

## Section 17: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal

**163.** Enter the percent of total consumption for each end use performed in this establishment.

Please answer questions 164 through 178 below for each energy source (column). Enter a zero if the end use is not performed for the specific energy source.

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.

Complete one energy source (column) for all end uses, before starting the next energy source (column).

The sum of all the estimated end-use percentages should total 100 percent for each energy source (column).

	10 <i>column 1</i>	30 <i>column 2</i>	46 <i>column 3</i>
Census use only	<b>Electricity</b>	<b>Natural Gas</b>	<b>Coal</b> excluding Coal Coke and Breeze
	-	-	-

**164.** Was this energy source consumed as a fuel in this establishment during 1998?

001

1 **9** Yes ° Go to question 165  
2 **9** No ° Go to next column

1 **9** Yes ° Go to question 165  
2 **9** No ° Go to next column

1 **9** Yes ° Go to question 165  
2 **9** No ° Go to Section 18, page 43

**165.** < Copy total energy source consumption for fuel uses from appropriate sections of the questionnaire, as indicated in each column.

700

Copied quantity from question 22, page 9.

Copied quantity from question 35, page 12.

Copied quantity from question 106, page 27.

Kilowatthours

1,000 cubic ft.

Short tons

For questions 166 through 177, provide the approximate percentage of this total amount that is used for each of the end uses.

**Question 166:**

Indirect Uses - Boilers: Indirect use is the transformation of energy to another usable energy source, as in a boiler.

710

 %

 %

 %

**166.** Boiler fuel (e.g., fuel for boilers, gas turbines)

Continue to next page

## Section 17: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal, cont.

10 <i>column 1</i> <b>Electricity</b> -	30 <i>column 2</i> <b>Natural Gas</b> -	46 <i>column 3</i> <b>Coal</b> -
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**Questions 167 through 171:**

**Direct Uses - Process: Direct process use includes usage in motors, ovens, kilns, and strip heaters.**

Census  
use only

<b>167.</b>	<b>Process heating</b> (e.g., kilns, furnaces, ovens, strip heaters)	720	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>
<b>168.</b>	<b>Process cooling and refrigeration</b>	730	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>
<b>169.</b>	<b>Machine drive</b> (e.g., motors, pumps, etc. associated with manufacturing process equipment)	740	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>
<b>170.</b>	<b>Electro-chemical processes</b> (e.g., reduction process)	750	<input style="border: 1px solid black;" type="text" value="%"/>		
<b>171.</b>	<b>Other direct process use</b> Please specify: 10761 <div style="border: 1px solid black; height: 15px; width: 100%; margin-top: 5px;"></div>	760	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>

**Questions 172 through 177:**

**Direct Uses - Nonprocess: Direct nonprocess use includes usage for facility lighting and space-conditioning equipment.**

<b>172.</b>	<b>Facility heating, ventilation, and air conditioning</b>	770	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>	<input style="border: 1px solid black;" type="text" value="%"/>
<b>173.</b>	<b>Facility lighting</b>	780	<input style="border: 1px solid black;" type="text" value="%"/>		

Continue to next page

## Section 17: Estimated End-Use Percent Consumption for Electricity, Natural Gas, and Coal, cont.

		10 <i>column 1</i>	30 <i>column 2</i>	46 <i>column 3</i>
	Census use only	<b>Electricity</b>	<b>Natural Gas</b>	<b>Coal</b>
<b>174.</b> Facility support other than that reported in questions 172 and 173. (e.g., cooking, water heating, office equipment)	790	-	-	-
		<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>
<b>175.</b> Onsite transportation, excluding highway usage	800			
		<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>	
<b>176.</b> Conventional electricity generation	810			
			<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>
<b>177.</b> Other direct nonprocess use Please specify: 10821	820			
<input style="width: 100%; height: 20px;" type="text"/>		<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>	<input style="width: 100%;" type="text" value=""/>
<b>178.</b> Total for all purposes The sum of the end-use percents reported in questions 166 through 177 should equal 100 percent.		<b>Total</b>	<b>Total</b>	<b>Total</b>
		<input style="width: 100%;" type="text" value="100 %"/>	<input style="width: 100%;" type="text" value="100 %"/>	<input style="width: 100%;" type="text" value="100 %"/>
		<b>Go to question 164, next column</b>	<b>Go to question 164, next column</b>	<b>Go to question 180, next page</b>
<b>179.</b> < Answer questions 164 through 178 for all energy sources (columns).				
< Then go to question 180, Section 18, next page.				

