



# *Supplemental Tables to the Annual Energy Outlook 2008*

**Part 1:  
Consumption & Prices by  
Sector & Census Division  
Residential, Commercial &  
Industrial Demand  
Sector Data**



Energy Information Administration

Table 21. Residential Sector Equipment Stock and Efficiency

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Equipment Stock (million units)													
Main Space Heaters													
Electric Heat Pumps	9.01	9.56	9.97	10.28	10.67	11.14	11.66	12.19	12.70	13.22	13.73	14.25	14.76
Electric Other	24.64	24.69	24.70	24.69	24.70	24.74	24.80	24.85	24.91	24.98	25.05	25.12	25.19
Natural Gas Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Other	58.61	59.42	59.99	60.38	60.89	61.58	62.38	63.17	63.95	64.71	65.48	66.26	67.00
Distillate Fuel Oil	7.77	7.74	7.70	7.64	7.60	7.57	7.55	7.53	7.51	7.48	7.46	7.45	7.43
Liquefied Petroleum Gases	6.03	6.09	6.09	6.08	6.08	6.09	6.12	6.15	6.18	6.21	6.24	6.27	6.30
Kerosene	0.69	0.68	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Wood Stoves	2.89	2.85	2.81	2.77	2.73	2.69	2.65	2.61	2.57	2.54	2.50	2.46	2.43
Geothermal Heat Pumps	0.15	0.19	0.21	0.22	0.24	0.26	0.28	0.30	0.33	0.35	0.37	0.39	0.41
Total	109.80	111.22	112.16	112.74	113.58	114.74	116.11	117.47	118.82	120.15	121.50	122.86	124.18
Space Cooling (million units)													
Electric Heat Pumps	9.01	9.56	9.97	10.28	10.67	11.14	11.66	12.19	12.70	13.22	13.73	14.25	14.76
Natural Gas Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Geothermal Heat Pumps	0.15	0.19	0.21	0.22	0.24	0.26	0.28	0.30	0.33	0.35	0.37	0.39	0.41
Central Air Conditioners	56.70	57.76	58.73	59.47	60.38	61.47	62.69	63.90	65.09	66.27	67.46	68.66	69.82
Room Air Conditioners	51.32	51.34	51.29	51.20	51.15	51.14	51.16	51.18	51.20	51.22	51.25	51.27	51.29
Total	117.18	118.85	120.20	121.18	122.43	124.01	125.79	127.57	129.32	131.05	132.81	134.57	136.28
Water Heaters (million units)													
Electric	43.05	43.67	44.10	44.40	44.79	45.29	45.88	46.46	47.03	47.60	48.18	48.76	49.33
Natural Gas	58.66	59.47	60.01	60.37	60.86	61.54	62.33	63.11	63.88	64.64	65.40	66.17	66.91
Distillate Fuel Oil	4.04	4.00	3.95	3.89	3.84	3.79	3.75	3.71	3.68	3.64	3.61	3.58	3.55
Liquefied Petroleum Gases	4.03	4.07	4.06	4.03	4.02	4.02	4.04	4.06	4.08	4.10	4.12	4.14	4.17
Solar Thermal	0.17	0.18	0.19	0.21	0.22	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.38
Total	109.95	111.38	112.31	112.89	113.73	114.89	116.26	117.62	118.96	120.29	121.65	123.01	124.33
Cooking Equipment (million units) 1/													
Electric	65.71	66.84	67.62	68.15	68.86	69.81	70.89	71.98	73.05	74.11	75.18	76.26	77.32
Natural Gas	38.66	38.92	39.08	39.16	39.30	39.52	39.79	40.06	40.32	40.58	40.84	41.11	41.37
Liquefied Petroleum Gases	5.62	5.66	5.65	5.62	5.61	5.61	5.62	5.64	5.65	5.66	5.67	5.69	5.70
Total	109.99	111.42	112.35	112.93	113.77	114.94	116.31	117.67	119.01	120.35	121.70	123.06	124.38
Clothes Dryers (million units)													
Electric	67.23	68.34	69.26	69.92	70.76	71.84	73.05	74.26	75.44	76.62	77.81	79.00	80.15
Natural Gas	19.37	19.65	19.83	19.94	20.09	20.31	20.57	20.83	21.08	21.32	21.57	21.82	22.06
Total	86.60	88.00	89.08	89.86	90.86	92.15	93.62	95.08	96.52	97.94	99.38	100.82	102.21

Table 21. Residential Sector Equipment Stock and Efficiency

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Other Appliances (million units)													
Refrigerators	137.59	139.05	139.97	140.50	141.32	142.49	143.88	145.27	146.63	147.98	149.35	150.73	152.07
Freezers	38.43	38.78	38.99	39.08	39.26	39.53	39.87	40.21	40.54	40.86	41.19	41.53	41.84
Stock Average Equipment Efficiency													
Main Space Heaters													
Electric Heat Pumps (HSPF)	7.73	7.81	7.88	7.93	7.96	8.00	8.02	8.03	8.04	8.04	8.04	8.05	8.04
Natural Gas Heat Pumps (GCOP)	1.30	1.30	1.30	1.30	1.30	1.32	1.33	1.34	1.34	1.35	1.36	1.36	1.37
Geothermal Heat Pumps (COP)	3.30	3.30	3.30	3.30	3.30	3.33	3.35	3.37	3.38	3.40	3.41	3.42	3.43
Natural Gas Furnace (AFUE)	0.81	0.82	0.82	0.82	0.83	0.83	0.83	0.84	0.84	0.84	0.84	0.84	0.84
Distillate Furnace (AFUE)	0.82	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Space Cooling													
Electric Heat Pumps (SEER)	11.37	11.69	11.94	12.15	12.35	12.54	12.72	12.87	13.01	13.13	13.24	13.33	13.41
Natural Gas Heat Pumps (GCOP)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Geothermal Heat Pumps (EER)	13.80	13.88	13.93	13.95	13.98	14.23	14.43	14.61	14.76	14.90	15.03	15.14	15.26
Central Air Conditioners (SEER)	11.06	11.32	11.56	11.79	12.01	12.22	12.41	12.60	12.77	12.92	13.06	13.19	13.29
Room Air Conditioners (EER)	9.36	9.42	9.46	9.52	9.57	9.63	9.68	9.73	9.78	9.82	9.86	9.89	9.91
Water Heaters													
Electric (EF)	0.89	0.89	0.89	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.91
Natural Gas (EF)	0.58	0.58	0.59	0.59	0.59	0.60	0.61	0.61	0.62	0.62	0.62	0.63	0.63
Distillate Fuel Oil (EF)	0.55	0.55	0.55	0.56	0.57	0.57	0.58	0.58	0.59	0.59	0.59	0.59	0.60
Liquefied Petroleum Gases (EF)	0.57	0.59	0.60	0.61	0.62	0.63	0.65	0.66	0.67	0.68	0.69	0.69	0.70
Other Appliances (kilowatthours per year) 2/													
Refrigerators	673.06	657.01	642.49	628.91	616.17	604.59	594.36	585.38	577.77	571.19	565.62	560.97	557.19
Freezers	481.41	469.17	459.31	450.85	443.60	437.45	432.60	428.85	425.80	423.54	422.03	421.22	421.02
Building Shell Efficiency Index 3/													
Space Heating													
Pre-1998 Homes	1.00	1.00	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.97	0.97	0.97	0.97
New Construction	1.00	0.77	0.78	0.80	0.79	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.75
All Homes	1.00	0.99	0.99	0.98	0.98	0.97	0.97	0.96	0.96	0.95	0.95	0.94	0.94
Space Cooling													
Pre-1998 Homes	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
New Construction	1.00	1.04	1.05	1.07	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
All Homes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 21. Residential Sector Equipment Stock and Efficiency

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Equipment Stock (million units)</b>														
<b>Main Space Heaters</b>														
Electric Heat Pumps	15.26	15.75	16.23	16.70	17.17	17.63	18.08	18.55	19.02	19.48	19.93	20.37	20.82	3.3%
Electric Other	25.26	25.33	25.40	25.46	25.53	25.59	25.66	25.73	25.80	25.87	25.94	26.02	26.09	0.2%
Natural Gas Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.9%
Natural Gas Other	67.73	68.44	69.13	69.80	70.46	71.10	71.74	72.38	73.03	73.67	74.27	74.87	75.47	1.0%
Distillate Fuel Oil	7.41	7.39	7.37	7.35	7.33	7.31	7.29	7.27	7.24	7.22	7.20	7.18	7.16	-0.3%
Liquefied Petroleum Gases	6.32	6.35	6.38	6.40	6.42	6.45	6.47	6.50	6.52	6.55	6.57	6.59	6.62	0.3%
Kerosene	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	-0.1%
Wood Stoves	2.39	2.35	2.32	2.28	2.25	2.21	2.17	2.14	2.10	2.07	2.03	2.00	1.97	-1.5%
Geothermal Heat Pumps	0.43	0.45	0.47	0.48	0.50	0.52	0.54	0.56	0.58	0.59	0.61	0.63	0.65	5.3%
<b>Total</b>	<b>125.47</b>	<b>126.73</b>	<b>127.95</b>	<b>129.15</b>	<b>130.32</b>	<b>131.47</b>	<b>132.62</b>	<b>133.79</b>	<b>134.96</b>	<b>136.11</b>	<b>137.23</b>	<b>138.32</b>	<b>139.43</b>	<b>0.9%</b>
<b>Space Cooling (million units)</b>														
Electric Heat Pumps	15.26	15.75	16.23	16.70	17.17	17.63	18.08	18.55	19.02	19.48	19.93	20.37	20.82	3.3%
Natural Gas Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.9%
Geothermal Heat Pumps	0.43	0.45	0.47	0.48	0.50	0.52	0.54	0.56	0.58	0.59	0.61	0.63	0.65	5.3%
Central Air Conditioners	70.97	72.08	73.18	74.25	75.31	76.35	77.38	78.42	79.46	80.49	81.48	82.47	83.45	1.5%
Room Air Conditioners	51.31	51.33	51.34	51.35	51.35	51.36	51.37	51.38	51.39	51.40	51.40	51.40	51.41	0.0%
<b>Total</b>	<b>137.96</b>	<b>139.60</b>	<b>141.21</b>	<b>142.79</b>	<b>144.34</b>	<b>145.86</b>	<b>147.37</b>	<b>148.91</b>	<b>150.44</b>	<b>151.96</b>	<b>153.42</b>	<b>154.87</b>	<b>156.33</b>	<b>1.1%</b>
<b>Water Heaters (million units)</b>														
Electric	49.88	50.43	50.96	51.48	52.00	52.50	53.01	53.53	54.05	54.56	55.07	55.57	56.08	1.0%
Natural Gas	67.63	68.33	69.01	69.68	70.33	70.97	71.60	72.24	72.89	73.51	74.11	74.70	75.29	1.0%
Distillate Fuel Oil	3.52	3.49	3.46	3.43	3.40	3.37	3.34	3.31	3.28	3.25	3.22	3.19	3.16	-1.0%
Liquefied Petroleum Gases	4.19	4.21	4.23	4.25	4.27	4.28	4.30	4.32	4.34	4.36	4.38	4.40	4.42	0.3%
Solar Thermal	0.40	0.41	0.43	0.45	0.47	0.49	0.51	0.52	0.54	0.56	0.58	0.59	0.61	5.2%
<b>Total</b>	<b>125.61</b>	<b>126.87</b>	<b>128.09</b>	<b>129.29</b>	<b>130.46</b>	<b>131.61</b>	<b>132.76</b>	<b>133.92</b>	<b>135.10</b>	<b>136.25</b>	<b>137.36</b>	<b>138.46</b>	<b>139.56</b>	<b>0.9%</b>
<b>Cooking Equipment (million units) 1/</b>														
Electric	78.35	79.36	80.35	81.32	82.27	83.20	84.14	85.08	86.03	86.97	87.88	88.78	89.69	1.2%
Natural Gas	41.61	41.85	42.08	42.31	42.53	42.74	42.95	43.16	43.37	43.57	43.76	43.94	44.12	0.5%
Liquefied Petroleum Gases	5.71	5.71	5.72	5.72	5.73	5.73	5.74	5.75	5.77	5.79	5.80	5.81	5.83	0.1%
<b>Total</b>	<b>125.67</b>	<b>126.93</b>	<b>128.15</b>	<b>129.35</b>	<b>130.53</b>	<b>131.68</b>	<b>132.83</b>	<b>133.99</b>	<b>135.17</b>	<b>136.32</b>	<b>137.43</b>	<b>138.53</b>	<b>139.64</b>	<b>0.9%</b>
<b>Clothes Dryers (million units)</b>														
Electric	81.28	82.38	83.45	84.51	85.54	86.55	87.55	88.57	89.58	90.58	91.54	92.49	93.44	1.3%
Natural Gas	22.29	22.52	22.74	22.95	23.16	23.36	23.56	23.77	23.97	24.16	24.35	24.54	24.72	1.0%
<b>Total</b>	<b>103.57</b>	<b>104.90</b>	<b>106.19</b>	<b>107.46</b>	<b>108.70</b>	<b>109.91</b>	<b>111.11</b>	<b>112.33</b>	<b>113.55</b>	<b>114.74</b>	<b>115.89</b>	<b>117.02</b>	<b>118.16</b>	<b>1.2%</b>

Table 21. Residential Sector Equipment Stock and Efficiency

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Other Appliances (million units)</b>														
Refrigerators	153.37	154.64	155.87	157.07	158.25	159.41	160.56	161.73	162.91	164.06	165.17	166.27	167.38	0.8%
Freezers	42.15	42.45	42.73	43.01	43.28	43.54	43.80	44.07	44.33	44.59	44.83	45.07	45.31	0.7%
<b>Stock Average Equipment Efficiency</b>														
<b>Main Space Heaters</b>														
Electric Heat Pumps (HSPF)	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.05	8.05	0.1%
Natural Gas Heat Pumps (GCOP)	1.37	1.38	1.38	1.38	1.39	1.39	1.39	1.39	1.40	1.40	1.40	1.40	1.40	0.3%
Geothermal Heat Pumps (COP)	3.44	3.45	3.48	3.51	3.54	3.56	3.58	3.60	3.62	3.64	3.66	3.68	3.70	0.5%
Natural Gas Furnace (AFUE)	0.84	0.84	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.84	0.1%
Distillate Furnace (AFUE)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.0%
<b>Space Cooling</b>														
Electric Heat Pumps (SEER)	13.47	13.53	13.59	13.64	13.68	13.72	13.74	13.77	13.78	13.80	13.81	13.82	13.84	0.7%
Natural Gas Heat Pumps (GCOP)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.0%
Geothermal Heat Pumps (EER)	15.37	15.47	15.71	15.90	16.09	16.27	16.44	16.60	16.76	16.91	17.05	17.18	17.32	0.9%
Central Air Conditioners (SEER)	13.39	13.47	13.56	13.64	13.70	13.76	13.80	13.84	13.87	13.89	13.92	13.94	13.96	0.9%
Room Air Conditioners (EER)	9.93	9.95	9.97	9.98	9.99	10.00	10.01	10.02	10.03	10.03	10.04	10.05	10.05	0.3%
<b>Water Heaters</b>														
Electric (EF)	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.2%
Natural Gas (EF)	0.63	0.63	0.63	0.64	0.64	0.65	0.65	0.65	0.66	0.66	0.67	0.67	0.67	0.6%
Distillate Fuel Oil (EF)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.61	0.61	0.61	0.4%
Liquefied Petroleum Gases (EF)	0.70	0.71	0.71	0.72	0.72	0.73	0.73	0.74	0.75	0.75	0.76	0.76	0.76	1.1%
<b>Other Appliances (kilowatthours per year) 2/</b>														
Refrigerators	554.10	551.63	549.10	546.92	545.06	543.55	542.40	541.61	541.21	541.24	541.33	541.36	541.33	-0.8%
Freezers	421.20	421.65	422.38	423.25	424.26	425.41	426.69	427.91	429.06	430.14	431.13	432.03	432.86	-0.3%
<b>Building Shell Efficiency Index 3/</b>														
<b>Space Heating</b>														
Pre-1998 Homes	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.93	0.93	0.93	0.92	-0.3%
New Construction	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.74	0.74	-0.2%
All Homes	0.93	0.93	0.92	0.92	0.91	0.91	0.90	0.90	0.89	0.89	0.89	0.88	0.88	-0.5%
<b>Space Cooling</b>														
Pre-1998 Homes	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97	0.97	0.97	-0.1%
New Construction	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.06	1.06	0.1%
All Homes	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.0%

Table 21. Residential Sector Equipment Stock and Efficiency

1/ Does not include microwave ovens or outdoor grills.

2/ Kilowatthours per year to run the appliance under certain test conditions as specified by the Department of Energy.

3/ The building shell efficiency index sets the heating and cooling value at 1.00 for an average home in 2005 (by type) in each Census division. The values listed for New Construction represent the change in heating and cooling load based on the difference in physical size and shell attributes for a newly-constructed home (by type and Census division). As an example, a value of 1.05 for cooling in the New Construction row equates to a cooling load 5 percent greater than the 2005 stock, after accounting for the physical size difference and efficiency gains from better insulation and windows.

HSPF = Heating Seasonal Performance Factor: The total heating output of a heat pump in Btu during its normal annual usage period for heating divided by total electric input in watt-hours during the same period.

COP = Coefficient of Performance: Energy efficiency rating measure determined, under specific testing conditions, by dividing the energy output by the energy input.

GCOP = Gas Coefficient of Performance: Energy efficiency rating measure determined, under specific testing conditions, by dividing the energy output by the energy input.

AFUE = Annual Fuel Utilization Efficiency: Efficiency rating based on average usage, including on and off cycling, as set out in the standardized Department of Energy test procedures.

SEER = Seasonal Energy Efficiency Ratio: The total cooling of a central unitary air conditioner or a unitary heat pump in Btu during its normal annual usage period for cooling divided by the total electric energy input in watt-hours during the same period.

EER = Energy Efficiency Ratio: A ratio calculated by dividing the cooling capacity in Btu per hour by the power input in watts at any given set of rating conditions, expressed in Btu per hour per watt.

EF = Efficiency Factor: Efficiency (measured in Btu out / Btu in) of water heaters under certain test conditions specified by the Department of Energy.

