 39		**Copy to question 132, column 1, page 39**
✏ Copy this quantity to question 162, column 1, page 45		**Copy to question 162, column 1, page 45**

Continue to next page

Section 5: Petroleum-based Energy Sources Consumed, cont.

Energy Source ▼	Census use only	Quantity Consumed as a Fuel ▼
69. Diesel fuel, excluding offsite highway usage	28060	Barrels
28061 1 ☐ Diesel fuel not consumed in this establishment.		
70. Distillate fuel oil (numbers 1, 2 and 4 fuel oils)	29060	Barrels
29061 1 ☐ Distillate fuel oil not consumed in this establishment.		
71. Total diesel fuel and distillate fuel oil ➢Sum the quantities reported for questions 69 and 70. (Enter zero, if none.) ✏ Copy this quantity to question 132, column 2, page 39 ✏ Copy this quantity to question 162, column 2, page 45	22060	**Total Diesel Fuel & Distillate** Barrels **Copy to Question 132, column 2, page 39** **Copy to Question 162, column 2, page 45**
72. Crude oil/lease condensate	20060	Barrels
20061 1 ☐ Crude oil/lease condensate not consumed in this establishment.		
73. Motor gasoline, excluding offsite highway usage	23060	Gallons
23061 1 ☐ Motor gasoline not consumed in this establishment.		
74. Residual fuel oil (numbers 5, 6, Navy Special, and Bunker C) ✏ Copy this quantity to Question 132, column 3, page 39 ✏ Copy this quantity to Question 162, column 3, page 45	21060	**Residual Fuel Oil** Barrels **Copy to Question 132, column 3, page 39** **Copy to Question 162, column 3, page 45**
21061 1 ☐ Residual fuel oil not consumed in this establishment.		

Continue to the next page

Section 5: Petroleum-based Energy Sources Consumed, cont.

Energy Source ▼	Census use only	Quantity Consumed as a Fuel ▼
75. Waste and byproduct gases (e.g., refinery gas, off gas, vent gas, plant gas, still gas)	62060	Million Btu
62061 1 ☐ **Waste and byproduct gases not consumed in this establishment.** If checked, please explain in Remarks, page 51 if this establishment still refines crude petroleum using fractionation, straight distillation of crude oil, and/or cracking.		
76. Fluid catalytic cracking unit coke	77060	Barrels
77061 1 ☐ **Fluid catalytic cracking unit coke not consumed in this establishment.**		
77. Marketable petroleum coke --unrefined or green	78060	Barrels
78061 1 ☐ **Marketable petroleum coke (unrefined or green) not consumed in this establishment.**		
78. Marketable petroleum coke -- calcined	79060	Barrels
79061 1 ☐ **Marketable petroleum coke (calcined) not consumed in this establishment.**		
79. Waste oils and tars, excluding coal tar.	71060	Barrels
71061 1 ☐ **Waste oils and tars not consumed in this establishment.**		
Note: Report Coal Tar in Section 9.		
80. Other petroleum-based combustible energy source not specified above		
Specify energy source and units, if not in Million Btu		
a. 95980 _____	95060	Million Btu
b. 96980 _____	96060	Million Btu
95061 1 ☐ **Other petroleum-based combustible energy source not consumed in this establishment.**		**Go to Question 81, next page**

Go to question 81, Section 6, next page

Section 6: Coal

	Census use only	40 *column 1* **Anthracite** ▼	41 *column 2* **Bituminous and Subbituminous Coal** ▼	42 *column 3* **Lignite** ▼
81. Was this energy source (column) either purchased or consumed as a fuel in this establishment during 2002?	000	1 ☐ **Yes ➜Go to question 82** 2 ☐ **No➜ Go to column 2**	1 ☐ **Yes ➜Go to question 82** 2 ☐ **No➜ Go to column 3**	1 ☐ **Yes ➜Go to question 82** 2 ☐ **No➜ Go to question 88, next page**
82. Enter quantity purchased by, and delivered to, this establishment in 2002, regardless of when payment was made. Include quantities that were purchased for any onsite use, e.g., process heating or cooling, building heating or cooling, machine drive, or as raw material input to any manufacturing operation (feedstock). Exclude quantities: 1) purchased centrally within your company, 2) delivered from other establishments of your company, or 3) for which payment was made in-kind.	010	Short Tons	Short Tons	Short Tons
83. Enter total expenditures, including taxes and delivery charges, for the quantity reported in question 82. Include all expenditures regardless of when payment was made.	020	$ U.S. Dollars	$ U.S. Dollars	$ U.S. Dollars
84. Enter total quantity of transfers in and central purchases received in this establishment in 2002. Include quantities: 1) delivered from any other establishment(s) in your company, 2) transferred from other establishments of your company for which payment was not made, 3) purchased centrally within your company, separate from this establishment, or 4) for which payment was made in-kind. Exclude quantities reported in question 82.	030	Short Tons	Short Tons	Short Tons

Continue to next page

Section 6: Coal, cont.