## Section 18: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil

**180.** Enter the percent of total consumption for each end use performed in this establishment.

Please answer questions 181 through 194 below for each energy source (column). Enter a zero if the end use is not performed for the specific energy source.

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.

Complete one energy source (column) for all end uses, before starting the next energy source (column).

The sum of all the estimated end-use percentages should total 100 percent for each energy source (column).

	24 <i>column 1</i>	22 <i>column 2</i>	21 <i>column 3</i>
	<b>Total Liquefied Petroleum Gases (LPG) and Natural Gas Liquids (NGL)</b>	<b>Total Diesel Fuel and Distillate Fuel Oil</b>	<b>Residual Fuel Oil</b>
Census use only			

**181.** Was this energy source consumed as a fuel in this establishment during 1998?

001	1 <b>9</b> Yes ° Go to question 182  2 <b>9</b> No ° Go to next column	1 <b>9</b> Yes ° Go to question 183  2 <b>9</b> No ° Go to next column	1 <b>9</b> Yes ° Go to question 183  2 <b>9</b> No ° Go to Section 19, page 46
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**182.** Sum the quantities reported in questions 56 and 66 (copied here) to provide the sum of all LPG and NGL consumed as a fuel in this establishment.

701	Copied quantity from question 56, page 16.  <input style="width: 100%; height: 20px;" type="text"/> Gallons
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P Enter this sum in Question 183, column 1, next page.

702	Copied quantity from question 66, page 18.  <input style="width: 100%; height: 20px;" type="text"/> Gallons
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Continue to next page

## Section 18: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil, cont.

	24 <i>column 1</i>	22 <i>column 2</i>	21 <i>column 3</i>
	<b>Total LPG and NGL</b>	<b>Diesel Fuel and Distillate Fuel Oil</b>	<b>Residual Fuel Oil</b>
Census use only	-	-	-
700	Sum from question 182, previous page <input style="width: 100px; height: 20px;" type="text"/>	Copied quantity from question 87, page 23 <input style="width: 100px; height: 20px;" type="text"/>	Copied quantity from question 82, column 3, page 22 <input style="width: 100px; height: 20px;" type="text"/>
	Gallons	Barrels	Barrels

**183.** < Copy total energy source consumption as a fuel from appropriate sections of the questionnaire, as indicated in each column.

For questions 184 through 193, provide the approximate percentage of this total amount that is used for each of the end uses.

Question 184:

Indirect Uses - Boilers: Indirect use is the transformation of energy to another usable energy source, as in a boiler.

<b>184.</b> Boiler fuel (e.g., fuel for boilers, gas turbines)	710	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
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Questions 185 through 188:

Direct Uses - Process: Direct process use includes usage in motors, ovens, kilns, and strip heaters.

<b>185.</b> Process heating (e.g., kilns, furnaces, ovens, strip heaters)	720	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
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<b>186.</b> Process cooling and refrigeration	730	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
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<b>187.</b> Machine drive (e.g., motors, pumps, etc. associated with manufacturing process equipment)	740	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
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<b>188.</b> Other direct process use Please specify: <input style="width: 100px; height: 20px;" type="text"/>	760	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
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Continue to next page

## Section 18: Estimated End-Use Percent Consumption for LPG & NGL, Diesel Fuel & Distillate Fuel Oil, and Residual Fuel Oil, cont.