Kilowatthours per year = Kilowatthours per year to run the appliance under certain test conditions as specified by the Department of Energy.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 22. Commercial Sector Energy Consumption, Floorspace and Equipment Efficiency

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Commercial Building Delivered</b>													
<b>Energy Consumption (quadrillion Btu) 1/</b>													
Assembly	0.52	0.51	0.52	0.53	0.52	0.52	0.53	0.53	0.54	0.54	0.55	0.56	0.56
Education	0.84	0.82	0.85	0.86	0.86	0.86	0.88	0.89	0.90	0.92	0.93	0.94	0.95
Food Sales	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.28	0.28	0.28	0.29
Food Service	0.43	0.42	0.43	0.43	0.43	0.43	0.43	0.44	0.45	0.46	0.46	0.47	0.47
Health Care	0.42	0.41	0.42	0.43	0.43	0.44	0.45	0.46	0.47	0.49	0.50	0.51	0.52
Lodging	0.54	0.53	0.53	0.53	0.53	0.53	0.54	0.55	0.56	0.58	0.59	0.60	0.61
Office - Large	0.71	0.72	0.75	0.77	0.78	0.79	0.81	0.82	0.84	0.86	0.88	0.90	0.92
Office - Small	0.56	0.56	0.59	0.60	0.60	0.61	0.62	0.63	0.64	0.66	0.67	0.68	0.70
Mercantile/Service	1.38	1.36	1.41	1.42	1.42	1.43	1.45	1.47	1.49	1.52	1.54	1.56	1.58
Warehouse	0.41	0.40	0.42	0.43	0.44	0.44	0.45	0.46	0.47	0.47	0.48	0.49	0.50
Other	0.49	0.49	0.51	0.53	0.54	0.55	0.56	0.58	0.59	0.60	0.62	0.63	0.65
Total	6.55	6.47	6.71	6.77	6.81	6.86	6.98	7.11	7.23	7.37	7.50	7.63	7.75
<b>Commercial Building Floorspace</b>													
<b>(billion square feet)</b>													
Assembly	7.83	7.90	7.97	8.05	8.12	8.19	8.26	8.33	8.39	8.46	8.53	8.60	8.67
Education	10.11	10.23	10.35	10.47	10.60	10.72	10.85	10.98	11.11	11.24	11.37	11.50	11.64
Food Sales	1.28	1.30	1.31	1.33	1.34	1.36	1.38	1.39	1.41	1.42	1.44	1.46	1.47
Food Service	1.69	1.71	1.74	1.76	1.78	1.80	1.83	1.85	1.87	1.90	1.92	1.94	1.97
Health Care	1.97	2.00	2.03	2.06	2.10	2.13	2.17	2.20	2.24	2.28	2.31	2.35	2.39
Lodging	5.23	5.31	5.38	5.46	5.55	5.63	5.71	5.79	5.87	5.95	6.03	6.11	6.19
Office - Large	7.06	7.14	7.22	7.29	7.36	7.43	7.50	7.57	7.64	7.72	7.80	7.89	7.98
Office - Small	6.79	6.86	6.94	7.00	7.07	7.14	7.21	7.28	7.36	7.44	7.52	7.61	7.70
Mercantile/Service	15.60	15.79	15.98	16.17	16.36	16.56	16.76	16.96	17.16	17.37	17.58	17.79	18.00
Warehouse	10.50	10.69	10.88	11.06	11.24	11.42	11.60	11.78	11.97	12.15	12.33	12.51	12.68
Other	5.71	5.86	6.01	6.15	6.29	6.42	6.55	6.68	6.81	6.94	7.07	7.20	7.34
Total	73.77	74.80	75.82	76.81	77.81	78.80	79.80	80.80	81.83	82.86	83.91	84.97	86.03
<b>Stock Average Equipment Efficiency 2/</b>													
<b>Space Heating</b>													
Electricity	1.20	1.22	1.24	1.27	1.29	1.31	1.33	1.34	1.36	1.37	1.39	1.40	1.41
Natural Gas	0.73	0.73	0.74	0.74	0.75	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.77
Distillate Fuel Oil	0.76	0.77	0.77	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79
<b>Space Cooling</b>													
Electricity	2.73	2.76	2.79	2.81	2.84	2.87	2.90	2.93	2.96	2.98	3.00	3.03	3.05
Natural Gas	0.83	0.83	0.84	0.85	0.85	0.86	0.86	0.87	0.88	0.88	0.89	0.89	0.90
<b>Water Heating</b>													
Electricity	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Natural Gas	0.79	0.80	0.81	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Distillate Fuel Oil	0.77	0.77	0.78	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79
<b>Ventilation (cubic feet per minute per Btu) 3/</b>													
Electricity	0.23	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.26

Table 22. Commercial Sector Energy Consumption, Floorspace and Equipment Efficiency

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Cooking</b>													
Electricity	0.71	0.72	0.72	0.73	0.73	0.73	0.74	0.74	0.74	0.74	0.74	0.74	0.75
Natural Gas	0.51	0.52	0.52	0.52	0.52	0.52	0.53	0.53	0.53	0.53	0.53	0.53	0.53
<b>Lighting Efficacy 4/ (efficacy in lumens per watt)</b>													
Electricity	39.24	40.25	41.15	42.00	43.02	43.89	44.59	45.16	45.63	46.01	46.32	46.59	46.83
<b>Refrigeration</b>													
Electricity	1.76	1.77	1.79	1.81	1.82	1.84	1.86	1.87	1.88	1.89	1.90	1.91	1.92
<b>Distributed Generation and Combined Heat and Power</b>													
<b>Generating Capacity (gigawatts)</b>													
Petroleum	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Natural Gas	0.62	0.63	0.64	0.64	0.65	0.66	0.68	0.69	0.71	0.73	0.78	0.83	0.88
Solar Photovoltaic	0.16	0.24	0.40	0.49	0.50	0.51	0.52	0.52	0.53	0.54	0.59	0.64	0.69
Wind	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04
Other 5/	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Total	1.39	1.46	1.62	1.72	1.74	1.75	1.78	1.80	1.83	1.86	1.96	2.06	2.17
<b>Net Generation (billion kilowatthours)</b>													
Petroleum	0.38	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Natural Gas	4.47	4.54	4.58	4.63	4.70	4.79	4.88	4.99	5.12	5.28	5.62	5.97	6.38
Solar Photovoltaic	0.25	0.38	0.63	0.79	0.80	0.81	0.82	0.84	0.85	0.87	0.95	1.03	1.11
Wind	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.05
Other 5/	3.84	3.89	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
Total	8.96	9.00	9.27	9.48	9.56	9.66	9.76	9.89	10.04	10.22	10.64	11.07	11.58
<b>Disposition</b>													
Sales to the Grid	5.65	5.65	5.64	5.65	5.65	5.66	5.66	5.66	5.67	5.68	5.69	5.70	5.71
Generation for Own Use	3.31	3.35	3.62	3.83	3.91	4.00	4.10	4.23	4.37	4.54	4.94	5.37	5.87
<b>Energy Input (trillion Btu)</b>													
Petroleum	3.79	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76
Natural Gas	65.80	66.73	67.20	67.80	68.58	69.61	70.65	71.90	73.35	75.11	78.54	82.18	86.43
Solar Photovoltaic	0.86	1.30	2.15	2.69	2.73	2.75	2.81	2.86	2.91	2.97	3.23	3.51	3.80
Wind	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.10	0.11	0.13	0.17
Other 5/	74.27	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26
Total	144.78	145.13	146.46	147.59	148.42	149.46	150.56	151.87	153.37	155.19	158.90	162.84	167.42



Table 22. Commercial Sector Energy Consumption, Floorspace and Equipment Efficiency

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Commercial Building Delivered</b>														
<b>Energy Consumption (quadrillion Btu) 1/</b>														
Assembly	0.56	0.57	0.57	0.58	0.58	0.58	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.8%
Education	0.96	0.97	0.98	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.2%
Food Sales	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.32	0.32	0.32	0.33	0.33	1.1%
Food Service	0.48	0.49	0.49	0.50	0.50	0.51	0.52	0.52	0.53	0.54	0.54	0.55	0.55	1.2%
Health Care	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.65	1.9%
Lodging	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70	0.72	0.73	0.74	0.75	1.5%
Office - Large	0.93	0.95	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15	1.17	2.0%
Office - Small	0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.82	1.6%
Mercantile/Service	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82	1.84	1.3%
Warehouse	0.51	0.52	0.52	0.53	0.54	0.55	0.55	0.56	0.57	0.58	0.58	0.59	0.59	1.6%
Other	0.66	0.67	0.69	0.70	0.71	0.73	0.74	0.75	0.76	0.78	0.79	0.80	0.81	2.1%
<b>Total</b>	<b>7.86</b>	<b>7.97</b>	<b>8.08</b>	<b>8.21</b>	<b>8.33</b>	<b>8.44</b>	<b>8.55</b>	<b>8.66</b>	<b>8.77</b>	<b>8.88</b>	<b>8.99</b>	<b>9.10</b>	<b>9.22</b>	<b>1.5%</b>
<b>Commercial Building Floorspace</b>														
<b>(billion square feet)</b>														
Assembly	8.74	8.81	8.88	8.95	9.02	9.09	9.16	9.23	9.30	9.37	9.45	9.52	9.59	0.8%
Education	11.77	11.91	12.05	12.20	12.34	12.49	12.64	12.79	12.95	13.11	13.27	13.43	13.60	1.2%
Food Sales	1.49	1.51	1.53	1.54	1.56	1.58	1.60	1.62	1.63	1.65	1.67	1.69	1.71	1.2%
Food Service	1.99	2.02	2.04	2.06	2.09	2.11	2.14	2.17	2.19	2.22	2.25	2.27	2.30	1.2%
Health Care	2.43	2.47	2.51	2.55	2.59	2.63	2.67	2.72	2.76	2.81	2.85	2.90	2.95	1.6%
Lodging	6.27	6.36	6.45	6.54	6.63	6.73	6.83	6.94	7.05	7.16	7.27	7.38	7.49	1.4%
Office - Large	8.07	8.17	8.26	8.35	8.44	8.53	8.62	8.71	8.80	8.89	8.98	9.07	9.16	1.0%
Office - Small	7.79	7.88	7.97	8.06	8.15	8.23	8.32	8.41	8.49	8.58	8.67	8.76	8.85	1.1%
Mercantile/Service	18.21	18.42	18.63	18.85	19.07	19.29	19.51	19.74	19.97	20.20	20.44	20.68	20.93	1.2%
Warehouse	12.85	13.02	13.19	13.37	13.54	13.72	13.91	14.10	14.30	14.49	14.69	14.88	15.08	1.4%
Other	7.47	7.60	7.73	7.87	8.00	8.14	8.27	8.41	8.55	8.69	8.82	8.96	9.10	1.9%
<b>Total</b>	<b>87.10</b>	<b>88.17</b>	<b>89.25</b>	<b>90.34</b>	<b>91.44</b>	<b>92.55</b>	<b>93.68</b>	<b>94.83</b>	<b>96.00</b>	<b>97.18</b>	<b>98.36</b>	<b>99.56</b>	<b>100.76</b>	<b>1.2%</b>
<b>Stock Average Equipment Efficiency 2/</b>														
<b>Space Heating</b>														
Electricity	1.42	1.43	1.44	1.45	1.46	1.47	1.48	1.48	1.49	1.50	1.51	1.52	1.53	0.9%
Natural Gas	0.77	0.77	0.77	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.4%
Distillate Fuel Oil	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.2%
<b>Space Cooling</b>														
Electricity	3.06	3.08	3.10	3.12	3.14	3.15	3.17	3.18	3.20	3.21	3.22	3.23	3.25	0.7%
Natural Gas	0.90	0.91	0.91	0.92	0.92	0.92	0.93	0.93	0.94	0.94	0.94	0.95	0.95	0.5%
<b>Water Heating</b>														
Electricity	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.1%
Natural Gas	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	0.84	0.2%
Distillate Fuel Oil	0.79	0.79	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.1%
<b>Ventilation (cubic feet per minute per Btu) 3/</b>														
Electricity	0.26	0.27	0.27	0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.28	0.28	0.7%

Table 22. Commercial Sector Energy Consumption, Floorspace and Equipment Efficiency

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Cooking</b>														
Electricity	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.2%
Natural Gas	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.1%
<b>Lighting Efficacy 4/ (efficacy in lumens per watt)</b>														
Electricity	47.04	47.22	47.37	47.48	47.58	47.66	47.73	47.81	47.87	47.92	47.98	48.02	48.07	0.7%
<b>Refrigeration</b>														
Electricity	1.92	1.93	1.93	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.96	1.96	0.4%
<b>Distributed Generation and Combined Heat and Power</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.3%
Natural Gas	0.95	1.02	1.11	1.20	1.31	1.42	1.55	1.69	1.85	2.01	2.20	2.40	2.62	6.1%
Solar Photovoltaic	0.74	0.80	0.86	0.93	1.00	1.08	1.17	1.27	1.33	1.40	1.49	1.59	1.70	8.4%
Wind	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.16	0.18	0.20	0.22	0.24	11.4%
Other 5/	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.0%
<b>Total</b>	2.30	2.44	2.60	2.78	2.97	3.18	3.41	3.67	3.90	4.16	4.46	4.77	5.13	5.4%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	0.17	0.17	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.3%
Natural Gas	6.85	7.38	8.00	8.68	9.45	10.30	11.22	12.24	13.38	14.60	15.95	17.41	19.02	6.2%
Solar Photovoltaic	1.20	1.30	1.41	1.52	1.65	1.79	1.94	2.10	2.21	2.34	2.48	2.65	2.84	8.7%
Wind	0.06	0.08	0.10	0.12	0.14	0.17	0.19	0.21	0.24	0.26	0.29	0.32	0.35	11.9%
Other 5/	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	0.0%
<b>Total</b>	12.15	12.80	13.54	14.36	15.28	16.29	17.39	18.60	19.86	21.24	22.76	24.42	26.26	4.6%
<b>Disposition</b>														
Sales to the Grid	5.73	5.75	5.77	5.80	5.83	5.88	5.93	5.99	6.07	6.16	6.27	6.41	6.57	0.6%
Generation for Own Use	6.42	7.06	7.77	8.57	9.45	10.41	11.46	12.60	13.79	15.08	16.49	18.02	19.69	7.7%
<b>Energy Input (trillion Btu)</b>														
Petroleum	1.76	1.76	1.76	1.77	1.77	1.77	1.78	1.79	1.79	1.81	1.82	1.84	1.87	0.3%
Natural Gas	91.28	96.78	103.02	109.98	117.72	126.18	135.35	145.38	156.50	168.42	181.44	195.45	210.83	4.9%
Solar Photovoltaic	4.10	4.43	4.80	5.19	5.62	6.09	6.61	7.18	7.54	7.97	8.48	9.05	9.68	8.7%
Wind	0.22	0.28	0.35	0.42	0.49	0.56	0.64	0.72	0.81	0.90	0.99	1.09	1.19	11.9%
Other 5/	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	75.26	0.0%
<b>Total</b>	172.63	178.51	185.19	192.61	200.85	209.87	219.64	230.32	241.91	254.35	267.99	282.69	298.84	3.1%

Table 22. Commercial Sector Energy Consumption, Floorspace and Equipment Efficiency

- 1/ Excludes commercial sector energy consumption (from uses such as street lights or municipal water services) that is not attributable to buildings.
  - 2/ Unless noted otherwise, the efficiency measures are in the terms of Btu of energy output divided by Btu of energy input.
  - 3/ The efficiency measure for ventilation is in terms of cubic feet per minute (cfm) of ventilation air delivered divided by Btu of energy input.
  - 4/ A measurement of the ratio of light produced by a light source to the electrical power used to produce that quantity of light, expressed in lumens per watt.
  - 5/ May include coal, wood, municipal solid waste, and hydropower.
- Btu = British thermal unit.
- Note: Totals may not equal sum of components due to independent rounding.
- Source: Energy Information Administration, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 23. Industrial Sector Macroeconomic Indicators

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gross Domestic Product (billion 2000 dollars)	11003.5	11319.4	11562.0	11746.5	12052.1	12453.0	12856.7	13203.8	13521.0	13844.4	14198.5	14561.7	14907.7
Nonfarm Employment (millions)	133.6	136.1	137.9	138.9	140.3	142.4	144.7	146.5	147.6	148.6	149.7	150.8	151.8
Value of Shipments (billion 2000 dollars)													
Nonmanufacturing Sector													
Agriculture/Forestry/Fishing/Hunting	262.5	261.2	273.3	272.6	267.8	270.6	274.0	276.9	278.5	280.2	281.4	282.3	282.4
Mining	218.5	224.3	229.8	229.5	236.0	240.8	242.4	244.2	245.4	246.2	248.6	251.0	251.7
Construction	1043.8	1045.4	943.5	849.6	845.6	907.9	980.4	1014.0	1030.4	1038.3	1052.9	1069.9	1073.0
Manufacturing Sector													
Food Products	474.1	488.6	515.4	523.7	519.1	526.0	535.9	542.1	548.3	553.8	559.7	565.5	570.0
Beverages and Tobacco Products	110.8	114.5	120.5	123.7	121.4	122.6	121.7	120.6	119.6	119.1	118.8	118.7	118.4
Textile Mills and Products	77.9	73.8	68.8	62.4	59.2	59.5	59.6	59.3	58.8	58.1	57.8	57.7	57.7
Apparel	32.4	33.6	32.7	31.2	25.2	24.2	24.3	23.9	23.2	22.1	21.2	20.4	19.2
Wood Products	101.8	97.3	88.5	77.3	78.1	85.4	91.9	94.9	96.5	97.3	99.6	101.7	102.0
Furniture and Related Products	77.2	78.4	75.1	67.7	69.6	73.9	77.9	79.4	80.1	81.0	81.7	82.4	83.2
Paper Products	153.7	151.5	147.3	147.0	146.9	151.0	153.5	154.6	155.1	155.8	157.0	158.3	159.4
Printing	85.6	87.7	87.3	86.5	87.5	88.2	87.8	87.9	88.0	87.8	87.7	87.4	86.9
Chemical Manufacturing	505.3	519.4	521.7	534.7	551.2	574.0	588.7	599.3	610.4	622.9	637.4	652.4	668.2
Bulk Chemicals	224.2	227.4	231.9	236.4	239.8	243.4	245.1	245.1	245.4	245.3	245.1	243.9	243.1
Inorganic	30.4	31.9	32.6	33.7	33.7	33.9	33.6	33.4	33.1	32.7	32.3	31.9	31.6
Organic	98.2	100.3	102.9	105.1	108.1	109.5	109.7	109.7	109.9	110.1	110.1	109.7	109.6
Resin, Synthetic Rubber, and Fibers	72.5	73.3	73.8	75.7	74.7	75.8	77.2	77.3	77.5	77.7	77.9	77.9	77.7
Agricultural Chemicals	23.1	22.0	22.6	22.0	23.3	24.2	24.5	24.7	24.9	24.9	24.8	24.4	24.2
Other Chemical Products	281.2	292.0	289.8	298.2	311.4	330.6	343.6	354.2	365.0	377.6	392.3	408.4	425.1
Petroleum and Coal Products	246.4	248.5	251.5	250.7	245.6	252.5	257.2	260.8	262.1	264.4	265.8	265.5	265.2
Petroleum Refineries	221.2	225.6	231.6	231.7	227.0	232.6	236.1	239.0	239.9	242.0	243.0	242.2	241.6
Other Petroleum and Coal Products	25.2	22.9	19.9	19.0	18.6	19.9	21.1	21.8	22.2	22.4	22.8	23.3	23.6
Plastics and Rubber Products	175.7	170.0	176.3	173.1	173.7	179.5	184.4	187.3	189.9	192.4	195.9	199.3	202.0
Leather and Leather Products	5.6	5.9	6.2	4.6	4.5	4.4	4.2	4.1	4.0	4.0	3.9	3.8	3.7
Stone, Clay, and Glass Products	99.6	96.8	93.0	89.5	92.8	99.5	105.0	107.9	110.0	111.8	114.0	116.1	117.2
Glass and Glass Products	22.5	21.9	21.8	21.7	22.3	23.1	24.1	25.0	26.0	26.9	27.9	28.9	29.8
Cement Manufacturing	8.5	8.4	8.4	8.0	7.9	8.2	8.6	8.7	8.8	8.8	8.9	9.0	9.0
Other Nonmetallic Mineral Products	68.6	66.5	62.9	59.8	62.6	68.2	72.3	74.2	75.3	76.1	77.2	78.2	78.4
Primary Metals Industry	147.8	148.2	144.6	142.3	144.8	147.8	153.1	155.7	157.9	160.1	163.6	167.5	169.5
Iron and Steel Mills and Products	73.5	72.6	69.7	67.7	69.2	71.1	73.5	74.6	75.6	76.4	77.7	79.7	81.0
Alumina and Aluminum Products	29.6	28.6	27.1	27.8	27.2	27.2	28.3	29.1	29.9	30.8	31.8	32.4	32.5
Other Primary Metal Products	44.7	47.1	47.8	46.8	48.3	49.6	51.3	52.1	52.3	52.9	54.2	55.3	56.1
Fabricated Metal Products	252.2	258.3	260.6	256.9	260.5	268.8	277.0	282.2	283.9	285.5	287.6	289.9	291.9
Machinery	283.1	299.5	304.1	305.7	318.1	323.6	329.3	338.0	344.9	351.9	360.2	368.1	374.7
Computers and Electronics	469.4	504.7	525.7	552.8	600.0	625.0	645.7	671.9	702.9	739.8	782.5	826.7	870.2
Transportation Equipment	667.5	664.4	656.7	643.2	673.3	700.3	749.1	768.5	765.2	758.5	762.9	769.6	768.1
Electrical Equipment	109.0	116.2	122.9	117.7	119.4	123.5	127.4	131.3	134.5	137.4	140.9	144.3	147.2
Miscellaneous Manufacturing	132.8	132.5	135.6	137.9	141.7	147.6	152.8	158.9	165.3	171.3	177.4	184.2	192.5
Total Industrial Value of Shipments	5732.4	5820.7	5781.0	5680.3	5781.9	5996.6	6223.3	6364.0	6454.7	6539.6	6658.9	6782.7	6874.4