	Census use only	40 *column 1* **Anthracite** ▼	41 *column 2* **Bituminous & Subbituminous** ▼	42 *column 3* **Lignite** ▼
85. **Enter the quantity that was produced onsite in 2002 from a captive (onsite) mine.**	040	Short Tons	Short Tons	Short Tons
86. **Enter quantity consumed as a fuel for the production of heat, steam, power, or the generation of electricity onsite at this establishment in 2002.**	060	Short Tons	Short Tons	Short Tons
		Go to question 81, column 2	**Go to question 81, column 3**	**Go to question 88, below**

Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel.

Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning.

Include fuel consumed by vehicles intended primarily for use onsite, e.g., forklifts, intra-plant shuttles, loaders and other materials-handling equipment operated solely within the boundaries of the establishment site.

87. **➢Answer questions 81 through 86 for all energy sources (columns).**

➢Then go to question 88, below.

Total Coal Consumed as a Fuel

88. **Sum the quantities reported for all three types of coal (all columns) in question 95 to provide the total amount of coal consumed as a fuel in this establishment in 2002. (If none, enter zero.)**

46060 **Total Coal** Short Tons

✏ Copy this quantity to question 114, column 3, page 36

✏ Copy this quantity to question 147, column 3, page 42

Copy to question 114, column 3, page 36

Copy to question 147, column 3, page 42

Go to Section 7, next page

Go to question 89, Section 7, next page

Section 7: Breeze and Coal Coke

	Census use only	44 Breeze ▼	43 Coal Coke ▼
89. **Report quantities in this section in short tons. One short ton = 2,000 pounds.** See the Conversion Factors Table on page 5 for other conversion factors, if needed.			
90. **Was this energy source (column) either purchased or consumed as a fuel in this establishment during 2002?**	000	1 ☐ **Yes ➜Go to question 91** 2 ☐ **No➜ Go to next column**	1 ☐ **Yes ➜Go to question 91** 2 ☐ **No➜ Go to Section 8, page 32**
91. **Enter quantity purchased by, and delivered to, this establishment during 2002, regardless of when payment was made.** Include quantities that were purchased for any onsite use, e.g., process heating or cooling, building heating or cooling, machine drive, or as raw material input to any manufacturing operation (feedstock). Exclude quantities: 1) purchased centrally within your company, 2) delivered from other establishments of your company, or 3) for which payment was made in-kind.	010	Short Tons	Short Tons
92. **Enter total expenditures, including taxes and delivery charges, for the quantity reported in question 91.** Include all expenditures regardless of when payment was made.	020	$ U.S. Dollars	$ U.S. Dollars
93. **Enter total quantity of transfers in and central purchases received in this establishment during 2002.** Include quantities: 1) delivered from any other establishment(s) in your company, 2) transferred from other establishments of your company for which payment was not made, 3) purchased centrally within your company, separate from this establishment, or 4) for which payment was made in-kind. Exclude quantities reported in question 91.	030	Short Tons	Short Tons

Continue to next page

Section 7: Breeze and Coal Coke, cont.

	Census use only	44 Breeze ▼	43 Coal Coke ▼
94. **Enter the quantity that was produced onsite in 2002.**	040	Short Tons	Short Tons
95. **Enter quantity consumed as a fuel for the production of heat, steam, power, or the generation of electricity onsite at this establishment during 2002.** Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel. Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning.	060	Short Tons	Short Tons
		Go to question 90, next column	**Go to Section 8, next page**

96. ➢**Answer questions 90 through 95 for both energy sources (columns).**

Go to question 97, Section 8, next page

Section 8: Hydrogen and Wood Fuel & Wood/Paper Refuse

	Census use only	63 **Hydrogen** ▼	72 **Wood Fuel Wood/Paper Refuse** (e.g., packing materials, roundwood, wood chips, pallets) ▼
97. **Was this energy source (column) either purchased or consumed as a fuel in this establishment during 2002?**	000	1☐ **Yes →Go to question 98** 2☐ **No→ Go to next column**	1☐ **Yes →Go to question 98** 2☐ **No→ Go to Section 9, page 34**
98. **Enter quantity purchased by, and delivered to, this establishment during 2002, regardless of when payment was made.** Include quantities that were purchased for any onsite use, e.g., process heating or cooling, building heating or cooling, machine drive, or as raw material input to any manufacturing operation (feedstock). Exclude quantities: 1) purchased centrally within your company, 2) delivered from other establishments of your company, or 3) for which payment was made in-kind.	010	Million Btu	Million Btu
99. **Enter total expenditures, including taxes and delivery charges, for the quantity reported in question 98.** Include all expenditures regardless of when payment was made.	020	$ U.S. Dollars	$ U.S. Dollars
100. **Enter total quantity of transfers in and central purchases received in this establishment during 2002.** Include quantities: 1) delivered from any other establishment(s) in your company, 2) transferred from other establishments of your company for which payment was not made, 3) purchased centrally within your company, separate from this establishment, or 4) for which payment was made in-kind. Exclude quantities reported in question 98.	030	Million Btu	Million Btu

Continue to next page

Section 8: Hydrogen and Wood Fuel & Wood/Paper Refuse, cont.