		24 <i>column 1</i>	22 <i>column 2</i>	21 <i>column 3</i>
		<b>Total LPG and NGL</b>	<b>Diesel Fuel and Distillate Fuel Oil</b>	<b>Residual Fuel Oil</b>
		-	-	-
<p>Questions 189 through 193:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><b>Direct Uses - Nonprocess:</b> Direct nonprocess use includes usage for facility lighting and space-conditioning equipment.</p> </div>				
		Census use only		
<b>189.</b>	Facility heating, ventilation, and air conditioning	770	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
<b>190.</b>	Facility support other than that reported in question 189. (e.g., cooking, water heating, office equipment)	790	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
<b>191.</b>	Onsite transportation, excluding highway usage	800	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
<b>192.</b>	Conventional electricity generation	810	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
<b>193.</b>	Other direct nonprocess use Please specify: 10822	820	<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
<b>194.</b> Total for all purposes The sum of the end-use percents reported in questions 184 through 193 should equal 100 percent.			<input style="width: 100px; height: 20px;" type="text"/> %	<input style="width: 100px; height: 20px;" type="text"/> %
			<b>Go to question 181, next column</b>	<b>Go to question 181, next column</b>
<b>195.</b> < Answer questions 181 through 194 for all energy sources (columns).  < Then go to question 196, Section 19, next page.				<b>Go to question 196, next page</b>

## Section 19: Energy-Management Activities

**196.** 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 activity between January 1, 1998 and December 31, 1998.

For any activity for which you marked “yes” and if it has an arrow, please mark the category that describes the amount of the energy-management activity cost that was paid for by your establishment or company.

	Energy-Management Activities	Cen- sus use only	Participate? 13		Amount of Cost Paid by this Establishment or Company			
			1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
197.	Energy audits	060	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
198.	Electricity load control	080	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
199.	Power factor correction or improvement	380	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
200.	Equipment installation or retrofit for the <u>primary purpose of using a different energy source</u> (e.g., electrification) Exclude modifications made principally for energy efficiency; those should be included in questions 202 through 208	240	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
201.	Standby generation program	260	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
For questions 202 through 208: Equipment installation or retrofit for the <u>primary purpose of improving energy efficiency</u> affecting:								
202.	Steam production/system (e.g., boilers, burners, insulation, piping)	120	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
203.	Compressed air systems (e.g., compressors, sizing, leak reduction)	450	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
204.	Direct/indirect process heating	140	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	
205.	Direct process cooling, refrigeration	160	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know	

Continue to next page

## Section 19: Energy-Management Activities, cont.

	Energy-Management Activities	Cen- sus use only	Participate? 13	Amount of Cost Paid by this Establishment or Company			
206.	Direct machine drive (e.g., adjustable-speed drives, motors, pumps) excluding Motor Challenge Program	180	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know
207.	Facility heating, ventilation, and air conditioning, excluding Energy Star Program	200	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know
208.	Facility lighting, excluding Green Lights Program	220	1 <input type="checkbox"/> Yes ° 2 <input type="checkbox"/> No	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know
<b>For questions 209 through 213:</b> <b>Indicate only whether the establishment participated in the energy-management activity during 1998.</b>							
209.	Special rate schedule (e.g., interruptible or time-of-use)	100	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
210.	Equipment rebates	280	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
211.	U.S. Environmental Protection Agency's Energy Star Program	420	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
212.	U.S. Environmental Protection Agency's Green Lights Program	430	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
213.	U.S. Department of Energy's Motor Challenge Program	440	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
<b>For questions 214 and 215:</b> <b>Indicate any other energy-management activities not specified above, including other government programs.</b>							
214.	Specify:      13960 <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>	300	1 <input type="checkbox"/> Yes °	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know
215.	Specify:      13970 <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>	340	1 <input type="checkbox"/> Yes °	3 <input type="checkbox"/> None	4 <input type="checkbox"/> Some	5 <input type="checkbox"/> All	6 <input type="checkbox"/> Don't Know
216.	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 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				

Go to question 217, Section 20, next page