Table 23. Industrial Sector Macroeconomic Indicators

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Gross Domestic Product (billion 2000 dollars)	15261.2	15617.0	15984.4	16357.4	16743.0	17126.6	17528.1	17951.1	18381.9	18823.9	19272.2	19732.3	20218.5	2.4%
Nonfarm Employment (millions)	152.6	153.5	154.5	155.7	157.0	158.2	159.6	160.9	162.2	163.7	165.2	166.6	168.1	0.9%
Value of Shipments (billion 2000 dollars)														
Nonmanufacturing Sector														
Agriculture/Forestry/Fishing/Hunting	283.0	283.6	284.3	285.4	286.4	287.5	288.7	290.2	291.7	293.3	294.8	296.4	298.2	0.6%
Mining	251.5	251.0	252.5	253.6	253.8	252.6	252.5	251.5	252.1	252.1	250.3	248.6	247.9	0.4%
Construction	1077.6	1079.7	1082.6	1086.3	1091.4	1094.6	1104.5	1121.2	1137.0	1146.7	1149.2	1155.1	1168.5	0.5%
Manufacturing Sector														
Food Products	574.5	579.0	583.9	589.1	593.5	598.3	603.4	608.6	613.7	619.1	624.4	630.0	635.6	1.1%
Beverages and Tobacco Products	117.9	117.3	116.7	116.0	115.2	114.2	113.4	112.5	111.7	110.9	110.0	109.0	108.1	-0.2%
Textile Mills and Products	57.1	56.3	55.4	54.8	54.1	53.5	52.7	51.8	51.2	51.0	50.8	50.5	50.5	-1.6%
Apparel	18.0	16.8	15.8	15.1	14.2	13.5	12.8	12.2	11.7	11.3	10.9	10.5	10.0	-4.9%
Wood Products	101.4	100.1	99.6	99.5	98.9	98.2	98.5	99.7	100.8	101.2	100.8	100.9	101.9	0.2%
Furniture and Related Products	85.0	86.6	87.9	88.7	89.9	91.0	92.1	93.3	94.4	95.3	96.0	96.8	97.8	0.9%
Paper Products	161.1	162.8	164.6	166.4	168.0	169.5	171.0	172.5	173.8	175.1	176.1	177.0	177.9	0.7%
Printing	86.8	87.1	87.2	87.4	87.6	87.9	88.1	88.4	88.9	89.4	89.9	90.5	91.2	0.2%
Chemical Manufacturing	677.4	681.6	686.5	690.7	694.9	698.8	702.8	707.3	711.6	716.0	719.4	722.3	725.8	1.4%
Bulk Chemicals	241.5	239.0	237.3	235.5	233.9	232.2	230.6	229.3	227.9	226.6	225.0	223.2	221.6	-0.1%
Inorganic	31.2	30.7	30.3	30.0	29.6	29.2	28.8	28.4	28.0	27.6	27.1	26.7	26.2	-0.8%
Organic	109.1	108.3	107.8	107.3	106.9	106.5	106.2	106.0	105.8	105.7	105.4	105.0	104.7	0.2%
Resin, Synthetic Rubber, and Fibers	77.2	76.1	75.3	74.5	74.0	73.5	73.0	72.7	72.3	72.0	71.6	71.1	70.6	-0.2%
Agricultural Chemicals	24.0	23.9	23.9	23.8	23.4	23.1	22.6	22.2	21.8	21.4	20.9	20.9	20.0	-0.4%
Other Chemical Products	435.9	442.6	449.2	455.2	461.0	466.6	472.2	478.0	483.7	489.5	494.4	499.1	504.2	2.3%
Petroleum and Coal Products	266.0	265.8	265.9	265.2	264.8	264.9	265.4	267.1	268.1	270.2	271.6	273.1	274.9	0.4%
Petroleum Refineries	242.0	241.4	241.1	239.9	239.2	238.9	239.1	240.5	241.2	242.9	244.0	245.1	246.5	0.4%
Other Petroleum and Coal Products	24.0	24.4	24.9	25.3	25.7	26.0	26.3	26.6	26.9	27.3	27.7	28.0	28.3	0.9%
Plastics and Rubber Products	206.1	210.0	213.8	217.8	221.6	225.2	229.0	233.1	237.1	241.1	244.9	248.7	252.8	1.7%
Leather and Leather Products	3.6	3.5	3.4	3.4	3.3	3.2	3.1	3.0	2.9	2.9	2.8	2.7	2.6	-3.3%
Stone, Clay, and Glass Products	120.0	123.2	126.2	128.9	131.1	132.4	133.3	133.8	134.1	134.1	133.6	132.5	131.1	1.3%
Glass and Glass Products	30.7	31.8	32.8	33.9	34.9	35.6	36.2	36.6	37.0	37.2	37.3	37.2	37.1	2.2%
Cement Manufacturing	8.9	8.9	9.0	9.0	9.0	9.0	8.9	8.9	8.9	8.9	8.8	8.8	8.7	0.2%
Other Nonmetallic Mineral Products	80.3	82.5	84.4	86.1	87.2	87.8	88.2	88.3	88.2	88.0	87.4	86.5	85.3	1.0%
Primary Metals Industry	172.0	174.1	176.6	179.2	180.4	181.2	182.0	182.6	183.1	183.6	183.2	182.4	181.1	0.8%
Iron and Steel Mills and Products	82.3	83.3	84.2	85.4	86.0	86.5	86.9	87.1	87.1	87.0	86.4	85.5	84.4	0.6%
Alumina and Aluminum Products	32.7	33.1	33.7	34.2	34.2	34.3	34.4	34.4	34.7	34.8	35.0	35.1	34.9	0.8%
Other Primary Metal Products	57.0	57.7	58.6	59.6	60.1	60.4	60.8	61.1	61.4	61.7	61.8	61.8	61.8	1.1%
Fabricated Metal Products	292.6	293.8	294.2	293.9	293.5	293.8	293.7	293.2	293.3	293.5	292.8	291.8	291.2	0.5%
Machinery	380.2	386.2	390.2	393.2	397.4	401.1	404.3	407.5	411.6	415.8	420.9	424.2	428.7	1.5%
Computers and Electronics	906.8	939.4	975.1	1013.5	1052.9	1092.8	1132.0	1172.5	1212.6	1255.9	1300.4	1346.0	1391.0	4.3%
Transportation Equipment	769.5	770.8	776.1	783.5	787.3	799.1	807.8	817.5	825.5	828.3	830.3	832.1	840.1	1.0%
Electrical Equipment	151.9	155.2	157.7	160.1	162.3	164.0	165.6	167.3	169.2	171.5	173.5	175.7	177.7	1.8%
Miscellaneous Manufacturing	200.9	209.0	216.3	224.1	230.9	239.9	249.2	258.7	268.8	279.1	289.8	301.2	313.0	3.6%
Total Industrial Value of Shipments	6960.8	7032.8	7112.6	7195.7	7273.5	7357.2	7445.9	7545.6	7645.0	7737.3	7816.4	7898.0	7997.4	1.3%

Table 23. Industrial Sector Macroeconomic Indicators

Note: Totals may not equal sum of components due to independent rounding.

Source: 2006: Global Insight macroeconomic model CTL0806. Projections: Energy Information Administration, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 24. Refining Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	221.17	225.58	231.57	231.72	227.00	232.62	236.11	239.03	239.92	242.00	243.02	242.16	241.60
Inputs to Distillation Units (million barrels per day)	15.82	15.93	15.81	15.90	15.75	16.20	16.37	16.59	16.61	16.65	16.72	16.64	16.61
<b>Total Energy Consumption (trillion Btu) 1/</b>													
Residual Fuel Oil	13.9	12.7	12.7	12.8	0.2	0.2	0.2	12.1	11.9	11.9	25.3	24.4	21.7
Distillate Fuel Oil	4.4	2.5	2.5	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gases	15.0	9.6	9.6	9.7	41.9	34.8	38.1	36.1	34.6	34.5	33.9	38.0	37.4
Petroleum Coke	563.6	570.2	570.2	575.8	544.7	573.1	607.1	624.4	626.8	631.7	629.6	632.1	633.9
Still Gas	1635.2	1689.2	1689.2	1704.8	1564.9	1721.5	1740.2	1763.3	1836.5	1850.1	1866.7	1852.9	1847.5
Other Petroleum 2/	30.9	36.7	36.7	37.0	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6
Petroleum Subtotal	2263.0	2320.9	2320.9	2342.6	2154.2	2332.2	2388.1	2438.4	2512.3	2530.7	2558.2	2550.0	2543.1
Natural Gas	1052.5	1104.9	1158.6	1268.3	1545.6	1506.0	1503.0	1487.8	1446.1	1458.6	1463.8	1455.7	1467.0
Steam Coal 3/	62.4	62.4	62.4	63.2	59.6	59.6	181.0	207.1	157.2	152.3	188.4	239.4	305.6
Biofuels Heat and Coproducts	241.3	301.4	398.0	694.6	539.1	670.6	708.7	739.1	846.8	919.3	999.5	1051.8	1129.0
Purchased Electricity	133.6	146.6	152.1	163.8	141.9	153.9	159.8	163.7	167.3	170.1	173.6	172.1	173.1
Total	3752.9	3936.2	4092.0	4532.5	4440.4	4722.3	4940.5	5036.1	5129.6	5231.0	5383.4	5469.1	5617.8
<b>Refinery Only Energy Consumption 1/</b>													
Residual Fuel Oil	13.88	12.69	12.69	12.81	0.23	0.23	0.23	12.08	11.87	11.90	25.32	24.43	21.71
Distillate Fuel Oil	4.40	2.53	2.53	2.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquefied Petroleum Gases	15.04	9.57	9.57	9.67	41.87	34.82	38.12	36.12	34.63	34.46	33.93	37.97	37.43
Petroleum Coke	545.65	556.15	556.15	561.79	513.91	542.44	576.51	593.73	596.23	601.32	599.17	601.79	603.77
Still Gas	1507.80	1572.73	1572.73	1588.24	1507.15	1664.05	1682.89	1705.80	1779.23	1793.01	1809.60	1796.11	1790.95
Other Petroleum 2/	30.89	36.67	36.67	37.04	2.48	2.48	2.48	2.57	2.56	2.57	2.60	2.58	2.56
Petroleum Subtotal	2117.65	2190.34	2190.34	2212.10	2065.64	2244.03	2300.22	2350.29	2424.52	2443.26	2470.61	2462.88	2456.42
Natural Gas	705.45	720.61	720.61	727.75	942.83	828.41	806.01	772.36	718.87	720.91	694.19	674.78	668.90
Steam Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchased Electricity	124.86	134.27	134.27	135.60	109.49	113.95	117.81	119.89	122.05	123.68	123.73	120.93	119.86
Total	3189.27	3346.65	3443.23	3770.02	3657.10	3856.99	3932.75	3981.60	4112.25	4207.12	4288.04	4310.41	4374.20
Carbon Dioxide Emissions 4/ (million metric tons)	246.5	255.0	258.8	268.1	264.9	276.9	293.6	299.7	298.3	300.3	306.4	309.9	316.5
<b>Energy Consumption per Unit of Refinery Input (thousand Btu per barrel)</b>													
Residual Fuel Oil	2.4	2.2	2.2	2.2	0.0	0.0	0.0	2.0	2.0	2.0	4.1	4.0	3.6
Distillate Fuel Oil	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gases	2.6	1.6	1.7	1.7	7.3	5.9	6.4	6.0	5.7	5.7	5.6	6.3	6.2
Petroleum Coke	94.5	95.6	96.4	96.8	89.4	91.7	96.5	98.0	98.3	98.9	98.2	99.1	99.6
Still Gas	261.2	270.5	272.6	273.7	262.2	281.4	281.7	281.6	293.4	295.0	296.6	295.8	295.5
Other Petroleum 2/	5.4	6.3	6.4	6.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Petroleum Subtotal	366.9	376.7	379.6	381.3	359.3	379.5	385.0	388.0	399.9	402.0	404.9	405.6	405.3
Natural Gas	122.2	123.9	124.9	125.4	164.0	140.1	134.9	127.5	118.6	118.6	113.8	111.1	110.4
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	21.6	23.1	23.3	23.4	19.0	19.3	19.7	19.8	20.1	20.4	20.3	19.9	19.8
Total	510.7	523.7	527.8	530.1	542.3	538.9	539.7	535.4	538.5	541.0	539.0	536.6	535.4

Table 24. Refining Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Combined Heat and Power</b>													
<b>Generating Capacity (gigawatts)</b>													
Petroleum	0.09	0.22	0.27	0.27	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Natural Gas	3.08	2.72	2.65	2.65	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
Coal	0.19	0.10	0.12	0.12	0.00	0.00	0.82	0.99	0.66	0.62	0.87	1.21	1.66
Other 5/	0.90	0.64	0.35	0.35	0.61	0.64	0.65	0.68	1.29	1.66	1.84	2.03	2.26
Total	4.26	3.67	3.40	3.40	4.44	4.47	5.30	5.50	5.77	6.11	6.54	7.06	7.75
<b>Net Generation (billion kilowatthours)</b>													
Petroleum	1.14	0.76	0.76	0.76	2.10	2.10	2.10	2.11	2.11	2.11	2.12	2.11	2.11
Natural Gas	14.20	15.26	15.26	15.26	20.24	20.21	20.19	20.32	20.30	20.29	20.36	20.33	20.28
Coal	0.33	0.59	0.59	0.59	0.00	0.00	6.08	7.39	4.89	4.64	6.45	9.01	12.32
Other 5/	4.51	4.76	4.76	4.76	3.95	4.16	4.27	4.54	9.06	11.83	13.24	14.65	16.47
Total	20.18	21.36	21.36	21.36	26.29	26.47	32.65	34.36	36.36	38.87	42.18	46.09	51.18
<b>Disposition</b>													
Sales to the Grid	6.30	7.81	7.81	7.81	9.31	9.51	11.50	12.03	12.72	13.58	14.74	16.09	17.98
Generation for Own Use	13.87	13.55	13.55	13.55	16.99	16.96	21.15	22.33	23.64	25.29	27.44	30.00	33.20
<b>Energy Input (trillion Btu)</b>													
Petroleum	18	14	14	14	31	31	31	31	31	30	30	30	30
Natural Gas	244	246	246	246	296	295	294	295	294	293	293	292	290
Coal	1	1	1	1	0	0	121	148	98	93	129	180	246
Other 5/	127	117	117	117	58	57	57	65	154	195	227	270	324
Total	390	377	377	377	385	383	503	538	576	611	679	771	891
<b>Energy Consumed at Ethanol Plants (trillion Btu)</b>													
Natural Gas	103.4	138.3	192.0	294.5	306.2	382.5	403.0	420.3	433.4	444.8	476.5	489.3	508.0
Coal	62.4	62.4	62.4	62.4	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
Electricity	8.8	12.3	17.8	28.2	32.4	40.0	42.0	43.8	45.2	46.5	49.9	51.2	53.2
Total	174.6	213.0	272.2	385.2	398.2	482.0	504.5	523.7	538.1	550.8	585.9	600.1	620.8