		Census use only	63 Hydrogen ▼	72 Wood Fuel Wood/Paper Refuse ▼
101.	**Enter the quantity that was produced onsite in 2002.**	040		
			Million Btu	Million Btu
102.	**Enter quantity consumed as a fuel for the production of heat, steam, power, or the generation of electricity onsite at this establishment during 2002.** Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel. Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning. Include fuel consumed by vehicles intended primarily for use onsite, e.g., forklifts, intra-plant shuttles, loaders and other materials-handling equipment operated solely within the boundaries of the establishment site.	060		
			Million Btu	Million Btu
			Go to question 97, next column	**Go to Section 9, next page**
103.	**➢Answer questions 97 through 102 for both energy sources (columns).**			

Go to question 104, Section 9, next page

Section 9: Other Energy Sources (not specified elsewhere)

	Census use only	97 Other Energy Source # 1 ▼	98 Other Energy Source # 2 ▼	99 Other Energy Source # 3 ▼
104. **Are there any other additional energy source(s) purchased or consumed as a fuel in this establishment in 2002 that have not been listed in previous sections?**	000	1 ☐ Yes ➜Go to question 105 2 ☐ No➜ Go to Section 10, page 36	1 ☐ Yes ➜Go to question 105 2 ☐ No➜ Go to Section 10, page 36	1 ☐ Yes ➜Go to question 105 2 ☐ No➜ Go to Section 10, page 36
105. **Specify the name of any energy source purchased or consumed as a fuel in this establishment that has not been previously listed.**	980	_____ Energy Source	_____ Energy Source	_____ Energy Source
In addition, specify the units (e.g., gallons, million Btu, cubic feet, etc.) you are using to report this energy source.	981	_____ Units	_____ Units	_____ Units
106. **Enter quantity purchased by, and delivered to, this establishment in 2002, regardless of when payment was made.** Include quantities that were purchased for any onsite use, e.g., process heating or cooling, building heating or cooling, machine drive, or as raw material input to any manufacturing operation (feedstock). Exclude quantities: 1) purchased centrally within your company, 2) delivered from other establishments of your company, or 3) for which payment was made in-kind.	010	Units	Units	Units
107. **Enter total expenditures, including taxes and any delivery charges, for the quantity reported in question 106.** Include all expenditures regardless of when payment was made.	020	$ U.S. Dollars	$ U.S. Dollars	$ U.S. Dollars

Continue to next page

Section 9: Other Energy Sources, cont.

	Census use only	97 Other Energy Source # 1 ▼	98 Other Energy Source # 2 ▼	99 Other Energy Source # 3 ▼
108. Enter total quantity of transfers in and central purchases received in this establishment in 2002. Include quantities: 1) delivered from any other establishment(s) in your company, 2) transferred from other establishments of your company for which payment was not made, 3) purchased centrally within your company, separate from this establishment, or 4) for which payment was made in-kind. Exclude quantities reported in question 106.	030	Units	Units	Units
109. Enter the quantity that was produced onsite in 2002.	040	Units	Units	Units
110. Enter quantity consumed as a fuel for the production of heat, steam, power, or the generation of electricity onsite at this establishment in 2002. Exclude quantities of energy sources that were used as material inputs to your refining process or otherwise used as a non-fuel. Include all process uses such as process heating, process cooling, and machine drive and all nonprocess uses such as facility heating, ventilation and air conditioning.	060	Units	Units	Units
		Go to question 104, next column	**Go to question 104, next column**	**Go to Section 10, next page**
111. ➢Answer questions 104 through 110 for any additional energy sources (columns).				

Go to Question 112, Section 10, next page

Section 10: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal

112. **Directions for completing Estimated End-Use Percent Consumption Section:**

1. **Enter the percent of total consumption for each end use performed in this establishment.**
2. **Please answer questions 113 through 129 below for each energy source (column).**
3. **Complete one energy source (column) for all end uses, before starting the next energy source (column).**
4. **Enter a zero if the end use is not performed for the specific energy source.**
5. **Reasonable approximations are acceptable. These approximations should be based on the judgment of a person knowledgeable about the energy consumption and operation of your establishment. They are not expected to be the result of modeling activity or formal engineering studies unless these results are routinely available.**
6. **The sum of all the estimated end-use percentages should total 100 percent for each energy source (column).**