Table 24. Refining Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	241.98	241.37	241.05	239.92	239.15	238.89	239.14	240.47	241.20	242.87	243.95	245.15	246.53	0.4%
Inputs to Distillation Units (million barrels per day)	16.61	16.60	16.62	16.62	16.64	16.65	16.71	16.77	16.83	16.99	17.08	17.16	17.33	0.4%
<b>Total Energy Consumption (trillion Btu) 1/</b>														
Residual Fuel Oil	15.3	11.8	11.7	11.7	11.8	11.9	12.1	12.3	12.3	12.8	12.9	12.9	13.0	0.1%
Distillate Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Liquefied Petroleum Gases	35.7	37.8	30.4	17.5	13.8	7.8	0.2	0.0	3.9	0.4	2.0	3.7	4.1	-3.4%
Petroleum Coke	641.5	645.9	654.4	665.5	670.7	673.7	676.1	675.0	674.3	684.9	688.0	690.6	699.9	0.9%
Still Gas	1849.4	1847.0	1846.6	1842.1	1849.5	1839.3	1852.9	1868.1	1877.7	1911.1	1932.2	1942.6	1983.3	0.7%
Other Petroleum 2/	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.7	2.5	2.8	2.5	2.2	2.8	-10.1%
Petroleum Subtotal	2544.4	2545.0	2545.6	2539.3	2548.3	2535.2	2544.0	2558.1	2570.9	2612.0	2637.6	2651.9	2703.2	0.6%
Natural Gas	1485.8	1481.5	1466.0	1486.6	1487.4	1496.5	1493.2	1490.1	1495.0	1489.7	1486.6	1481.5	1466.0	1.2%
Steam Coal 3/	391.1	396.9	403.1	427.1	427.1	452.6	452.9	451.7	482.9	507.3	570.7	612.9	612.8	10.0%
Biofuels Heat and Coproducts	1201.0	1319.4	1490.3	1804.0	2136.3	2162.0	2215.9	2281.6	2316.2	2316.5	2317.4	2306.4	2310.7	8.9%
Purchased Electricity	175.4	173.6	169.3	168.6	167.1	166.2	165.5	165.6	167.7	168.5	170.5	171.5	174.7	0.7%
Total	5797.7	5916.4	6074.4	6425.7	6766.2	6812.5	6871.5	6947.1	7032.5	7094.0	7182.7	7224.2	7267.4	2.6%
<b>Refinery Only Energy Consumption 1/</b>														
Residual Fuel Oil	15.30	11.75	11.72	11.75	11.80	11.88	12.09	12.30	12.34	12.79	12.88	12.90	13.05	0.1%
Distillate Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Liquefied Petroleum Gases	35.72	37.83	30.43	17.47	13.80	7.81	0.19	0.00	3.94	0.41	2.01	3.65	4.14	-3.4%
Petroleum Coke	609.59	610.29	611.90	617.97	616.41	616.72	616.44	615.26	615.45	623.36	627.41	630.01	639.39	0.6%
Still Gas	1793.19	1790.97	1790.75	1786.34	1793.85	1783.74	1797.36	1812.61	1822.41	1855.97	1877.20	1887.80	1928.66	0.9%
Other Petroleum 2/	2.54	2.53	2.53	2.53	2.55	2.56	2.61	2.65	2.54	2.76	2.47	2.21	2.81	-10.1%
Petroleum Subtotal	2456.33	2453.37	2447.32	2436.07	2438.40	2422.71	2428.69	2442.82	2456.68	2495.29	2521.97	2536.56	2588.06	0.7%
Natural Gas	673.92	666.80	660.43	669.08	669.51	678.59	678.43	681.02	687.52	682.59	679.90	682.97	665.38	-0.3%
Steam Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Purchased Electricity	120.55	118.37	115.02	113.07	111.54	110.64	110.36	111.01	113.13	113.97	115.88	117.63	120.53	-0.4%
Total	4451.77	4557.93	4713.07	5022.25	5355.76	5373.98	5433.36	5516.42	5573.52	5608.36	5635.14	5643.56	5684.67	2.2%
Carbon Dioxide Emissions 4/ (million metric tons)	326.1	326.2	325.3	328.5	328.9	330.9	331.3	332.0	336.3	341.5	349.4	354.3	357.7	1.4%
<b>Energy Consumption per Unit of Refinery Input (thousand Btu per barrel)</b>														
Residual Fuel Oil	2.5	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	-0.2%
Distillate Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Liquefied Petroleum Gases	5.9	6.2	5.0	2.9	2.3	1.3	0.0	0.0	0.6	0.1	0.3	0.6	0.7	-3.8%
Petroleum Coke	100.5	100.7	100.9	101.9	101.5	101.5	101.1	100.5	100.2	100.5	100.6	100.6	101.1	0.2%
Still Gas	295.8	295.5	295.2	294.5	295.4	293.4	294.7	296.2	296.7	299.2	301.1	301.4	304.9	0.5%
Other Petroleum 2/	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-10.5%
Petroleum Subtotal	405.2	404.8	403.4	401.6	401.5	398.5	398.2	399.2	399.9	402.3	404.5	405.0	409.2	0.3%
Natural Gas	111.2	110.0	108.9	110.3	110.2	111.6	111.2	111.3	111.9	110.0	109.0	109.0	105.2	-0.7%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	19.9	19.5	19.0	18.6	18.4	18.2	18.1	18.1	18.4	18.4	18.6	18.8	19.1	-0.8%
Total	536.2	534.4	531.2	530.5	530.1	528.4	527.5	528.6	530.2	530.7	532.1	532.8	533.5	0.1%

Table 24. Refining Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Combined Heat and Power</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.84	0.84	0.84	1.10	1.10	1.10	1.04	1.04	1.04	1.07	1.07	1.07	1.07	6.9%
Natural Gas	3.19	3.19	3.19	3.22	3.22	3.22	3.21	3.21	3.21	3.21	3.21	3.21	3.21	0.7%
Coal	2.23	2.27	2.31	2.47	2.47	2.64	2.65	2.64	2.85	3.01	3.44	3.72	3.72	16.5%
Other 5/	2.52	2.93	3.53	4.39	5.40	5.70	6.15	6.67	6.93	6.93	6.93	6.93	6.93	10.4%
Total	8.77	9.22	9.86	11.18	12.20	12.67	13.05	13.56	14.03	14.22	14.65	14.93	14.93	6.0%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	2.32	2.76	3.56	4.15	4.93	5.25	5.57	5.59	5.49	5.81	5.71	5.71	5.71	8.8%
Natural Gas	20.27	20.30	20.38	20.47	20.59	20.66	20.75	20.78	20.77	20.80	20.79	20.79	20.79	1.3%
Coal	16.60	16.90	17.21	18.41	18.41	19.69	19.71	19.64	21.21	22.43	25.61	27.72	27.72	17.4%
Other 5/	18.42	21.74	26.58	33.74	42.15	44.25	47.58	51.48	53.38	53.38	53.38	53.38	53.38	10.6%
Total	57.61	61.70	67.73	76.77	86.08	89.85	93.61	97.49	100.85	102.42	105.49	107.61	107.61	7.0%
<b>Disposition</b>														
Sales to the Grid	20.16	22.34	25.87	31.81	38.41	38.84	39.82	41.01	42.08	42.46	43.44	44.09	44.09	7.5%
Generation for Own Use	37.45	39.36	41.86	44.96	47.67	51.01	53.79	56.48	58.77	59.97	62.06	63.52	63.52	6.6%
<b>Energy Input (trillion Btu)</b>														
Petroleum	32	36	42	48	54	57	60	60	59	62	61	61	60	6.3%
Natural Gas	289	288	288	288	288	288	289	288	287	287	286	285	284	0.6%
Coal	332	337	344	368	368	393	393	392	423	448	511	553	553	31.6%
Other 5/	345	343	366	525	555	563	581	654	718	716	710	708	717	7.9%
Total	997	1005	1040	1228	1265	1302	1323	1394	1487	1512	1568	1606	1615	6.2%
<b>Energy Consumed at Ethanol Plants (trillion Btu)</b>														
Natural Gas	523.1	526.5	517.6	529.5	529.5	529.5	526.1	520.9	520.2	520.5	520.9	513.6	516.6	5.6%
Coal	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	-0.2%
Electricity	54.8	55.2	54.3	55.5	55.5	55.5	55.2	54.6	54.5	54.6	54.6	53.9	54.2	6.4%
Total	637.5	641.3	631.4	644.6	644.6	644.6	640.8	635.1	634.3	634.6	635.1	627.1	630.3	4.6%

Table 24. Refining Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power and consumption at ethanol plants.

2/ Includes lubricants and miscellaneous petroleum products.

3/ Where coal-to-liquids (CTL) technology is adopted in the forecast, the plants are assumed to produce oil products and to generate electricity. A portion of the coal use is attributed to feedstock use to produce the liquids. The feedstock portion is assumed to be equal to the Btu content of the liquids produced. The rest of the coal used in CTL plants is accounted for in industrial steam coal consumption, a portion of which is reflected in energy used for end-use sector combined heat and power.

4/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

5/ May include wood and other biomass, waste heat, municipal solid waste, and renewable sources.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). 2005 and 2006 coal and natural gas consumption at ethanol plants: Carbon Dioxide Emissions from the Production and Combustion of Fuel Ethanol from Corn," Marland, G. and A.F. Turhollow, 1991. 2005 and 2006 electricity consumption at ethanol plants: U.S. Department of Agriculture, 1998 Ethanol Cost-of-Production Survey, Agricultural Economic Report Number 808. Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 25. Food Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	474.05	488.64	515.38	523.65	519.08	526.05	535.86	542.10	548.29	553.80	559.75	565.53	570.01
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	5.2	5.8	5.5	3.2	3.6	3.5	3.5	3.8	3.9	3.8	4.0	4.2	4.2
Distillate Fuel Oil	19.2	18.3	18.3	15.3	15.7	15.5	15.6	16.4	16.5	16.5	16.8	17.2	17.3
Liquefied Petroleum Gases	5.2	4.8	4.8	4.3	4.4	4.4	4.4	4.6	4.7	4.7	4.8	4.9	4.9
Other Petroleum 2/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	29.5	28.8	28.6	22.8	23.7	23.4	23.5	24.9	25.0	25.0	25.6	26.2	26.4
Natural Gas	572.0	578.3	600.7	610.8	599.4	603.7	610.8	612.8	616.2	619.3	622.4	625.4	626.9
Steam Coal	185.8	191.9	202.5	202.5	201.8	201.7	201.7	201.6	201.5	201.3	201.2	201.0	200.9
Renewables	46.9	48.7	51.6	52.7	52.6	53.6	54.9	55.9	56.9	57.8	58.7	59.7	60.5
Purchased Electricity	237.4	244.0	254.2	256.7	254.6	257.1	260.0	261.2	262.5	263.7	264.8	265.9	266.3
Total	1071.7	1091.7	1137.6	1145.5	1132.1	1139.6	1151.0	1156.4	1162.1	1167.1	1172.7	1178.2	1181.1
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Distillate Fuel Oil	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Liquefied Petroleum Gases	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Other Petroleum 2/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Subtotal	0.06	0.06	0.06	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
Natural Gas	1.21	1.18	1.17	1.17	1.15	1.15	1.14	1.13	1.12	1.12	1.11	1.11	1.10
Steam Coal	0.39	0.39	0.39	0.39	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.35
Renewables	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.11
Purchased Electricity	0.50	0.50	0.49	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48	0.47	0.47
Total	2.26	2.23	2.21	2.19	2.18	2.17	2.15	2.13	2.12	2.11	2.10	2.08	2.07
Carbon Dioxide Emissions 3/ (million metric tons)	95.5	96.6	100.5	100.5	99.4	99.7	100.6	100.9	101.3	101.6	101.9	102.2	102.4
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Natural Gas	0.44	0.42	0.45	0.48	0.51	0.54	0.57	0.61	0.64	0.68	0.71	0.75	0.79
Coal	0.96	0.95	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Other 5/	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Total	1.49	1.46	1.57	1.60	1.63	1.66	1.69	1.72	1.76	1.79	1.83	1.87	1.90
Net Generation (billion kilowatthours)													
Petroleum	0.16	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Natural Gas	1.45	1.39	1.60	1.83	2.05	2.29	2.53	2.77	3.03	3.29	3.56	3.83	4.12
Coal	4.05	4.22	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
Other 5/	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Total	5.81	5.83	6.34	6.57	6.79	7.03	7.27	7.51	7.77	8.03	8.30	8.57	8.86
Disposition													
Sales to the Grid	0.19	0.19	0.25	0.30	0.36	0.43	0.49	0.55	0.62	0.69	0.76	0.83	0.91
Generation for Own Use	5.62	5.64	6.10	6.26	6.43	6.60	6.78	6.96	7.15	7.34	7.54	7.74	7.95

Table 25. Food Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	574.55	578.95	583.93	589.07	593.50	598.33	603.45	608.56	613.67	619.12	624.42	629.97	635.59	1.1%
Energy Consumption (trillion Btu) 1/														
Residual Fuel Oil	4.1	3.9	3.7	3.4	3.5	3.4	3.4	3.4	3.3	3.4	3.4	3.5	3.5	-2.1%
Distillate Fuel Oil	17.3	17.1	16.8	16.5	16.6	16.6	16.6	16.6	16.6	16.8	17.0	17.2	17.3	-0.2%
Liquefied Petroleum Gases	4.9	4.9	4.9	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	5.0	0.2%
Other Petroleum 2/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	26.3	26.0	25.3	24.8	24.9	24.8	24.9	24.9	24.8	25.1	25.4	25.6	25.7	-0.5%
Natural Gas	629.6	634.1	640.7	647.6	651.8	655.8	658.5	661.1	664.1	667.1	670.5	674.3	678.5	0.7%
Steam Coal	200.8	200.8	200.8	200.8	200.8	200.9	200.7	200.6	200.5	200.5	200.5	200.6	200.6	0.2%
Renewables	61.4	62.2	63.1	64.1	64.9	65.8	66.8	67.8	68.7	69.7	70.8	71.8	72.9	1.7%
Purchased Electricity	266.6	266.7	267.1	267.5	267.3	267.3	267.6	267.8	268.2	268.6	268.8	269.1	269.6	0.4%
Total	1184.7	1189.8	1197.0	1204.8	1209.8	1214.7	1218.6	1222.2	1226.3	1231.0	1235.9	1241.4	1247.3	0.6%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Fuel Oil	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-3.2%
Distillate Fuel Oil	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-1.3%
Liquefied Petroleum Gases	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.9%
Other Petroleum 2/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Petroleum Subtotal	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	-1.6%
Natural Gas	1.10	1.10	1.10	1.10	1.10	1.10	1.09	1.09	1.08	1.08	1.07	1.07	1.07	-0.4%
Steam Coal	0.35	0.35	0.34	0.34	0.34	0.34	0.33	0.33	0.33	0.32	0.32	0.32	0.32	-0.9%
Renewables	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.6%
Purchased Electricity	0.46	0.46	0.46	0.45	0.45	0.45	0.44	0.44	0.44	0.43	0.43	0.43	0.42	-0.7%
Total	2.06	2.06	2.05	2.05	2.04	2.03	2.02	2.01	2.00	1.99	1.98	1.97	1.96	-0.5%
Carbon Dioxide Emissions 3/ (million metric tons)	102.6	102.7	102.9	103.5	103.7	103.9	104.2	104.4	104.6	104.9	105.2	105.6	106.2	0.4%
Combined Heat and Power 4/														
Generating Capacity (gigawatts)														
Petroleum	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.0%
Natural Gas	0.83	0.86	0.90	0.94	0.98	1.01	1.05	1.08	1.11	1.14	1.17	1.20	1.23	4.6%
Coal	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	0.3%
Other 5/	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Total	1.94	1.98	2.02	2.06	2.10	2.13	2.17	2.20	2.23	2.26	2.29	2.32	2.35	2.0%
Net Generation (billion kilowatthours)														
Petroleum	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.0%
Natural Gas	4.40	4.69	4.97	5.26	5.53	5.79	6.05	6.29	6.52	6.74	6.96	7.18	7.40	7.2%
Coal	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	0.3%
Other 5/	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.0%
Total	9.14	9.43	9.71	10.00	10.27	10.53	10.79	11.03	11.26	11.48	11.70	11.92	12.15	3.1%
Disposition														
Sales to the Grid	0.98	1.06	1.13	1.21	1.28	1.35	1.42	1.48	1.54	1.60	1.66	1.71	1.77	9.8%
Generation for Own Use	8.16	8.37	8.58	8.79	8.99	9.19	9.37	9.55	9.72	9.88	10.04	10.21	10.37	2.6%

Table 25. Food Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes petroleum coke, lubricants, and miscellaneous petroleum products.

3/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 26. Paper Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	153.66	151.48	147.28	146.99	146.86	150.96	153.47	154.58	155.06	155.81	156.98	158.27	159.44
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	111.1	94.6	104.2	103.2	102.8	103.2	103.3	103.3	103.1	102.9	102.9	102.9	102.9
Distillate Fuel Oil	13.9	11.8	13.3	13.0	13.1	13.1	13.2	13.2	13.2	13.2	13.3	13.3	13.3
Liquefied Petroleum Gases	4.3	3.9	3.8	3.7	3.7	3.8	3.8	3.9	3.9	3.9	3.9	3.9	3.9
Petroleum Coke	9.9	7.9	9.6	9.4	9.4	9.4	9.3	9.4	9.4	9.4	9.4	9.4	9.4
Other Petroleum	12.1	9.7	11.7	11.5	11.5	11.4	11.4	11.5	11.5	11.5	11.5	11.5	11.5
Petroleum Subtotal	151.4	127.9	142.5	140.8	140.5	140.9	141.0	141.2	141.0	140.8	140.8	140.9	140.8
Natural Gas	453.7	430.8	424.5	422.9	420.6	425.4	428.4	429.3	430.0	431.2	432.9	434.8	436.5
Steam Coal	265.7	266.7	266.0	265.5	265.0	264.9	264.8	264.5	263.9	263.4	263.0	262.8	262.6
Renewables	1153.7	1145.8	1120.8	1122.0	1122.9	1152.7	1172.1	1182.3	1188.5	1196.6	1208.0	1220.4	1232.2
Purchased Electricity	215.2	211.3	197.4	192.5	188.1	190.1	190.6	189.1	186.9	185.1	183.7	182.4	181.0
Total	2239.7	2182.5	2151.2	2143.8	2137.0	2174.1	2196.8	2206.4	2210.2	2217.1	2228.5	2241.3	2253.2
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.72	0.62	0.71	0.70	0.70	0.68	0.67	0.67	0.66	0.66	0.66	0.65	0.65
Distillate Fuel Oil	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08
Liquefied Petroleum Gases	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Petroleum Coke	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Other Petroleum	0.08	0.06	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Petroleum Subtotal	0.99	0.84	0.97	0.96	0.96	0.93	0.92	0.91	0.91	0.90	0.90	0.89	0.88
Natural Gas	2.95	2.84	2.88	2.88	2.86	2.82	2.79	2.78	2.77	2.77	2.76	2.75	2.74
Steam Coal	1.73	1.76	1.81	1.81	1.80	1.76	1.73	1.71	1.70	1.69	1.68	1.66	1.65
Renewables	7.51	7.56	7.61	7.63	7.65	7.64	7.64	7.65	7.66	7.68	7.70	7.71	7.73
Purchased Electricity	1.40	1.39	1.34	1.31	1.28	1.26	1.24	1.22	1.21	1.19	1.17	1.15	1.14
Total	14.58	14.41	14.61	14.58	14.55	14.40	14.31	14.27	14.25	14.23	14.20	14.16	14.13
Carbon Dioxide Emissions 2/ (million metric tons)	102.2	97.6	95.5	94.0	92.9	93.2	93.5	93.2	92.7	92.4	92.1	91.9	91.7
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.47	0.47	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Natural Gas	1.63	1.56	1.60	1.63	1.66	1.70	1.74	1.78	1.82	1.86	1.90	1.95	1.99
Coal	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
Other 5/	4.71	4.64	4.64	4.65	4.66	4.84	4.96	5.02	5.06	5.11	5.18	5.26	5.33
Total	7.93	7.78	7.88	7.92	7.96	8.19	8.35	8.45	8.53	8.62	8.73	8.85	8.97
Net Generation (billion kilowatthours)													
Petroleum	3.41	2.76	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23
Natural Gas	7.18	6.69	6.96	7.22	7.47	7.77	8.07	8.38	8.69	9.00	9.31	9.64	9.98
Coal	7.08	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Other 5/	28.79	29.08	29.08	29.15	29.20	30.27	30.97	31.34	31.57	31.86	32.27	32.72	33.14
Total	46.45	45.54	46.28	46.61	46.91	48.28	49.28	49.96	50.50	51.10	51.82	52.60	53.36
Disposition													
Sales to the Grid	2.21	2.10	2.15	2.21	2.27	2.54	2.73	2.86	2.96	3.08	3.22	3.37	3.51
Generation for Own Use	44.24	43.44	44.13	44.40	44.64	45.74	46.55	47.10	47.53	48.02	48.60	49.23	49.85

Table 26. Paper Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	161.10	162.85	164.61	166.37	168.01	169.53	171.01	172.46	173.79	175.09	176.12	176.97	177.91	0.7%
<b>Energy Consumption (trillion Btu) 1/</b>														
Residual Fuel Oil	102.9	103.0	103.1	103.1	103.3	103.4	103.5	103.7	103.9	104.1	104.2	104.3	104.4	0.4%
Distillate Fuel Oil	13.3	13.3	13.2	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	0.5%
Liquefied Petroleum Gases	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8	-0.2%
Petroleum Coke	9.4	9.4	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.4	9.4	9.4	9.4	0.7%
Other Petroleum	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	0.7%
Petroleum Subtotal	140.9	140.9	140.9	141.0	141.1	141.2	141.4	141.6	141.8	142.0	142.1	142.2	142.3	0.4%
Natural Gas	439.4	443.3	448.2	453.4	458.0	462.3	465.8	469.3	472.9	476.4	479.4	482.4	485.7	0.5%
Steam Coal	262.5	262.6	262.7	262.7	262.8	262.9	262.8	262.8	262.8	262.8	262.8	262.8	262.8	-0.1%
Renewables	1247.6	1263.9	1280.5	1297.4	1313.6	1329.2	1344.7	1360.1	1375.0	1389.7	1402.5	1414.1	1426.5	0.9%
Purchased Electricity	180.3	179.6	178.9	178.4	178.1	177.8	177.6	177.4	177.1	176.9	176.2	175.4	174.7	-0.8%
Total	2270.7	2290.3	2311.3	2333.0	2353.5	2373.4	2392.4	2411.2	2429.5	2447.7	2463.0	2476.8	2492.1	0.6%
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>														
Residual Fuel Oil	0.64	0.63	0.63	0.62	0.61	0.61	0.61	0.60	0.60	0.59	0.59	0.59	0.59	-0.3%
Distillate Fuel Oil	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	-0.2%
Liquefied Petroleum Gases	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-0.8%
Petroleum Coke	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.0%
Other Petroleum	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.0%
Petroleum Subtotal	0.87	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	-0.2%
Natural Gas	2.73	2.72	2.72	2.73	2.73	2.73	2.72	2.72	2.72	2.72	2.72	2.73	2.73	-0.2%
Steam Coal	1.63	1.61	1.60	1.58	1.56	1.55	1.54	1.52	1.51	1.50	1.49	1.48	1.48	-0.7%
Renewables	7.74	7.76	7.78	7.80	7.82	7.84	7.86	7.89	7.91	7.94	7.96	7.99	8.02	0.2%
Purchased Electricity	1.12	1.10	1.09	1.07	1.06	1.05	1.04	1.03	1.02	1.01	1.00	0.99	0.98	-1.5%
Total	14.10	14.06	14.04	14.02	14.01	14.00	13.99	13.98	13.98	13.98	13.98	14.00	14.01	-0.1%
Carbon Dioxide Emissions 2/ (million metric tons)	91.7	91.7	91.8	92.1	92.3	92.5	92.7	92.9	93.0	93.2	93.3	93.4	93.7	-0.2%
<b>Combined Heat and Power 4/</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.5%
Natural Gas	2.04	2.09	2.14	2.19	2.25	2.30	2.36	2.41	2.46	2.50	2.55	2.60	2.65	2.2%
Coal	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	0.0%
Other 5/	5.43	5.53	5.63	5.74	5.84	5.93	6.03	6.12	6.21	6.30	6.38	6.46	6.54	1.4%
Total	9.11	9.26	9.42	9.57	9.73	9.88	10.03	10.17	10.31	10.45	10.58	10.70	10.83	1.4%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	0.7%
Natural Gas	10.33	10.72	11.12	11.54	11.97	12.38	12.78	13.16	13.55	13.91	14.28	14.65	15.04	3.4%
Coal	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	0.0%
Other 5/	33.70	34.29	34.88	35.49	36.07	36.64	37.19	37.75	38.28	38.81	39.28	39.71	40.17	1.4%
Total	54.27	55.24	56.24	57.27	58.28	59.25	60.21	61.15	62.07	62.97	63.80	64.60	65.45	1.5%
<b>Disposition</b>														
Sales to the Grid	3.69	3.88	4.07	4.27	4.46	4.65	4.83	5.02	5.19	5.37	5.53	5.68	5.84	4.4%
Generation for Own Use	50.58	51.36	52.17	53.00	53.82	54.60	55.38	56.14	56.88	57.60	58.28	58.92	59.60	1.3%



Table 26. Paper Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 27. Bulk Chemical Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	224.15	227.39	231.85	236.44	239.83	243.39	245.07	245.15	245.41	245.33	245.08	243.94	243.11
Energy Consumption (trillion Btu) 1/													
Heat and Power													
Residual Fuel Oil	85.7	85.1	81.4	68.0	72.0	70.3	68.0	68.3	66.9	64.5	64.0	63.5	62.5
Distillate Fuel Oil	6.0	6.0	5.8	5.2	5.5	5.5	5.4	5.4	5.3	5.2	5.2	5.2	5.1
Liquefied Petroleum Gases	44.2	44.4	45.1	45.5	46.6	46.9	46.8	46.5	46.3	46.2	46.0	45.6	45.4
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Petroleum 2/	326.0	325.6	307.4	233.3	251.9	244.5	235.2	239.0	233.0	222.6	221.4	220.2	215.5
Petroleum Subtotal	461.8	461.1	439.7	352.0	376.0	367.3	355.4	359.3	351.6	338.5	336.6	334.5	328.4
Natural Gas	1549.7	1535.9	1576.9	1656.3	1626.1	1622.8	1613.0	1582.7	1566.9	1555.6	1534.9	1512.3	1497.1
Steam Coal	216.0	212.7	211.5	211.3	210.9	210.3	209.5	208.5	207.6	206.7	205.7	204.6	203.6
Purchased Electricity	517.1	526.7	528.7	535.9	537.8	541.0	536.4	527.9	520.1	511.7	503.5	493.4	484.5
Total Heat and Power	2744.7	2736.3	2756.7	2755.6	2750.7	2741.4	2714.2	2678.4	2646.2	2612.5	2580.6	2544.7	2513.6
Feedstock													
Liquefied Petroleum Gases	2197.5	2181.4	2176.7	2187.6	2166.6	2153.3	2134.1	2101.8	2073.0	2045.4	2019.6	1989.4	1962.0
Petrochemical Feedstocks	1330.0	1344.2	1356.8	1380.0	1377.8	1388.9	1396.1	1390.1	1385.9	1381.4	1377.3	1368.7	1359.9
Natural Gas	592.5	565.4	560.6	539.6	541.3	535.7	532.0	525.7	519.5	512.4	503.9	492.6	483.6
Total Feedstocks	4120.0	4091.0	4094.1	4107.2	4085.7	4077.8	4062.2	4017.6	3978.4	3939.2	3900.7	3850.7	3805.5
Total	6864.6	6827.3	6850.8	6862.7	6836.4	6819.2	6776.4	6696.0	6624.6	6551.7	6481.4	6395.4	6319.1
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Heat and Power													
Residual Fuel Oil	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Distillate Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gases	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Petroleum	1.5	1.4	1.3	1.0	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9
Petroleum Subtotal	2.1	2.0	1.9	1.5	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4
Natural Gas	6.9	6.8	6.8	7.0	6.8	6.7	6.6	6.5	6.4	6.3	6.3	6.2	6.2
Steam Coal	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8
Purchased Electricity	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0
Total Heat and Power	12.2	12.0	11.9	11.7	11.5	11.3	11.1	10.9	10.8	10.6	10.5	10.4	10.3
Feedstock													
Liquefied Petroleum Gases	9.8	9.6	9.4	9.3	9.0	8.8	8.7	8.6	8.4	8.3	8.2	8.2	8.1
Petrochemical Feedstocks	5.9	5.9	5.9	5.8	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6
Natural Gas	2.6	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0
Total Feedstocks	18.4	18.0	17.7	17.4	17.0	16.8	16.6	16.4	16.2	16.1	15.9	15.8	15.7
Total	30.6	30.0	29.5	29.0	28.5	28.0	27.7	27.3	27.0	26.7	26.4	26.2	26.0

Table 27. Bulk Chemical Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Carbon Dioxide Emissions 3/ (million metric tons)	314.9	312.9	313.3	311.4	311.5	310.2	307.8	303.9	300.3	296.4	292.7	288.2	284.5
Combined Heat and Power 4/ Generating Capacity (gigawatts)													
Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Natural Gas	7.34	7.22	7.56	7.65	7.75	7.85	7.96	8.07	8.17	8.28	8.38	8.49	8.59
Coal	0.51	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Other 5/	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Total	8.87	8.69	9.03	9.12	9.22	9.33	9.43	9.54	9.64	9.75	9.85	9.96	10.06
Net Generation (billion kilowatthours)													
Petroleum	0.18	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Natural Gas	38.40	38.20	40.65	41.34	42.08	42.88	43.69	44.51	45.33	46.13	46.94	47.72	48.48
Coal	2.67	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Other 5/	7.73	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63
Total	48.98	48.48	50.92	51.62	52.35	53.16	53.96	54.79	55.61	56.41	57.21	58.00	58.76
Disposition													
Sales to the Grid	8.22	8.22	8.73	8.93	9.15	9.39	9.62	9.86	10.10	10.34	10.58	10.81	11.03
Generation for Own Use	40.76	40.26	42.20	42.69	43.21	43.77	44.34	44.92	45.50	46.07	46.64	47.19	47.73

Table 27. Bulk Chemical Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	241.45	239.03	237.30	235.54	233.91	232.22	230.60	229.27	227.88	226.58	224.99	223.16	221.56	-0.1%
<b>Energy Consumption (trillion Btu) 1/</b>														
<b>Heat and Power</b>														
Residual Fuel Oil	61.2	60.1	58.6	57.0	56.9	55.2	54.0	53.5	52.6	52.5	52.8	52.6	52.2	-2.0%
Distillate Fuel Oil	5.0	4.9	4.7	4.6	4.6	4.5	4.4	4.3	4.2	4.2	4.2	4.1	4.0	-1.6%
Liquefied Petroleum Gases	44.9	44.4	44.1	43.7	43.4	43.0	42.7	42.5	42.4	42.3	42.1	41.9	41.7	-0.3%
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Other Petroleum 2/	209.4	204.1	196.3	188.4	188.3	181.5	176.2	173.8	169.8	170.0	171.0	170.2	168.6	-2.7%
Petroleum Subtotal	320.6	313.5	303.7	293.7	293.2	284.2	277.3	274.1	268.9	269.0	270.1	268.7	266.6	-2.3%
Natural Gas	1485.3	1476.2	1477.2	1477.7	1468.3	1459.6	1448.1	1440.2	1435.5	1426.3	1414.3	1404.1	1395.7	-0.4%
Steam Coal	202.8	202.2	201.7	201.1	200.7	199.8	198.9	198.5	198.1	197.7	197.3	196.9	196.5	-0.3%
Purchased Electricity	473.4	461.1	450.8	440.3	431.1	421.4	412.8	404.9	396.6	389.3	380.7	372.8	364.9	-1.5%
Total Heat and Power	2482.1	2453.1	2433.4	2412.9	2393.3	2365.0	2337.1	2317.6	2299.1	2282.2	2262.5	2242.5	2223.7	-0.9%
<b>Feedstock</b>														
Liquefied Petroleum Gases	1929.7	1891.6	1868.9	1852.9	1841.1	1829.9	1820.2	1812.2	1804.1	1796.2	1787.8	1777.0	1768.0	-0.9%
Petrochemical Feedstocks	1346.5	1327.0	1311.7	1297.2	1285.8	1275.8	1266.8	1259.4	1251.7	1244.6	1236.1	1226.4	1218.0	-0.4%
Natural Gas	473.6	464.4	460.4	455.9	449.9	443.3	436.1	429.6	422.9	416.6	408.9	401.6	394.6	-1.5%
Total Feedstocks	3749.8	3683.0	3641.0	3606.0	3576.8	3549.1	3523.1	3501.2	3478.7	3457.4	3432.9	3405.0	3380.6	-0.8%
<b>Total</b>	<b>6231.9</b>	<b>6136.1</b>	<b>6074.5</b>	<b>6018.8</b>	<b>5970.1</b>	<b>5914.0</b>	<b>5860.2</b>	<b>5818.9</b>	<b>5777.9</b>	<b>5739.7</b>	<b>5695.3</b>	<b>5647.5</b>	<b>5604.3</b>	<b>-0.8%</b>
<b>Energy Consumption per Unit of Output</b>														
<b>(thousand Btu per 2000 dollar shipments)</b>														
<b>Heat and Power</b>														
Residual Fuel Oil	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.9%
Distillate Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5%
Liquefied Petroleum Gases	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.2%
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Other Petroleum	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8	-2.6%
Petroleum Subtotal	1.3	1.3	1.3	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-2.2%
Natural Gas	6.2	6.2	6.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	-0.3%
Steam Coal	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-0.2%
Purchased Electricity	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	-1.4%
Total Heat and Power	10.3	10.3	10.3	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.1	10.0	10.0	-0.8%
<b>Feedstock</b>														
Liquefied Petroleum Gases	8.0	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	-0.8%
Petrochemical Feedstocks	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-0.3%
Natural Gas	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	-1.4%
Total Feedstocks	15.5	15.4	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	-0.7%
<b>Total</b>	<b>25.8</b>	<b>25.7</b>	<b>25.6</b>	<b>25.6</b>	<b>25.5</b>	<b>25.5</b>	<b>25.4</b>	<b>25.4</b>	<b>25.4</b>	<b>25.3</b>	<b>25.3</b>	<b>25.3</b>	<b>25.3</b>	<b>-0.7%</b>

Table 27. Bulk Chemical Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Carbon Dioxide Emissions 3/ (million metric tons)	280.2	275.5	271.9	268.7	265.8	262.4	259.1	256.5	253.9	251.7	249.1	246.5	244.3	-1.0%
Combined Heat and Power 4/														
Generating Capacity (gigawatts)														
Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.0%
Natural Gas	8.68	8.77	8.86	8.94	9.01	9.08	9.14	9.19	9.25	9.29	9.34	9.39	9.43	1.1%
Coal	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.0%
Other 5/	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.0%
Total	10.15	10.24	10.33	10.41	10.48	10.55	10.61	10.66	10.72	10.77	10.81	10.86	10.90	0.9%
Net Generation (billion kilowatthours)														
Petroleum	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.0%
Natural Gas	49.20	49.90	50.55	51.17	51.74	52.25	52.72	53.15	53.55	53.92	54.29	54.64	54.98	1.5%
Coal	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	0.0%
Other 5/	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	7.63	0.0%
Total	59.48	60.18	60.83	61.45	62.02	62.53	63.00	63.42	63.83	64.20	64.56	64.92	65.26	1.2%
Disposition														
Sales to the Grid	11.24	11.45	11.64	11.82	11.99	12.14	12.27	12.40	12.52	12.63	12.73	12.84	12.94	1.9%
Generation for Own Use	48.24	48.73	49.19	49.63	50.03	50.39	50.72	51.02	51.31	51.57	51.83	52.08	52.32	1.1%

Table 27. Bulk Chemical Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes lubricants, and miscellaneous petroleum products.

3/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 28. Glass Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	22.54	21.92	21.78	21.73	22.32	23.14	24.06	24.96	25.96	26.95	27.91	28.90	29.83
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	2.1	2.0	1.9	1.8	1.9	1.9	2.0	2.1	2.2	2.2	2.3	2.3	2.4
Distillate Fuel Oil	21.2	20.8	20.3	19.4	20.2	20.8	21.5	22.3	23.1	23.9	24.7	25.6	26.3
Liquefied Petroleum Gases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	23.3	22.7	22.3	21.2	22.1	22.8	23.5	24.4	25.3	26.1	27.0	27.9	28.7
Natural Gas	145.4	141.2	140.2	139.8	142.5	147.3	152.6	157.4	162.9	168.3	173.5	178.8	183.7
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	40.8	39.9	39.5	39.2	40.0	41.4	42.9	44.3	45.9	47.4	48.8	50.3	51.7
Total	209.5	203.8	202.0	200.2	204.6	211.5	219.0	226.2	234.0	241.8	249.3	257.0	264.1
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Distillate Fuel Oil	0.94	0.95	0.93	0.89	0.91	0.90	0.89	0.90	0.89	0.89	0.88	0.88	0.88
Liquefied Petroleum Gases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Subtotal	1.03	1.04	1.02	0.98	0.99	0.99	0.98	0.98	0.97	0.97	0.97	0.97	0.96
Natural Gas	6.45	6.44	6.44	6.43	6.39	6.37	6.34	6.31	6.27	6.25	6.22	6.19	6.16
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	1.81	1.82	1.81	1.80	1.79	1.79	1.78	1.78	1.77	1.76	1.75	1.74	1.73
Total	9.29	9.30	9.27	9.21	9.17	9.14	9.10	9.06	9.01	8.97	8.93	8.89	8.85
Carbon Dioxide Emissions 2/ (million metric tons)	17.3	16.7	16.5	16.2	16.6	17.1	17.7	18.2	18.9	19.5	20.1	20.7	21.2
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Net Generation (billion kilowatthours)													
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06
Disposition													
Sales to the Grid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generation for own use	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06