	Census use only	10 *column 1* **Electricity**	30 *column 2* **Natural Gas**	46 *column 3* **Coal** excluding Coal Coke and Breeze
113. **Was this energy source consumed as a fuel in this establishment during 2002?**	001	1☐ **Yes →Go to question 114** 2☐ **No→ Go to column 2**	1☐ **Yes →Go to question 114** 2☐ **No→ Go to column 3**	1☐ **Yes →Go to question 114** 2☐ **No → Go to Section 11, page 39**
114. **Copy total energy source consumption for fuel uses from appropriate sections of the questionnaire, as indicated in each column.** **➢For questions 115 through 127, provide the approximate percentage of this total amount that is used for each of the end uses.**	700	Copied quantity from question 27, page 15 Kilowatthours	Copied quantity from question 51, page 22 1,000 cubic ft.	Copied quantity from question 88, page 29 Short tons

Continue to next page

Section 10: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal, cont.

		Census use only	10 *column 1* **Electricity** ▼	30 *column 2* **Natural Gas** ▼	46 *column 3* **Coal** ▼
	Questions 115 and 116: **Indirect Uses - Boilers:** **Indirect use is the transformation of energy to another usable energy source, as in a boiler, gas turbine, or combustion turbine.**				
115.	**Boiler fuel in a CHP and/or cogeneration process.** Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).	705	%	%	%
116.	**Any boiler fuel use not included in Question 115.** Includes fuels used for thermal outputs only. Note: Include all boiler fuel here if you cannot make a reasonable distinction between CHP and non-CHP boiler use.	710	%	%	%
	Questions 117 through 121: **Direct Uses - Process:** **Direct process use includes usage in motors, ovens, kilns, and strip heaters.**				
117.	**Process heating** (e.g., kilns, furnaces, ovens, strip heaters)	720	%	%	%
118.	**Process cooling and refrigeration**	730	%	%	%
119.	**Machine drive** (e.g., motors, pumps, etc. associated with manufacturing process equipment)	740	%	%	%
120.	**Electro-chemical processes** (e.g., reduction process)	750	%		
121.	**Other direct process use** **Please specify:** 10761	760	%	%	%

Continue to next page

Section 10: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal, cont.

		Census use only	10 *column 1* **Electricity** ▼	30 *column 2* **Natural Gas** ▼	46 *column 3* **Coal** ▼
	Questions 122 through 127: **Direct Uses - Nonprocess:** **Direct nonprocess use includes usage for facility lighting and space-conditioning equipment.**				
122.	**Facility heating, ventilation, and air conditioning**	770	%	%	%
123.	**Facility lighting**	780	%		
124.	**Facility support other than that reported in questions 122 and 123.** (e.g., cooking, water heating, office equipment)	790	%	%	%
125.	**Onsite transportation, excluding highway usage**	800	%	%	
126.	**Conventional electricity generation**	810		%	%
127.	**Other direct nonprocess use** **Please specify:** 10821	820	%	%	%
128.	**Total for all purposes** The sum of the end-use percents reported in Questions 115 through 127 should equal 100 percent.		Total **100 %** **Go to question 113, column 2**	Total **100 %** **Go to question 113, column 3**	Total **100 %** **Go to question 130, next page**

129. **➢Answer questions 113 through 128 for all energy sources (columns).**

Go to Question 130, Section 11, next page

Section 11: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil

130. **Directions for completing Estimated End-Use Percent Consumption Section:**

1. **Enter the percent of total consumption for each end use performed in this establishment.**
2. **Please answer questions 131 through 144 below for each energy source (column).**
3. **Complete one energy source (column) for all end uses, before starting the next energy source (column).**
4. **Enter a zero if the end use is not performed for the specific energy source.**
5. **Reasonable approximations are acceptable. These approximations should be based on the judgment of a person knowledgeable about the energy consumption and operation of your establishment. They are not expected to be the result of modeling activity or formal engineering studies unless these results are routinely available.**
6. **The sum of all the estimated end-use percentages should total 100 percent for each energy source (column).**

	Census use only	24 *column 1* **Total LPG and NGL** ▼	22 *column 2* **Total Diesel Fuel and Distillate Fuel Oil** ▼	21 *column 3* **Residual Fuel Oil** ▼
131. **Was this energy source consumed as a fuel in this establishment during 2002?**	001	1☐ **Yes ➜Go to question 132** 2☐ **No ➜ Go to column 2**	1☐ **Yes ➜Go to question 132** 2☐ **No ➜ Go to column 3**	1☐ **Yes ➜Go to question 132** 2☐ **No ➜ Go to Section 12, page 42**
132. **Copy total energy source consumption for fuel uses from appropriate sections of the questionnaire, as indicated in each column.** **➢For questions 133 through 143, provide the approximate percentage of this total amount that is used for each of the end uses.**	700	Copied quantity from question 68, page 25 Gallons	Copied quantity from question 71, page 26 Barrels	Copied quantity from question 74, page 26 Barrels

Continue to next page

Section 11: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil, cont.