Table 28. Glass Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	30.75	31.77	32.84	33.85	34.86	35.59	36.16	36.60	36.96	37.21	37.30	37.24	37.08	2.2%
Energy Consumption (trillion Btu) 1/														
Residual Fuel Oil	2.4	2.5	2.5	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	1.2%
Distillate Fuel Oil	27.1	27.9	28.7	29.5	30.4	31.0	31.5	31.9	32.1	32.4	32.5	32.6	32.5	1.9%
Liquefied Petroleum Gases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	29.5	30.4	31.3	32.1	33.1	33.7	34.2	34.6	34.8	35.1	35.2	35.2	35.1	1.8%
Natural Gas	188.6	194.1	200.2	206.1	211.6	215.6	218.6	220.8	222.6	223.7	223.8	223.0	221.7	1.9%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	53.1	54.6	56.2	57.7	59.2	60.2	61.0	61.5	61.9	62.2	62.2	61.9	61.5	1.8%
Total	271.2	279.1	287.7	296.0	303.9	309.6	313.7	316.9	319.4	321.0	321.2	320.1	318.3	1.9%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Fuel Oil	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	-1.0%
Distillate Fuel Oil	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.88	-0.3%
Liquefied Petroleum Gases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Petroleum Subtotal	0.96	0.96	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.95	0.95	-0.4%
Natural Gas	6.13	6.11	6.10	6.09	6.07	6.06	6.05	6.03	6.02	6.01	6.00	5.99	5.98	-0.3%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	1.73	1.72	1.71	1.71	1.70	1.69	1.69	1.68	1.68	1.67	1.67	1.66	1.66	-0.4%
Total	8.82	8.79	8.76	8.74	8.72	8.70	8.68	8.66	8.64	8.63	8.61	8.60	8.58	-0.3%
Carbon Dioxide Emissions 2/ (million metric tons)	21.8	22.4	23.1	23.8	24.4	24.8	25.2	25.4	25.6	25.8	25.8	25.7	25.6	1.8%
Combined Heat and Power 4/														
Generating Capacity (gigawatts)														
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	--
Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Total	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	--
Net Generation (billion kilowatthours)														
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	--
Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Total	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	--
Disposition														
Sales to the Grid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Generation for own use	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14	--



Table 28. Glass Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 29. Cement Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	8.47	8.40	8.37	7.97	7.89	8.19	8.58	8.74	8.80	8.82	8.89	8.97	8.97
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	1.2	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Distillate Fuel Oil	10.4	10.2	9.8	9.1	9.1	9.0	9.0	8.9	8.8	8.6	8.6	8.5	8.3
Petroleum Coke	60.7	59.6	58.9	55.6	54.5	56.2	58.1	58.7	58.6	58.3	58.2	58.3	57.9
Other Petroleum 2/	38.7	38.1	37.6	35.5	34.8	35.9	37.1	37.5	37.4	37.2	37.2	37.2	36.9
Petroleum Subtotal	111.0	109.0	107.5	101.3	99.4	102.1	105.3	106.2	105.9	105.2	105.1	105.1	104.2
Natural Gas	24.0	24.3	24.3	23.1	22.7	23.5	24.4	24.7	24.8	24.8	25.0	25.1	25.0
Steam Coal	258.3	254.3	251.9	238.6	234.2	241.5	249.7	252.3	252.2	251.2	251.3	251.8	250.3
Metallurgical Coal	9.0	8.9	8.8	8.4	8.2	8.5	8.7	8.8	8.8	8.8	8.8	8.8	8.8
Coal Subtotal	267.3	263.2	260.7	247.0	242.4	249.9	258.5	261.2	261.1	260.0	260.1	260.6	259.1
Purchased Electricity	48.9	48.5	48.2	45.5	44.8	46.5	48.6	49.4	49.6	49.6	49.9	50.2	50.1
Total	451.2	445.0	440.6	416.9	409.3	422.1	436.7	441.5	441.4	439.7	440.0	440.9	438.4
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.12
Distillate Fuel Oil	1.23	1.21	1.17	1.14	1.15	1.10	1.04	1.02	1.00	0.98	0.96	0.95	0.93
Petroleum Coke	7.16	7.10	7.04	6.98	6.91	6.86	6.78	6.71	6.66	6.60	6.55	6.50	6.45
Other Petroleum 2/	4.57	4.53	4.50	4.45	4.41	4.38	4.33	4.29	4.25	4.22	4.18	4.15	4.12
Petroleum Subtotal	13.10	12.98	12.84	12.70	12.60	12.47	12.28	12.14	12.03	11.92	11.82	11.72	11.62
Natural Gas	2.83	2.89	2.90	2.90	2.88	2.87	2.84	2.83	2.82	2.82	2.81	2.80	2.79
Steam Coal	30.50	30.29	30.10	29.94	29.69	29.47	29.12	28.86	28.66	28.47	28.27	28.08	27.92
Metallurgical Coal	1.06	1.06	1.05	1.05	1.04	1.03	1.02	1.01	1.00	1.00	0.99	0.98	0.98
Coal Subtotal	31.56	31.34	31.15	30.98	30.73	30.50	30.14	29.87	29.66	29.46	29.26	29.06	28.90
Purchased Electricity	5.78	5.78	5.76	5.71	5.68	5.68	5.67	5.65	5.64	5.63	5.61	5.60	5.58
Total	53.27	53.00	52.65	52.30	51.89	51.52	50.92	50.50	50.15	49.83	49.50	49.18	48.89
Carbon Dioxide Emissions 3/ (million metric tons)	44.8	44.0	43.6	41.1	40.4	41.6	43.1	43.6	43.6	43.4	43.4	43.5	43.3
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Natural Gas	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Coal	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13
Net Generation (billion kilowatthours)													
Petroleum	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Natural Gas	0.29	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.35	0.36	0.37	0.38
Coal	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Other 5/	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total	0.52	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.59	0.60
Disposition													
Sales to the Grid	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06
Generation for Own Use	0.48	0.46	0.47	0.48	0.49	0.49	0.50	0.51	0.51	0.52	0.53	0.53	0.54

Table 29. Cement Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	8.94	8.94	8.96	8.99	8.98	8.96	8.94	8.92	8.89	8.88	8.84	8.80	8.74	0.2%
<b>Energy Consumption (trillion Btu) 1/</b>														
Residual Fuel Oil	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	-0.9%
Distillate Fuel Oil	8.2	8.2	8.1	8.1	8.0	8.0	7.9	7.8	7.7	7.6	7.5	7.5	7.4	-1.4%
Petroleum Coke	57.3	56.9	56.6	56.4	56.0	55.5	55.0	54.5	54.1	53.8	53.4	52.9	52.4	-0.5%
Other Petroleum 2/	36.6	36.3	36.1	36.0	35.7	35.4	35.0	34.7	34.5	34.3	34.0	33.7	33.4	-0.5%
Petroleum Subtotal	103.1	102.4	101.8	101.4	100.7	99.8	98.9	98.0	97.3	96.7	95.9	95.0	94.0	-0.6%
Natural Gas	24.9	24.9	24.9	25.0	25.0	24.9	24.8	24.8	24.7	24.6	24.5	24.4	24.2	0.0%
Steam Coal	248.4	247.0	246.0	245.5	244.5	243.4	242.3	241.2	239.9	239.0	237.4	235.8	233.9	-0.3%
Metallurgical Coal	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.6	8.5	8.5	8.4	-0.2%
Coal Subtotal	257.1	255.7	254.7	254.2	253.2	252.1	250.9	249.8	248.5	247.5	246.0	244.3	242.3	-0.3%
Purchased Electricity	49.8	49.7	49.6	49.7	49.5	49.3	49.1	48.9	48.6	48.4	48.1	47.8	47.4	-0.1%
Total	434.9	432.6	431.0	430.3	428.5	426.2	423.8	421.5	419.1	417.3	414.4	411.5	407.9	-0.4%
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>														
Residual Fuel Oil	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10	-1.0%
Distillate Fuel Oil	0.92	0.91	0.90	0.90	0.89	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	-1.5%
Petroleum Coke	6.41	6.36	6.32	6.27	6.23	6.19	6.15	6.11	6.09	6.06	6.04	6.01	5.99	-0.7%
Other Petroleum 2/	4.09	4.06	4.03	4.00	3.97	3.95	3.92	3.89	3.88	3.86	3.85	3.83	3.82	-0.7%
Petroleum Subtotal	11.53	11.45	11.36	11.29	11.21	11.14	11.06	10.99	10.94	10.89	10.85	10.80	10.76	-0.8%
Natural Gas	2.79	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.77	2.77	2.77	2.77	-0.2%
Steam Coal	27.77	27.62	27.47	27.32	27.22	27.16	27.09	27.03	26.98	26.92	26.86	26.81	26.77	-0.5%
Metallurgical Coal	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	-0.4%
Coal Subtotal	28.74	28.59	28.44	28.29	28.19	28.12	28.06	28.00	27.94	27.88	27.83	27.78	27.73	-0.5%
Purchased Electricity	5.57	5.55	5.54	5.53	5.51	5.50	5.49	5.48	5.46	5.45	5.44	5.43	5.42	-0.3%
Total	48.63	48.37	48.12	47.88	47.69	47.54	47.39	47.24	47.12	47.00	46.89	46.78	46.68	-0.5%
Carbon Dioxide Emissions 3/ (million metric tons)	43.0	42.7	42.6	42.5	42.3	42.1	41.9	41.7	41.4	41.3	41.0	40.7	40.4	-0.4%
<b>Combined Heat and Power 4/</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.0%
Natural Gas	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	3.4%
Coal	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Other 5/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Total	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.8%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.0%
Natural Gas	0.39	0.39	0.40	0.41	0.41	0.42	0.42	0.43	0.43	0.44	0.44	0.45	0.45	2.0%
Coal	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.0%
Other 5/	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.0%
Total	0.61	0.62	0.62	0.63	0.63	0.64	0.65	0.65	0.66	0.66	0.67	0.67	0.67	1.2%
<b>Disposition</b>														
Sales to the Grid	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	3.1%
Generation for Own Use	0.54	0.55	0.55	0.56	0.56	0.57	0.57	0.58	0.58	0.58	0.59	0.59	0.59	1.0%

Table 29. Cement Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes petroleum coke, lubricants, and miscellaneous petroleum products.

3/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 30. Iron and Steel Industries Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	73.47	72.58	69.71	67.68	69.24	71.09	73.50	74.60	75.61	76.37	77.70	79.71	80.97
Energy Consumption (trillion Btu) 1/													
Distillate Fuel Oil	6.0	5.7	5.2	4.5	4.9	4.9	5.0	5.1	5.2	5.1	5.2	5.3	5.4
Residual Fuel Oil	20.3	20.4	18.4	15.0	15.1	14.9	14.9	15.1	14.8	14.4	14.4	14.5	14.4
Other Petroleum 2/	92.2	88.5	80.3	63.9	64.2	63.1	62.6	64.1	62.4	60.2	60.0	60.2	59.6
Petroleum Subtotal	118.5	114.6	103.9	83.4	84.2	82.9	82.5	84.4	82.5	79.8	79.6	80.1	79.4
Natural Gas	433.2	426.1	404.1	399.9	399.7	402.3	408.3	404.7	404.7	404.4	405.2	409.5	411.4
Metallurgical Coal	621.8	608.2	585.4	566.6	564.0	562.7	564.1	560.3	556.5	551.9	550.2	551.6	549.7
Net Coke Imports	32.4	31.8	30.3	29.7	29.8	29.7	30.3	30.0	29.8	29.7	29.9	30.9	32.0
Steam Coal	53.2	53.2	52.0	51.0	51.1	51.2	51.6	51.5	51.5	51.4	51.4	51.8	51.9
Coal Subtotal	707.4	693.2	667.6	647.4	644.9	643.6	645.9	641.8	637.7	632.9	631.6	634.3	633.5
Renewables	5.6	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Purchased Electricity	205.3	204.1	194.5	187.5	191.5	196.2	202.8	205.5	207.9	209.6	212.8	218.0	221.3
Total	1470.0	1443.2	1375.3	1323.4	1325.5	1330.3	1344.7	1341.6	1338.0	1331.9	1334.3	1347.2	1350.9
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Distillate Fuel Oil	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Residual Fuel Oil	0.28	0.28	0.26	0.22	0.22	0.21	0.20	0.20	0.20	0.19	0.19	0.18	0.18
Other Petroleum 2/	1.26	1.22	1.15	0.94	0.93	0.89	0.85	0.86	0.83	0.79	0.77	0.76	0.74
Petroleum Subtotal	1.61	1.58	1.49	1.23	1.22	1.17	1.12	1.13	1.09	1.04	1.02	1.01	0.98
Natural Gas	5.90	5.87	5.80	5.91	5.77	5.66	5.56	5.43	5.35	5.29	5.21	5.14	5.08
Metallurgical Coal	8.46	8.38	8.40	8.37	8.15	7.92	7.67	7.51	7.36	7.23	7.08	6.92	6.79
Net Coke Imports	0.44	0.44	0.43	0.44	0.43	0.42	0.41	0.40	0.39	0.39	0.39	0.39	0.39
Steam Coal	0.72	0.73	0.75	0.75	0.74	0.72	0.70	0.69	0.68	0.67	0.66	0.65	0.64
Coal Subtotal	9.63	9.55	9.58	9.57	9.31	9.05	8.79	8.60	8.43	8.29	8.13	7.96	7.82
Renewables	0.08	0.07	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06
Purchased Electricity	2.79	2.81	2.79	2.77	2.77	2.76	2.76	2.75	2.75	2.74	2.74	2.74	2.73
Total	20.01	19.88	19.73	19.55	19.14	18.71	18.30	17.98	17.70	17.44	17.17	16.90	16.68
Carbon Dioxide Emissions 3/ (million metric tons)	137.6	134.5	128.2	122.8	123.3	123.8	125.5	125.5	125.4	125.0	125.4	126.8	127.3
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.13	0.10	0.11	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15
Coal	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Other 5/	1.06	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Total	1.46	1.30	1.30	1.31	1.31	1.32	1.32	1.33	1.33	1.34	1.34	1.35	1.35
Net Generation (billion kilowatthours)													
Petroleum	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Natural Gas	0.44	0.44	0.47	0.49	0.53	0.56	0.60	0.63	0.67	0.71	0.75	0.79	0.83
Coal	1.41	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
Other 5/	4.42	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Total	6.33	5.92	5.95	5.98	6.01	6.04	6.08	6.12	6.16	6.19	6.23	6.27	6.31
Disposition													
Sales to the Grid	0.77	0.77	0.77	0.78	0.78	0.78	0.79	0.79	0.80	0.80	0.81	0.81	0.82
Generation for Own Use	5.56	5.15	5.18	5.20	5.23	5.26	5.29	5.33	5.36	5.39	5.43	5.46	5.50

Table 30. Iron and Steel Industries Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	82.28	83.26	84.24	85.39	86.05	86.55	86.86	87.08	87.08	87.02	86.39	85.53	84.44	0.6%
Energy Consumption (trillion Btu) 1/														
Distillate Fuel Oil	5.4	5.3	5.2	5.2	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.4	4.3	-1.2%
Residual Fuel Oil	14.4	14.3	14.1	13.9	14.0	13.8	13.6	13.5	13.3	13.2	13.0	12.8	12.4	-2.1%
Other Petroleum 2/	58.9	58.3	57.0	56.0	56.0	55.2	54.1	53.3	52.4	51.8	50.7	49.3	47.6	-2.5%
Petroleum Subtotal	78.7	77.9	76.3	75.2	75.2	74.2	72.8	71.8	70.5	69.7	68.3	66.5	64.3	-2.4%
Natural Gas	414.2	416.5	420.7	425.5	426.7	427.8	427.6	427.1	426.1	424.1	419.8	414.6	408.5	-0.2%
Metallurgical Coal	548.1	546.3	545.2	545.1	542.8	539.9	535.7	531.3	526.1	520.9	513.2	504.8	495.5	-0.9%
Net Coke Imports	33.2	34.4	35.3	36.1	37.1	37.9	38.6	39.3	39.8	40.1	40.3	40.0	39.7	0.9%
Steam Coal	52.0	52.1	52.1	52.2	52.2	52.2	52.0	51.9	51.7	51.5	51.1	50.6	50.1	-0.3%
Coal Subtotal	633.3	632.7	632.6	633.5	632.1	629.9	626.4	622.5	617.6	612.5	604.5	595.4	585.2	-0.7%
Renewables	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	0.0%
Purchased Electricity	224.7	227.1	229.5	232.3	234.0	235.4	236.2	236.8	237.0	237.0	235.6	233.4	230.6	0.5%
Total	1356.2	1359.5	1364.4	1371.7	1373.3	1372.5	1368.3	1363.5	1356.5	1348.6	1333.5	1315.2	1293.9	-0.5%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Distillate Fuel Oil	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	-1.8%
Residual Fuel Oil	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	-2.7%
Other Petroleum 2/	0.72	0.70	0.68	0.66	0.65	0.64	0.62	0.61	0.60	0.59	0.59	0.58	0.56	-3.2%
Petroleum Subtotal	0.96	0.94	0.91	0.88	0.87	0.86	0.84	0.82	0.81	0.80	0.79	0.78	0.76	-3.0%
Natural Gas	5.03	5.00	4.99	4.98	4.96	4.94	4.92	4.91	4.89	4.87	4.86	4.85	4.84	-0.8%
Metallurgical Coal	6.66	6.56	6.47	6.38	6.31	6.24	6.17	6.10	6.04	5.99	5.94	5.90	5.87	-1.5%
Net Coke Imports	0.40	0.41	0.42	0.42	0.43	0.44	0.44	0.45	0.46	0.46	0.46	0.47	0.47	0.3%
Steam Coal	0.63	0.63	0.62	0.61	0.61	0.60	0.60	0.60	0.59	0.59	0.59	0.59	0.59	-0.9%
Coal Subtotal	7.70	7.60	7.51	7.42	7.35	7.28	7.21	7.15	7.09	7.04	7.00	6.96	6.93	-1.3%
Renewables	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	-0.6%
Purchased Electricity	2.73	2.73	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.73	2.73	-0.1%
Total	16.48	16.33	16.20	16.06	15.96	15.86	15.75	15.66	15.58	15.50	15.44	15.38	15.32	-1.1%
Carbon Dioxide Emissions 3/ (million metric tons)	128.1	128.4	128.8	129.7	129.9	130.0	129.8	129.4	128.9	128.3	127.0	125.4	123.7	-0.3%
Combined Heat and Power 4/														
Generating Capacity (gigawatts)														
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.19	0.19	0.20	0.20	0.20	2.8%
Coal	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.0%
Other 5/	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.0%
Total	1.36	1.36	1.37	1.37	1.38	1.38	1.38	1.39	1.39	1.39	1.39	1.40	1.40	0.3%
Net Generation (billion kilowatthours)														
Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.0%
Natural Gas	0.87	0.91	0.95	0.98	1.01	1.04	1.07	1.09	1.11	1.13	1.15	1.17	1.19	4.3%
Coal	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	0.0%
Other 5/	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	0.0%
Total	6.35	6.39	6.43	6.47	6.50	6.53	6.55	6.58	6.60	6.62	6.64	6.66	6.67	0.5%
Disposition														
Sales to the Grid	0.82	0.82	0.83	0.83	0.84	0.84	0.84	0.84	0.85	0.85	0.85	0.85	0.86	0.4%
Generation for Own Use	5.53	5.57	5.60	5.63	5.66	5.69	5.71	5.73	5.75	5.77	5.79	5.80	5.82	0.5%

Table 30. Iron and Steel Industries Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes petroleum coke, lubricants, and miscellaneous petroleum products.

3/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 31. Aluminum Industry Energy Consumption

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Value of Shipments (billion 2000 dollars)	29.63	28.57	27.07	27.83	27.24	27.16	28.26	29.07	29.95	30.83	31.76	32.44	32.45
Energy Consumption (trillion Btu) 1/													
Distillate Fuel Oil	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
Liquefied Petroleum Gases	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8
Petroleum Coke	39.2	38.6	37.9	37.3	36.5	35.8	35.1	34.5	33.8	33.2	32.6	32.0	31.4
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	41.0	40.3	39.5	38.7	38.1	37.3	36.7	36.0	35.4	34.8	34.2	33.7	33.1
Natural Gas	132.3	127.1	120.7	122.5	119.3	118.3	121.3	123.3	125.3	127.5	129.8	131.2	130.4
Steam Coal	30.0	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
Renewables	14.9	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Purchased Electricity	181.1	177.4	173.4	171.6	168.2	165.5	164.2	162.6	161.2	159.9	158.6	157.1	155.0
Total	399.4	386.7	375.6	374.9	367.4	363.1	364.2	363.9	363.9	364.2	364.6	364.0	360.5
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Distillate Fuel Oil	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Liquefied Petroleum Gases	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Petroleum Coke	1.32	1.35	1.40	1.34	1.34	1.32	1.24	1.19	1.13	1.08	1.03	0.99	0.97
Other Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Subtotal	1.38	1.41	1.46	1.39	1.40	1.37	1.30	1.24	1.18	1.13	1.08	1.04	1.02
Natural Gas	4.47	4.45	4.46	4.40	4.38	4.35	4.29	4.24	4.19	4.14	4.09	4.05	4.02
Steam Coal	1.01	1.05	1.11	1.08	1.10	1.10	1.06	1.03	1.00	0.97	0.94	0.92	0.92
Renewables	0.50	0.42	0.44	0.43	0.44	0.44	0.43	0.41	0.40	0.39	0.38	0.37	0.37
Purchased Electricity	6.11	6.21	6.41	6.17	6.17	6.09	5.81	5.59	5.38	5.19	4.99	4.84	4.77
Total	13.48	13.54	13.88	13.47	13.49	13.37	12.89	12.52	12.15	11.81	11.48	11.22	11.11
Carbon Dioxide Emissions 2/ (million metric tons)	48.2	46.4	45.0	44.4	43.5	42.6	42.5	42.2	41.9	41.7	41.5	41.2	40.7
Combined Heat and Power 4/ Generating Capacity (gigawatts)													
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Coal	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Other 5/	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Total	0.75	0.75	0.75	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.77	0.77
Net Generation (billion kilowatthours)													
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.09	0.10	0.12	0.13
Coal	2.55	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49
Other 5/	1.67	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
Total	4.22	4.08	4.09	4.10	4.11	4.12	4.14	4.15	4.16	4.17	4.19	4.20	4.21
Disposition													
Sales to the Grid	1.49	1.20	1.20	1.20	1.21	1.21	1.21	1.21	1.21	1.22	1.22	1.22	1.22
Generation for Own Use	2.73	2.88	2.89	2.90	2.91	2.92	2.93	2.94	2.95	2.96	2.97	2.98	2.99



Table 31. Aluminum Industry Energy Consumption

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Value of Shipments (billion 2000 dollars)	32.71	33.13	33.68	34.15	34.23	34.26	34.41	34.40	34.66	34.84	35.01	35.06	34.88	0.8%
Energy Consumption (trillion Btu) 1/														
Distillate Fuel Oil	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	-0.2%
Liquefied Petroleum Gases	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-0.2%
Petroleum Coke	30.8	30.3	29.7	29.2	28.6	28.1	27.6	27.2	26.8	26.5	26.2	25.9	25.5	-1.7%
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	32.5	32.0	31.4	30.9	30.3	29.8	29.3	28.8	28.5	28.2	27.8	27.5	27.1	-1.6%
Natural Gas	130.4	131.0	132.4	133.7	133.6	133.3	133.2	132.7	133.0	133.1	133.1	132.9	131.9	0.2%
Steam Coal	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	0.0%
Renewables	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0%
Purchased Electricity	153.0	151.3	149.7	148.0	146.2	144.5	142.8	141.0	139.5	138.1	136.6	135.0	133.2	-1.2%
Total	358.0	356.2	355.5	354.6	352.1	349.5	347.3	344.5	343.0	341.3	339.5	337.3	334.2	-0.6%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Distillate Fuel Oil	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	-1.0%
Liquefied Petroleum Gases	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-1.0%
Petroleum Coke	0.94	0.91	0.88	0.85	0.84	0.82	0.80	0.79	0.77	0.76	0.75	0.74	0.73	-2.5%
Other Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Petroleum Subtotal	0.99	0.97	0.93	0.90	0.89	0.87	0.85	0.84	0.82	0.81	0.79	0.78	0.78	-2.4%
Natural Gas	3.99	3.95	3.93	3.92	3.90	3.89	3.87	3.86	3.84	3.82	3.80	3.79	3.78	-0.7%
Steam Coal	0.92	0.90	0.89	0.88	0.87	0.87	0.87	0.87	0.86	0.86	0.86	0.85	0.86	-0.8%
Renewables	0.37	0.36	0.36	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.34	0.34	0.35	-0.8%
Purchased Electricity	4.68	4.57	4.44	4.33	4.27	4.22	4.15	4.10	4.03	3.96	3.90	3.85	3.82	-2.0%
Total	10.94	10.75	10.55	10.38	10.29	10.20	10.09	10.01	9.90	9.80	9.70	9.62	9.58	-1.4%
Carbon Dioxide Emissions 2/ (million metric tons)	40.3	40.0	39.6	39.4	39.0	38.7	38.4	38.0	37.7	37.4	37.2	36.9	36.6	-1.0%
Combined Heat and Power 4/ Generating Capacity (gigawatts)														
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	--
Coal	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.0%
Other 5/	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.0%
Total	0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.2%
Net Generation (billion kilowatthours)														
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.21	0.22	0.22	0.23	--
Coal	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	0.0%
Other 5/	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	0.0%
Total	4.22	4.23	4.24	4.25	4.26	4.27	4.28	4.29	4.29	4.30	4.30	4.31	4.31	0.2%
Disposition														
Sales to the Grid	1.22	1.22	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.24	1.24	1.24	0.1%
Generation for Own Use	3.00	3.01	3.02	3.03	3.03	3.04	3.05	3.05	3.06	3.06	3.07	3.07	3.08	0.3%

Table 31. Aluminum Industry Energy Consumption

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

4/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

5/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

6/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

7/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 32. Nonmanufacturing Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Agriculture</b>													
Distillate Fuel Oil	497.0	496.3	527.6	527.8	513.5	516.3	516.6	515.7	513.6	511.6	509.9	507.3	503.8
Liquefied Petroleum Gases	86.3	85.5	89.3	90.8	88.1	89.3	89.8	90.0	89.8	89.6	89.6	89.3	88.9
Motor Gasoline	161.1	160.6	169.5	169.5	165.3	166.4	167.0	167.3	167.1	166.9	166.7	166.3	165.5
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	744.4	742.4	786.4	788.1	766.9	772.1	773.3	772.9	770.5	768.1	766.2	762.9	758.1
Natural Gas	81.7	82.7	89.7	92.0	90.1	92.0	92.9	93.6	94.2	94.7	95.5	96.0	96.3
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewables	20.5	21.0	22.7	22.8	22.6	22.9	23.2	23.5	23.7	23.9	24.1	24.3	24.5
Purchased Electricity	125.5	125.3	132.5	132.6	129.5	130.6	131.3	131.8	131.8	131.9	132.0	131.9	131.4
Total	972.0	971.3	1031.2	1035.5	1009.1	1017.6	1020.8	1021.8	1020.2	1018.6	1017.8	1015.0	1010.3
<b>Construction</b>													
Distillate Fuel Oil	505.3	502.9	449.0	401.0	397.3	425.5	457.6	468.2	471.1	470.8	473.1	476.2	474.2
Liquefied Petroleum Gases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Gasoline	157.7	156.6	140.4	125.5	124.2	132.8	142.7	146.2	147.3	147.3	148.1	149.2	148.6
Asphalt and Road Oil	1322.3	1306.1	1165.4	1035.2	1016.3	1078.0	1148.6	1166.4	1164.7	1155.6	1153.4	1154.1	1143.0
Petroleum Subtotal	1985.2	1965.6	1754.9	1561.7	1537.8	1636.3	1748.9	1780.9	1783.2	1773.7	1774.5	1779.5	1765.9
Natural Gas	272.0	269.9	237.1	208.7	204.8	218.1	233.0	234.4	232.9	230.3	228.9	228.0	225.1
Purchased Electricity	117.3	117.7	106.0	94.9	94.0	100.7	108.3	111.1	112.1	112.3	113.1	114.1	113.8
Total	2374.5	2353.2	2098.0	1865.3	1836.6	1955.1	2090.1	2126.4	2128.2	2116.3	2116.5	2121.6	2104.8
<b>Mining</b>													
Residual Fuel Oil	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Distillate Fuel Oil	115.0	119.1	119.5	115.7	116.3	118.1	119.7	120.0	119.7	119.2	119.2	119.5	119.0
Motor Gasoline	14.9	15.3	15.5	15.2	15.4	15.7	15.7	15.8	15.7	15.7	15.7	15.8	15.7
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	129.9	134.4	135.0	131.0	131.7	133.8	135.4	135.8	135.4	134.9	134.9	135.2	134.7
Natural Gas	649.2	603.5	608.3	596.1	595.8	593.6	586.2	580.2	574.0	567.7	563.9	560.0	554.3
Natural Gas to Liquids Heat and Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lease and Plant Fuel	1143.8	1169.3	1180.3	1166.8	1191.6	1211.8	1211.9	1218.8	1219.1	1218.6	1224.4	1230.4	1230.3
Steam Coal	19.4	21.0	21.1	20.7	20.7	20.9	21.2	21.3	21.3	21.3	21.4	21.5	21.5
Renewables	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Purchased Electricity excluding Oil Shale	208.8	217.0	221.2	214.5	216.9	221.3	224.2	225.5	225.5	225.3	225.9	226.9	226.5
Purchased Electricity for Oil Shale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2153.3	2147.5	2168.1	2131.4	2159.1	2184.0	2181.4	2184.2	2177.8	2170.3	2172.9	2176.5	2169.7
<b>Value of Shipments (billion 2000 dollars)</b>													
Agriculture	262.45	261.18	273.28	272.63	267.84	270.64	273.99	276.87	278.53	280.16	281.40	282.30	282.40
Construction	1043.81	1045.43	943.45	849.58	845.57	907.94	980.41	1014.03	1030.36	1038.30	1052.92	1069.89	1072.98
Mining	218.51	224.31	229.76	229.55	236.02	240.75	242.36	244.24	245.39	246.20	248.63	251.02	251.70
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>													
Agriculture	3.70	3.72	3.77	3.80	3.77	3.76	3.73	3.69	3.66	3.64	3.62	3.60	3.58
Construction	2.27	2.25	2.22	2.20	2.17	2.15	2.13	2.10	2.07	2.04	2.01	1.98	1.96
Mining	9.85	9.57	9.44	9.29	9.15	9.07	9.00	8.94	8.88	8.82	8.74	8.67	8.62

Table 32. Nonmanufacturing Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Carbon Dioxide Emissions 1/ (million metric tons)													
Agriculture	81.7	81.0	85.7	85.7	83.5	83.9	84.2	84.2	84.1	84.0	83.8	83.5	83.1
Construction	85.1	84.3	75.2	66.8	66.1	70.5	75.7	77.3	77.7	77.6	77.8	78.2	77.8
Mining	85.8	84.5	85.4	82.7	83.2	83.7	84.0	83.8	83.5	83.0	82.8	82.7	82.3
Agriculture, Construction, and Mining:													
Combined Heat and Power 2/													
Generating Capacity (gigawatts)													
Petroleum	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Natural Gas	0.19	0.15	0.16	0.17	0.18	0.19	0.21	0.22	0.23	0.25	0.27	0.28	0.30
Coal	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Other 3/	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total	0.47	0.42	0.43	0.44	0.45	0.47	0.48	0.49	0.51	0.52	0.54	0.56	0.57
Net Generation (billion kilowatthours)													
Petroleum	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Natural Gas	0.55	0.55	0.62	0.70	0.78	0.88	0.98	1.09	1.20	1.31	1.43	1.55	1.68
Coal	0.73	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Other 3/	0.20	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Total	1.50	1.56	1.64	1.72	1.80	1.90	2.00	2.10	2.21	2.33	2.44	2.57	2.69
Disposition													
Sales to the Grid	0.22	0.23	0.23	0.23	0.24	0.24	0.25	0.25	0.26	0.26	0.27	0.27	0.28
Generation for Own Use	1.28	1.34	1.41	1.48	1.56	1.66	1.75	1.85	1.96	2.06	2.18	2.29	2.41

Table 32. Nonmanufacturing Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Agriculture</b>														
Distillate Fuel Oil	500.9	497.6	494.0	491.7	488.9	486.3	484.3	484.2	484.4	484.6	484.8	484.9	485.6	-0.1%
Liquefied Petroleum Gases	88.5	88.0	87.6	87.6	87.3	86.9	86.5	86.1	85.9	85.7	85.5	85.2	85.3	0.0%
Motor Gasoline	164.9	164.3	164.2	164.5	164.7	165.0	165.4	165.8	166.2	166.7	167.2	167.7	168.3	0.2%
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	754.3	749.8	745.8	743.7	740.9	738.2	736.2	736.1	736.5	737.0	737.5	737.8	739.2	0.0%
Natural Gas	96.7	96.9	97.3	98.1	98.8	99.4	100.1	100.8	101.5	102.3	103.1	103.8	104.7	1.0%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Renewables	24.6	24.8	25.0	25.2	25.4	25.6	25.8	26.0	26.3	26.5	26.8	27.0	27.3	1.1%
Purchased Electricity	131.2	130.9	130.5	130.5	130.5	130.6	130.8	131.0	131.3	131.7	132.0	132.4	132.9	0.2%
Total	1006.8	1002.4	998.6	997.5	995.5	993.8	992.9	993.8	995.6	997.5	999.3	1000.9	1004.1	0.1%
<b>Construction</b>														
Distillate Fuel Oil	472.8	470.5	468.6	466.9	465.7	464.0	464.8	469.9	474.5	477.0	477.1	478.4	482.2	-0.2%
Liquefied Petroleum Gases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Motor Gasoline	148.2	147.5	147.5	147.7	148.1	148.3	149.2	150.9	152.5	153.4	153.4	153.9	155.2	0.0%
Asphalt and Road Oil	1135.0	1125.1	1117.3	1115.7	1117.6	1118.6	1125.2	1137.8	1149.6	1156.0	1156.2	1159.4	1169.1	-0.5%
Petroleum Subtotal	1756.1	1743.2	1733.4	1730.3	1731.4	1730.8	1739.2	1758.6	1776.6	1786.4	1786.8	1791.7	1806.5	-0.4%
Natural Gas	222.5	219.7	219.6	219.8	220.3	220.6	221.8	224.0	226.1	227.3	227.5	228.2	230.0	-0.7%
Purchased Electricity	113.7	113.3	113.0	112.8	112.9	112.9	113.5	114.7	115.9	116.5	116.5	116.8	117.7	0.0%
Total	2092.3	2076.2	2066.0	2062.9	2064.7	2064.3	2074.5	2097.3	2118.6	2130.2	2130.8	2136.7	2154.2	-0.4%
<b>Mining</b>														
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Distillate Fuel Oil	118.2	117.6	117.4	117.3	116.8	116.2	115.9	116.0	116.3	116.8	116.8	116.9	117.2	-0.1%
Motor Gasoline	15.6	15.5	15.6	15.6	15.6	15.6	15.6	15.5	15.6	15.6	15.5	15.4	15.4	0.0%
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	133.9	133.2	133.0	132.9	132.4	131.8	131.5	131.6	131.9	132.4	132.3	132.3	132.6	-0.1%
Natural Gas	547.6	540.5	541.7	542.9	542.9	540.8	540.2	538.4	538.6	537.9	534.3	530.9	529.6	-0.5%
Natural Gas to Liquids Heat and Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Lease and Plant Fuel	1226.6	1221.7	1252.3	1284.8	1286.9	1279.3	1276.9	1272.3	1277.3	1276.5	1273.8	1269.2	1267.4	0.3%
Steam Coal	21.5	21.5	21.5	21.6	21.6	21.7	21.8	21.9	22.0	22.1	22.2	22.3	22.5	0.3%
Renewables	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	-0.2%
Purchased Electricity excluding Oil Shale	225.4	224.2	224.1	224.0	223.9	223.3	223.2	222.9	223.4	223.8	223.3	222.7	222.7	0.1%
Purchased Electricity for Oil Shale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Total	2157.3	2143.5	2175.1	2208.7	2210.2	2199.3	2195.9	2189.3	2195.5	2194.9	2188.2	2179.7	2177.0	0.1%
<b>Value of Shipments (billion 2000 dollars)</b>														
Agriculture	283.01	283.63	284.31	285.37	286.36	287.47	288.73	290.21	291.72	293.27	294.76	296.36	298.17	0.6%
Construction	1077.60	1079.68	1082.60	1086.25	1091.40	1094.65	1104.51	1121.22	1137.03	1146.69	1149.22	1155.11	1168.52	0.5%
Mining	251.48	250.99	252.46	253.63	253.84	252.62	252.46	251.48	252.08	252.08	250.27	248.57	247.92	0.4%
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>														
Agriculture	3.56	3.53	3.51	3.50	3.48	3.46	3.44	3.42	3.41	3.40	3.39	3.38	3.37	-0.4%
Construction	1.94	1.92	1.91	1.90	1.89	1.89	1.88	1.87	1.86	1.86	1.85	1.85	1.84	-0.8%
Mining	8.58	8.54	8.62	8.71	8.71	8.71	8.70	8.71	8.71	8.71	8.74	8.77	8.78	-0.4%

Table 32. Nonmanufacturing Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Carbon Dioxide Emissions 1/ (million metric tons)														
Agriculture	82.8	82.4	82.0	82.0	81.8	81.7	81.6	81.7	81.8	82.0	82.2	82.4	82.8	0.1%
Construction	77.5	77.1	76.8	76.7	76.7	76.6	77.0	77.8	78.6	79.0	79.1	79.3	80.1	-0.2%
Mining	81.7	81.0	81.0	81.1	81.0	80.8	80.8	80.7	80.8	81.0	80.8	80.5	80.8	-0.2%
Agriculture, Construction, and Mining:														
Combined Heat and Power 2/														
Generating Capacity (gigawatts)														
Petroleum	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.0%
Natural Gas	0.32	0.33	0.35	0.36	0.38	0.39	0.41	0.42	0.43	0.45	0.46	0.47	0.48	5.0%
Coal	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.0%
Other 3/	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.0%
Total	0.59	0.61	0.62	0.64	0.65	0.67	0.68	0.70	0.71	0.72	0.73	0.74	0.75	2.4%
Net Generation (billion kilowatthours)														
Petroleum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.0%
Natural Gas	1.80	1.92	2.05	2.17	2.29	2.40	2.50	2.60	2.69	2.78	2.86	2.94	3.03	7.4%
Coal	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.0%
Other 3/	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.0%
Total	2.82	2.94	3.06	3.19	3.30	3.41	3.52	3.61	3.70	3.79	3.88	3.96	4.04	4.0%
Disposition														
Sales to the Grid	0.29	0.29	0.30	0.31	0.31	0.32	0.33	0.33	0.34	0.34	0.35	0.35	0.36	2.0%
Generation for Own Use	2.53	2.65	2.76	2.88	2.99	3.09	3.19	3.28	3.37	3.45	3.53	3.61	3.69	4.3%