	Census use only	24 *column 1* **Total LPG and NGL** ▼	22 *column 2* **Diesel Fuel and Distillate Fuel Oil** ▼	21 *column 3* **Residual Fuel Oil** ▼
Questions 133 and 134: **Indirect Uses - Boilers:** **Indirect use is the transformation of energy to another usable energy source, as in a boiler, gas turbine, or combustion turbine.**				
133. **Boiler fuel in a CHP and/or cogeneration process.** Cogeneration is the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. This may also be called CHP (combined heat and power).	705	%	%	%
134. **Any boiler fuel use not included in question 133.** Includes fuels used for thermal outputs only. Note: Include all boiler fuel here if you cannot make a reasonable distinction between CHP and non-CHP boiler use.	710	%	%	%
Questions 135 through 138: **Direct Uses - Process:** **Direct process use includes usage in motors, ovens, kilns, and strip heaters.**				
135. **Process heating** (e.g., kilns, furnaces, ovens, strip heaters)	720	%	%	%
136. **Process cooling and refrigeration**	730	%	%	%
137. **Machine drive** (e.g., motors, pumps, etc. associated with manufacturing process equipment)	740	%	%	%
138. **Other direct process use** **Please specify:** 10762	760	%	%	%

Continue to next page

Section 11: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil, cont.

		Census use only	24 *column 1* **Total LPG and NGL** ▼	22 *column 2* **Diesel Fuel and Distillate Fuel Oil** ▼	21 *column 3* **Residual Fuel Oil** ▼
	Questions 139 through 143: **Direct Uses - Nonprocess**: **Direct nonprocess use includes usage for facility lighting and space-conditioning equipment.**				
139.	**Facility heating, ventilation, and air conditioning**	770	%	%	%
140.	**Facility support other than that reported in question 139.** (e.g., cooking, water heating, office equipment)	790	%	%	%
141.	**Onsite transportation, excluding highway usage**	800	%	%	
142.	**Conventional electricity generation**	810	%	%	%
143.	**Other direct nonprocess use** **Please specify:** 10822	820	%	%	%
144.	**Total for all purposes** The sum of the end-use percents reported in questions 133 through 143 should equal 100 percent.		Total **100 %** **Go to question 131, column 2**	Total **100 %** **Go to question 131, column 3**	**Total** **100 %** **Go to question 146, next page**

145. ➢ **Answer questions 131 through 144 for all energy sources (columns).**

Go to question 146, Section 12, next page

Section 12: Fuel Switching Capability–Electricity, Natural Gas and Total Coal

146. **Directions for Completing the Fuel Switching Capability Section:**

1. **Capability to use substitute energy sources means that this establishment's combustor's (for example, boilers, furnaces, ovens, blast furnaces) had the equipment, either in place or available for installation in 2002, so that substitutions could actually have been introduced within 30 days without extensive modifications.**

2. **Include switching capability that could have resulted from the use of redundant and/or standby combustors, and from combustors that were already equipped to fire alternative fuels.**

3. **In addition to the capability of your equipment, when formulating your estimates:**
   a. **Make sure to consider practical constraints such as environmental regulations or actual availability of supply during 2002**
   b. **Do not limit your estimated capability by differences in relative prices of energy sources.**

4. **This section is intended to measure your *capability* to switch, not whether you would switch if you could.**

5. **When estimating your capability to substitute other fuels for electricity receipts, please consider the fuels that could be used to generate electricity onsite, as well as those that could be directly substituted in combustors.**

6. **If records of fuel-switching capability are not regularly maintained, reasonable approximations are acceptable.**

7. **Enter a zero if the fuel could not be switched for the specific energy source.**

	Census use only	10 *column 1* **Total Electricity Received** ▼	30 *column 2* **Total Natural Gas** ▼	46 *column 3* **Total Coal** excluding Coal Coke & Breeze ▼
147. **Enter the total quantity of energy source (column) consumed.** **Copy this amount from earlier in the questionnaire (see columns for locations).**	500	copy from Question 15, page 13 ____ Kilowatthours	copy from Question 51, page 22 ____ 1,000 Cubic Feet	copy from Question 88, page 29 ____ Short Tons
148. **Is the total quantity reported in Question 147 greater than zero?**	501	1☐ **Yes →Go to question 149** 2☐ **No → Go to question 147, column 2**	1☐ **Yes →Go to question 149** 2☐ **No → Go to question 147, column 3**	1☐ **Yes →Go to question 149** 2☐ **No → Go to Section 13, page 45**

Continue to next page

Section 12: Fuel Switching Capability–Electricity, Natural Gas & Total Coal, cont.

		Census Use Only	10 *column 1* **Total Electricity Received** ▼	30 *column 2* **Total Natural Gas** ▼	46 *column 3* **Total Coal**, excluding Coal Coke & Breeze ▼
149.	**Enter the amount of the total quantity reported in question 147 that could NOT have been replaced within 30 days by another energy source in 2002.** Do not consider differences in energy prices when estimating the amount.	510	Kilowatthours	1,000 Cubic Feet	Short Tons
150.	**Enter the result of subtracting the quantity reported in question 149 from the quantity reported in question 147.** This represents the total quantity of energy consumption that could have been replaced within 30 days by one or more alternative energy source in 2002. Note: the sum of the quantities reported in Questions 152 through 159 should equal or exceed this quantity.	520	Kilowatthours	1,000 Cubic Feet	Short Tons
151.	**Is the total quantity reported in Question 150 greater than zero?**	521	1 ☐ **Yes →Go to question 152** 2 ☐ **No → Go to question 147, column 2**	1 ☐ **Yes →Go to question 152** 2 ☐ **No → Go to question 147, column 3**	1 ☐ **Yes →Go to question 152** 2 ☐ **No → Go to Section 13, page 45**
152.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>electricity</u>?**	530		1,000 Cubic Feet	Short Tons
153.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>coal, excluding coal coke and breeze</u>?**	670	Kilowatthours	1,000 Cubic Feet	
154.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>total coal coke and breeze</u>, excluding coal included in question 153?**	690	Kilowatthours	1,000 Cubic Feet	

Continue to next page

Section 12: Fuel Switching Capability–Electricity, Natural Gas & Total Coal, cont.

		Census Use Only	10 *column 1* **Total Electricity Received** ▼	30 *column 2* **Total Natural Gas** ▼	46 *column 3* **Total Coal,** excluding Coal Coke & Breeze ▼
155.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>natural gas</u> from any supplier(s)?**	570	Kilowatthours		Short Tons
156.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>total diesel fuel and distillate fuel oil</u>?**	590	Kilowatthours	1,000 Cubic Feet	Short Tons
157.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>liquefied petroleum gas (LPG)</u>?**	610	Kilowatthours	1,000 Cubic Feet	Short Tons
158.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>residual fuel oil</u>?**	630	Kilowatthours	1,000 Cubic Feet	Short Tons
159.	**Of the quantity switchable reported in Question 150, what is the maximum amount that could have been replaced by <u>any other energy source</u> (not already asked about)?**	650	Kilowatthours	1,000 Cubic Feet	Short Tons
	Specify the energy source (fuel): 10990		**Go to Question 147, column 2**	**Go to Question 147, column 3**	**Go to Question 161, next page**

160. ➢ **Answer Questions 147 through 159 for all energy sources (columns).**

Go to Question 161, Section 13, next page

Section 13: Fuel Switching Capability–LPG & NGL, Diesel Fuel, Distillate and Residual Fuel Oils

161. **Directions for Completing the Fuel Switching Capability Section.**

1. **Capability to use substitute energy sources means that this establishment's combustor's (for example, boilers, furnaces, ovens, blast furnaces) had the equipment, either in place or available for installation in 2002, so that substitutions could actually have been introduced within 30 days without extensive modifications.**

2. **Include switching capability that could have resulted from the use of redundant and/or standby combustors, and from combustors that were already equipped to fire alternative fuels.**

3. **In addition to the capability of your equipment, when formulating your estimates:**
   a. **Make sure to consider practical constraints such as environmental regulations or actual availability of supply during 2002**
   b. **Do not limit your estimated capability by differences in relative prices of energy sources.**

4. **This section is intended to measure your *capability* to switch, not whether you would switch if you could.**

5. **When estimating your capability to substitute other fuels for electricity receipts, please consider the fuels that could be used to generate electricity onsite, as well as those that could be directly substituted in combustors.**

6. **If records of fuel-switching capability are not regularly maintained, reasonable approximations are acceptable.**

7. **Enter a zero if the fuel could not be switched for the specific energy source.**

	Census use only	24 *column 1* **Total LPG and NGL**	22 *column 2* **Total Diesel Fuel & Distillate Fuel Oil**	21 *column 3* **Residual Fuel Oil**
162. **Enter the total quantity of energy source (column) consumed.** **Copy this amount from earlier in the questionnaire (see columns for locations).**	500	▼ Copy from Question 68, page 25 ☐ Gallons	▼ Copy from Question 71, page 26 ☐ Barrels	▼ Copy from Question 74, page 26 ☐ Barrels
163. **Is the total quantity reported in Question 162 greater than zero?**	501	1☐ **Yes ➜Go to question 164** 2☐ **No ➜ Go to question 162, column 2**	1☐ **Yes ➜Go to question 164** 2☐ **No ➜ Go to question 162, column 3**	1☐ **Yes ➜Go to question 164** 2☐ **No ➜ Go to Section 14, page 48**

Continue to next page

Section 13: Fuel Switching Capability–LPG & NGL, Diesel, Distillate and Residual Fuel Oils, cont.

		Census use only	24 *column 1* **Total LPG and NGL** ▼	22 *column 2* **Total Diesel Fuel & Distillate Fuel Oil** ▼	21 *column 3* **Residual Fuel Oil** ▼
164.	**Enter the amount of the total quantity reported in question 162 that could NOT have been replaced within 30 days by another energy source in 2002.** Do not consider differences in energy prices when estimating the amount.	510	Gallons	Barrels	Barrels
165.	**Enter the result of subtracting the quantity reported in Question 164 from the quantity reported in Question 162.** This represents the total quantity of energy consumption that could have been replaced within 30 days by one or more alternative energy sources in 2002. Note: the sum of the quantities reported in Questions 167 through 174 should equal or exceed this quantity.	520	Gallons	Barrels	Barrels
166.	**Is the total quantity reported in Question 165 greater than zero?**	521	1☐ **Yes →Go to question 167** 2☐ **No → Go to question 162, column 2**	1☐ **Yes →Go to question 167** 2☐ **No → Go to question 162, column 3**	1☐ **Yes →Go to question 167** 2☐ **No → Go to Section 14, page 48**
167.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>electricity</u>?**	530	Gallons	Barrels	Barrels
168.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>coal, excluding coal coke and breeze</u>?**	670	Gallons	Barrels	Barrels
169.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>total coal coke and breeze</u>, excluding coal included in question 168?**	690	Gallons	Barrels	Barrels

Continue to next page

Section 13: Fuel Switching Capability–LPG & NGL, Diesel, Distillate and Residual Fuel Oils, cont.

		Census use only	24 *column 1* **Total LPG and NGL** ▼	22 *column 2* **Total Diesel Fuel & Distillate Fuel Oil** ▼	21 *column 3* **Residual Fuel Oil** ▼
170.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>natural gas</u> from any supplier(s)?**	570	Gallons	Barrels	Barrels
171.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>total diesel fuel and distillate fuel oil</u>?**	590	Gallons		Barrels
172.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>liquefied petroleum gas (LPG)</u>?**	610		Barrels	Barrels
173.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>residual fuel oil</u>?**	630	Gallons	Barrels	
174.	**Of the quantity switchable reported in Question 165, what is the maximum amount that could have been replaced by <u>any other energy source</u> (not already asked about)?**	650	Gallons	Barrels	Barrels
	Specify the energy source (fuel): 10990		**Go to Question 162, column 2**	**Go to Question 162, column 3**	**Go to Question 176, Section 14, next page**
175.	**➢Answer Questions 162 through 174 for all energy sources (columns).**				

Go to Question 176, Section 14, next page

Section 14: Energy-Management Activities

176. **For each of the following energy-management activities, indicate with a "yes" or a "no" under the "Participate?" column whether your establishment participated in or undertook the specified energy management-related activity between January 1, 2002 and December 31, 2002.**

For any activity for which you marked "yes" and if it has an arrow, please mark the source (s) of financial support for the energy-management activity.

"In-house" means your establishment or company paid for the activity.
"Energy Supplier" refers to either your electricity or natural gas energy supplier/provider.
"Other" includes any third party entity such as an energy service company (ESCO).

	Energy-Management Activities	Census use only	Participate? 13	Source of Financial Support for Activity (check all that apply)			
				In-house	Energy Supplier	Other	Don't Know
177.	Energy audits	060	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
178.	Electricity load control	080	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
179.	Power factor correction or improvement	380	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
180.	Equipment installation or retrofit for the primary purpose of using a different energy source (e.g., electrification) Exclude modifications made principally for energy efficiency; those should be included in questions 182 through 188	240	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
181.	Standby generation program	260	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
For questions 182 through 188: Equipment installation or retrofit for the primary purpose of improving energy efficiency affecting:							
182.	Steam production/system (e.g., boilers, burners, insulation, piping)	120	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
183.	Compressed air systems (e.g., compressors, sizing, leak reduction)	450	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
184.	Direct/indirect process heating	140	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
185.	Direct process cooling, refrigeration	160	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
186.	Direct machine drive (e.g., adjustable-speed drives, motors, pumps)	180	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐

Continue to next page

Section 14: Energy-Management Activities, cont.

	Energy-Management Activities	Census use only	Participate? 13	Source of Financial Support for Activity (check all that apply)			
				In-house	Energy Supplier	Other	Don't Know
187.	**Facility heating, ventilation, and air conditioning, excluding Energy Star Program**	200	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
188.	**Facility lighting, excluding Green Lights Program**	220	1 ☐ Yes ➜ 2 ☐ No	3 ☐	4 ☐	5 ☐	6 ☐
For questions 189 through 194: **Indicate whether the establishment participated in the energy-management activity during 2002.**							
189.	**Special rate schedule (e.g., interruptible or time-of-use)**	100	1 ☐ Yes 2 ☐ No				
190.	**Interval metering needed to manage energy use for programs such as real-time pricing**	250	1 ☐ Yes 2 ☐ No				
191.	**Equipment rebates**	280	1 ☐ Yes 2 ☐ No				
192.	**U.S. Environmental Protection Agency's Energy Star Program**	420	1 ☐ Yes 2 ☐ No				
193.	**U.S. Environmental Protection Agency's Green Lights Program**	430	1 ☐ Yes 2 ☐ No				
194.	**Other Federally Sponsored Energy or Environmental Management Program** (Specify name in right column)	440	1 ☐ Yes 2 ☐ No	**Federal Program Name** 13980			
For question 195: **Indicate any other energy-management activity not specified above that this establishment participated in during 2002.**							
195.	**Other Energy-Management Program** 13960	300	1 ☐ Yes ➜	3 ☐	4 ☐	5 ☐	6 ☐
196.	**Does this establishment have a full-time Energy Manager?** (i.e., a person whose major function is to direct or plan energy strategies relating to energy use and energy-efficient technology within the establishment)	460	1 ☐ Yes 2 ☐ No				

Go to question 197, Section 15, next page

Section 15: Technologies

197. **Were any of the following technologies in use at your establishment anytime during 2002?**

	Census use only	Yes	No	Don't Know
c. Computer control of building-wide environment (e.g., space-heating equipment, cooling equipment, lights)	14010 **a.**	1☐Yes	2☐ No	3☐DK
d. Computer control of processes or major energy-using equipment (e.g., boilers, furnaces, conveyors used in the manufacturing process)	14020 **b.**	1☐Yes	2☐ No	3☐DK
e. Waste heat recovery	14030 **c.**	1☐Yes	2☐ No	3☐DK
f. Adjustable-speed motors	14040 **d.**	1☐Yes	2☐ No	3☐DK
e. Oxy-fuel firing	14950 e.	1☐Yes	2☐ No	3☐DK

198. **Were any of the following technologies associated with cogeneration in use at your establishment anytime during 2002?**

		Yes	No	Don't Know
a. Steam turbines supplied by either conventional or fluidized bed boilers	14042 **a.**	1☐Yes	2☐ No	3☐DK
b. Conventional combustion turbines with heat recovery	14043 **b.**	1☐Yes	2☐ No	3☐DK
c. Combined-cycle combustion turbines	14044 **c.**	1☐Yes	2☐ No	3☐DK
d. Internal combustion engines with heat recovery	14045 **d.**	1☐Yes	2☐ No	3☐DK
e. Steam turbines supplied by heat recovered from high-temperature processes	14046 **e.**	1☐Yes	2☐ No	3☐DK

Go to question 199, Section 16, next page

Section 16: Establishment Size

199. **How many buildings were on this establishment site as of December 31, 2002?**

Census use only 17010

Number of Buildings

Buildings include:
1) structures enclosed by walls extending from the foundation to the roof,
2) parking garages, even if not totally enclosed by walls and a roof, or
3) structures erected on pillars to elevate the first fully enclosed level.

17020 1 ☐ Don't Know

Excluded as buildings are:
1) structures (other than the exceptions noted above) that are not totally enclosed by walls and a roof,
2) mobile homes and trailers, even if they house manufacturing activity,
3) structures not ordinarily intended to be entered by humans, such as storage tanks, or
4) nonbuildings that consume energy (such as pumps and construction sites).

200. **What was the approximate total enclosed square footage of the buildings located on this establishment site as of December 31, 2002?**

13010

Total Square Feet

Include in this estimate all the area enclosed by the exterior walls of a building, such as indoor parking facilities, basements, hallways, lobbies, stairways, and elevator shafts.

13011 1 ☐ Don't Know

Section 17: Remarks

201. **Please use this space for any explanations that may be essential in understanding your reported data. If additional space is needed, attach a separate sheet, including the 10-digit Census File Number (CFN) located on the mailing label on the front of this questionnaire.**

15990 _____
15991 _____
15992 _____
15993 _____
15994 _____
15995 _____
15996 _____
15997 _____
15998 _____
15999 _____
16000 _____

Continue to next page

Section 18: Contact Information

202. Name of person to contact regarding this questionnaire *(Please print or type)* | Date

203. Title of contact person above *(Please print or type)*

204. Telephone: Area Code | Number | Extension

205. Address--Number and Street

206. City | State | ZIP Code (9 digits)

207. Internet or E-mail address, if available *(Please print or type)*

19010

Thank you for completing this questionnaire!

Please photocopy this questionnaire for your records.

Return this questionnaire in the return envelope provided.
If the envelope has been misplaced, return the completed questionnaire to:

Bureau of the Census
1201 East 10th Street
Jeffersonville, IN 47132-0001