Table 32. Nonmanufacturing Sector Energy Consumption (trillion Btu)

1/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

2/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

3/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

4/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

5/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 33. Other Industrial Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Fabricated Metal Product Consumption 1/</b>													
Liquefied Petroleum Gases	2.0	1.9	1.9	1.8	1.9	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2
Distillate Fuel Oil	3.3	3.1	3.0	2.7	2.7	2.7	2.7	2.8	2.7	2.7	2.7	2.6	2.6
Residual Fuel Oil	2.5	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	7.8	7.4	7.2	6.7	6.7	6.8	6.9	7.0	6.9	6.8	6.8	6.8	6.7
Natural Gas	191.9	193.8	194.0	187.8	185.9	188.4	191.1	192.5	191.6	190.5	189.8	189.3	187.5
Metallurgical Coal	3.6	3.5	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.7	2.6	2.6
Steam Coal	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	159.0	162.2	162.8	159.8	159.9	163.5	166.8	168.7	168.4	168.0	167.8	167.7	167.1
Total	362.5	367.2	367.6	357.7	355.9	361.9	368.0	371.3	369.9	368.2	367.3	366.6	364.0
<b>Machinery Consumption 1/</b>													
Liquefied Petroleum Gases	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Distillate Fuel Oil	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0
Natural Gas	75.2	78.0	79.6	79.0	80.0	81.5	82.6	83.7	84.2	84.8	85.7	86.4	86.5
Steam Coal	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	86.5	90.9	92.3	92.0	94.3	96.2	97.4	99.1	100.1	101.3	102.6	103.9	104.6
Total	166.1	173.4	176.3	175.3	178.7	182.1	184.4	187.1	188.7	190.5	192.7	194.7	195.5
<b>Computers Consumption 1/</b>													
Liquefied Petroleum Gases	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Distillate Fuel Oil	0.2	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.6
Residual Fuel Oil	0.2	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.5
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	0.9	1.4	1.2	1.0	1.3	1.3	1.2	1.2	1.1	1.2	1.3	1.5	1.6
Natural Gas	48.1	55.1	55.7	56.6	61.1	63.6	62.4	61.6	61.5	63.6	66.6	70.2	73.4
Steam Coal	17.2	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	121.0	128.0	129.7	131.4	137.2	140.9	142.8	145.1	148.2	152.6	157.5	162.7	167.6
Total	187.2	199.1	201.2	203.7	214.2	220.5	221.1	222.5	225.4	232.0	240.0	249.0	257.3
<b>Transportation Equipment Consumption 1/</b>													
Liquefied Petroleum Gases	1.8	1.7	1.7	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Distillate Fuel Oil	1.6	1.6	1.5	1.2	1.4	1.4	1.5	1.6	1.6	1.5	1.5	1.5	1.5
Residual Fuel Oil	8.5	7.8	6.9	4.2	5.2	5.1	5.3	5.5	5.5	5.3	5.5	5.7	5.7
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	11.9	11.1	10.0	7.0	8.1	8.1	8.4	8.8	8.7	8.5	8.7	8.9	8.9
Natural Gas	185.8	184.6	183.2	180.1	182.3	187.2	196.4	199.2	197.0	193.8	192.0	190.8	188.1
Steam Coal	3.1	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.0
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	170.5	171.1	169.0	165.4	169.4	174.8	184.7	188.2	186.2	183.1	181.4	180.5	178.3
Total	371.4	370.0	365.4	355.6	363.0	373.2	392.7	399.3	395.1	388.4	385.1	383.3	378.3



Table 33. Other Industrial Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Electrical Equipment Consumption 1/													
Liquefied Petroleum Gases	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Distillate Fuel Oil	0.6	0.7	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Coke	67.8	70.2	72.2	68.3	68.6	69.3	70.0	70.7	71.1	71.4	72.0	72.5	73.0
Petroleum Subtotal	69.1	71.6	73.6	69.5	69.8	70.6	71.2	72.0	72.4	72.8	73.4	74.0	74.4
Natural Gas	45.8	47.5	49.4	46.6	46.7	47.7	48.6	49.4	49.9	50.2	50.8	51.3	51.5
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewables	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Electricity	45.5	47.8	49.8	47.9	48.1	49.4	50.5	51.5	52.2	52.9	53.6	54.3	54.8
Total	160.5	167.0	173.0	164.1	164.7	167.8	170.5	173.0	174.6	176.0	177.9	179.6	180.8
Value of Shipments (billion 2000 dollars)													
Fabricated Metal Products	252.18	258.26	260.65	256.91	260.53	268.78	276.97	282.23	283.90	285.49	287.64	289.89	291.90
Machinery	283.06	299.50	304.12	305.66	318.11	323.61	329.33	338.04	344.87	351.91	360.19	368.12	374.73
Computers	469.37	504.72	525.66	552.77	600.02	624.99	645.74	671.86	702.89	739.76	782.51	826.74	870.19
Transportation Equipment	667.54	664.40	656.67	643.19	673.31	700.27	749.13	768.55	765.15	758.49	762.95	769.64	768.13
Electrical Equipment	108.95	116.20	122.91	117.71	119.36	123.54	127.39	131.31	134.49	137.39	140.91	144.25	147.24
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Fabricated Metal Products	1.44	1.42	1.41	1.39	1.37	1.35	1.33	1.32	1.30	1.29	1.28	1.26	1.25
Machinery	0.59	0.58	0.58	0.57	0.56	0.56	0.56	0.55	0.55	0.54	0.53	0.53	0.52
Computers	0.40	0.39	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.31	0.30	0.30
Transportation Equipment	0.56	0.56	0.56	0.55	0.54	0.53	0.52	0.52	0.52	0.51	0.50	0.50	0.49
Electrical Equipment	1.47	1.44	1.41	1.39	1.38	1.36	1.34	1.32	1.30	1.28	1.26	1.25	1.23
Carbon Dioxide Emissions 2/ (million metric tons)													
Fabricated Metal Products	41.6	41.6	41.6	40.3	40.2	40.7	41.4	41.8	41.7	41.5	41.3	41.2	41.0
Machinery	21.0	21.6	21.8	21.5	22.0	22.3	22.6	22.9	23.1	23.3	23.6	23.8	23.9
Computers	27.5	28.4	28.6	28.7	30.0	30.6	30.9	31.2	31.7	32.6	33.6	34.7	35.8
Transportation Equipment	43.8	43.0	42.3	40.9	41.8	42.8	45.1	45.9	45.4	44.6	44.1	43.8	43.3
Electrical Equipment	17.2	17.7	18.4	17.4	17.5	17.7	18.0	18.3	18.5	18.7	18.9	19.0	19.2
Fabricated Metal Products, Machinery, Computers, Transportation Equipment, and Electrical Equipment:													
Combined Heat and Power 3/ Generating Capacity (gigawatts)													
Petroleum	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Natural Gas	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14	0.15	0.16	0.18	0.19	0.21
Coal	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Other 4/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.42	0.41	0.42	0.43	0.44	0.45	0.46	0.48	0.49	0.50	0.51	0.53	0.54
Net Generation (billion kilowatthours)													
Petroleum	0.14	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Natural Gas	0.19	0.16	0.23	0.30	0.38	0.47	0.55	0.65	0.74	0.83	0.94	1.04	1.15
Coal	0.77	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Other 4/	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Total	1.13	0.88	0.96	1.03	1.11	1.19	1.28	1.37	1.47	1.56	1.66	1.77	1.88
Disposition													
Sales to the Grid	0.02	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.16
Generation for Own Use	1.11	0.88	0.94	1.00	1.06	1.13	1.21	1.29	1.37	1.45	1.53	1.62	1.72

Table 33. Other Industrial Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Fabricated Metal Product Consumption 1/</b>														
Liquefied Petroleum Gases	2.2	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	-0.4%
Distillate Fuel Oil	2.6	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	-1.5%
Residual Fuel Oil	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	-1.7%
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	6.6	6.5	6.3	6.2	6.1	6.0	6.0	5.9	5.8	5.7	5.6	5.6	5.5	-1.2%
Natural Gas	184.7	182.2	181.0	179.8	177.5	175.5	173.4	171.1	169.3	167.5	165.1	162.5	160.2	-0.8%
Metallurgical Coal	2.5	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	-2.3%
Steam Coal	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	-1.0%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	165.4	164.1	162.4	160.6	158.5	156.8	155.0	153.0	151.5	150.2	148.4	146.3	144.4	-0.5%
Total	359.4	355.4	352.3	349.2	344.6	340.8	336.8	332.3	328.9	325.7	321.3	316.6	312.3	-0.7%
<b>Machinery Consumption 1/</b>														
Liquefied Petroleum Gases	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-0.3%
Distillate Fuel Oil	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	-0.7%
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	-0.4%
Natural Gas	86.0	85.2	84.8	84.3	83.4	82.5	81.4	80.3	79.5	78.5	77.5	76.5	75.6	-0.1%
Steam Coal	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	104.9	105.2	105.0	104.7	104.5	104.2	103.7	103.3	103.1	102.9	102.8	102.4	102.2	0.5%
Total	195.4	194.8	194.1	193.4	192.2	191.0	189.5	187.9	186.8	185.6	184.5	183.1	182.0	0.2%
<b>Computers Consumption 1/</b>														
Liquefied Petroleum Gases	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2%
Distillate Fuel Oil	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.8%
Residual Fuel Oil	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-2.0%
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-1.0%
Natural Gas	75.0	75.1	75.8	75.9	75.9	75.9	76.1	77.2	78.2	79.3	80.5	81.8	83.0	1.7%
Steam Coal	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	0.0%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Purchased Electricity	171.1	173.6	176.8	180.1	183.2	186.4	189.5	193.0	196.5	200.6	204.4	208.6	212.7	2.1%
Total	262.4	264.8	268.7	272.0	275.0	278.1	281.4	286.0	290.5	295.6	300.6	306.1	311.5	1.9%
<b>Transportation Equipment Consumption 1/</b>														
Liquefied Petroleum Gases	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	-0.5%
Distillate Fuel Oil	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-0.9%
Residual Fuel Oil	5.5	5.4	5.1	4.9	4.9	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-2.0%
Petroleum Coke	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	8.7	8.5	8.2	7.9	7.9	7.8	7.7	7.7	7.6	7.6	7.7	7.6	7.6	-1.6%
Natural Gas	186.1	184.2	184.0	184.3	182.8	182.8	181.9	181.2	180.5	178.8	176.7	175.0	174.5	-0.2%
Steam Coal	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-0.4%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Purchased Electricity	176.2	173.9	172.5	171.5	169.7	169.5	168.8	168.2	167.4	165.6	163.5	161.5	160.7	-0.3%
Total	374.0	369.5	367.6	366.6	363.4	363.0	361.3	360.0	358.4	354.9	350.8	347.0	345.7	-0.3%

Table 33. Other Industrial Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Electrical Equipment Consumption 1/</b>														
Liquefied Petroleum Gases	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.2%
Distillate Fuel Oil	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	-0.9%
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Petroleum Coke	74.1	74.6	74.9	75.2	75.9	76.4	76.9	77.4	78.0	78.7	79.4	80.1	80.7	0.6%
Petroleum Subtotal	75.5	76.0	76.3	76.6	77.3	77.8	78.2	78.7	79.3	80.1	80.7	81.4	82.1	0.6%
Natural Gas	52.2	52.3	52.6	53.0	53.0	52.8	52.6	52.5	52.4	52.5	52.4	52.4	52.4	0.4%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Renewables	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0%
Purchased Electricity	55.8	56.3	56.6	56.9	57.1	57.0	57.0	57.0	57.1	57.4	57.5	57.7	57.9	0.8%
Total	183.6	184.8	185.6	186.6	187.4	187.7	188.0	188.3	188.9	190.0	190.7	191.7	192.4	0.6%
<b>Value of Shipments (billion 2000 dollars)</b>														
Fabricated Metal Products	292.56	293.84	294.21	293.89	293.51	293.77	293.65	293.16	293.31	293.48	292.76	291.83	291.22	0.5%
Machinery	380.19	386.22	390.16	393.16	397.40	401.09	404.29	407.52	411.64	415.84	420.90	424.19	428.67	1.5%
Computers	906.84	939.43	975.15	1013.49	1052.91	1092.85	1131.98	1172.51	1212.63	1255.86	1300.37	1345.99	1390.98	4.3%
Transportation Equipment	769.47	770.80	776.12	783.55	787.34	799.09	807.82	817.53	825.46	828.33	830.29	832.11	840.06	1.0%
Electrical Equipment	151.95	155.16	157.65	160.11	162.28	163.95	165.61	167.31	169.20	171.50	173.47	175.69	177.66	1.8%
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>														
Fabricated Metal Products	1.23	1.21	1.20	1.19	1.17	1.16	1.15	1.13	1.12	1.11	1.10	1.08	1.07	-1.2%
Machinery	0.51	0.50	0.50	0.49	0.48	0.48	0.47	0.46	0.45	0.45	0.44	0.43	0.42	-1.3%
Computers	0.29	0.28	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.24	0.23	0.23	0.22	-2.3%
Transportation Equipment	0.49	0.48	0.47	0.47	0.46	0.45	0.45	0.44	0.43	0.43	0.42	0.42	0.41	-1.3%
Electrical Equipment	1.21	1.19	1.18	1.17	1.15	1.14	1.13	1.13	1.12	1.11	1.10	1.09	1.08	-1.2%
<b>Carbon Dioxide Emissions 2/ (million metric tons)</b>														
Fabricated Metal Products	40.5	40.1	39.6	39.3	38.8	38.4	38.0	37.5	37.1	36.8	36.4	35.9	35.6	-0.6%
Machinery	24.0	23.9	23.8	23.8	23.7	23.6	23.5	23.4	23.3	23.2	23.2	23.1	23.1	0.3%
Computers	36.5	36.9	37.5	38.1	38.7	39.3	39.9	40.6	41.3	42.2	43.0	43.9	44.9	1.9%
Transportation Equipment	42.8	42.2	41.8	41.7	41.3	41.3	41.1	41.0	40.8	40.5	40.0	39.6	39.6	-0.3%
Electrical Equipment	19.5	19.6	19.7	19.8	19.9	19.9	20.0	20.0	20.1	20.2	20.3	20.4	20.6	0.6%
<b>Fabricated Metal Products, Machinery, Computers, Transportation Equipment, and Electrical Equipment:</b>														
<b>Combined Heat and Power 3/</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.0%
Natural Gas	0.22	0.24	0.25	0.27	0.28	0.29	0.31	0.32	0.33	0.34	0.35	0.36	0.38	7.0%
Coal	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.0%
Other 4/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Total	0.56	0.57	0.59	0.60	0.62	0.63	0.64	0.66	0.67	0.68	0.69	0.70	0.71	2.3%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Natural Gas	1.26	1.38	1.49	1.60	1.70	1.80	1.90	1.99	2.08	2.16	2.24	2.32	2.41	12.0%
Coal	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.0%
Other 4/	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Total	1.99	2.10	2.21	2.32	2.43	2.53	2.62	2.72	2.80	2.89	2.97	3.05	3.14	5.4%
<b>Disposition</b>														
Sales to the Grid	0.18	0.19	0.21	0.23	0.24	0.26	0.27	0.28	0.30	0.31	0.32	0.33	0.34	16.6%
Generation for Own Use	1.81	1.91	2.00	2.10	2.19	2.27	2.35	2.43	2.51	2.58	2.65	2.72	2.79	5.0%

Table 33. Other Industrial Sector Energy Consumption (trillion Btu)

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

3/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

4/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

5/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

6/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.

Table 34. Wood, Plastics, and Balance of Manufacturing Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Wood Products Consumption 1/</b>													
Liquefied Petroleum Gases	4.3	4.0	3.6	3.1	3.1	3.3	3.5	3.6	3.6	3.5	3.6	3.6	3.6
Distillate Fuel Oil	9.0	8.5	7.4	6.2	6.4	6.9	7.3	7.5	7.6	7.5	7.7	7.8	7.7
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	13.3	12.4	11.0	9.2	9.5	10.2	10.8	11.1	11.2	11.1	11.2	11.4	11.3
Natural Gas	49.6	46.4	41.8	36.0	35.3	37.7	39.4	39.4	39.0	38.4	38.2	38.1	37.4
Steam Coal	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewables	236.3	227.5	207.5	181.8	184.4	202.3	218.6	226.5	231.0	234.0	240.4	246.4	248.0
Purchased Electricity	79.0	78.9	77.2	75.3	76.0	83.1	89.4	92.1	93.5	94.3	96.3	98.0	98.1
Total	378.9	366.1	338.3	303.1	306.1	334.1	359.0	370.0	375.5	378.5	386.9	394.7	395.6
<b>Plastics Consumption 1/</b>													
Liquefied Petroleum Gases	4.4	4.1	4.0	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Distillate Fuel Oil	0.9	0.9	0.8	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Residual Fuel Oil	6.5	6.2	5.8	4.2	4.5	4.5	4.4	4.6	4.5	4.4	4.5	4.7	4.7
Petroleum Subtotal	11.8	11.2	10.7	8.4	8.8	8.8	8.8	9.0	9.0	8.8	9.0	9.1	9.1
Natural Gas	116.5	110.8	113.0	110.0	106.8	107.6	108.7	108.0	107.9	107.7	107.6	107.2	106.2
Steam Coal	17.9	17.9	17.9	17.8	17.8	17.7	17.1	16.7	15.8	15.3	14.8	14.6	14.6
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchased Electricity	174.5	171.4	174.8	170.9	169.3	172.8	175.1	175.4	175.3	175.3	176.0	176.6	176.6
Total	320.6	311.2	316.3	307.1	302.7	306.9	309.6	309.1	307.9	307.1	307.5	307.5	306.6
<b>Balance of Manufacturing Consumption 1/</b>													
Liquefied Petroleum Gases	9.5	9.2	8.9	8.6	8.5	8.6	8.6	8.5	8.4	8.4	8.3	8.3	8.3
Distillate Fuel Oil	32.3	32.1	30.6	28.2	28.1	28.0	27.9	27.9	27.6	27.2	27.1	27.0	26.8
Residual Fuel Oil	28.2	26.9	23.2	14.8	16.2	15.2	14.3	14.3	13.8	12.9	12.8	13.0	12.6
Petroleum Coke	50.4	48.1	41.9	26.0	28.1	26.6	25.2	25.7	24.8	23.3	23.2	23.4	22.7
Other Petroleum	12.9	13.2	11.5	8.1	8.6	7.9	7.4	7.0	6.6	6.4	6.1	6.0	5.6
Petroleum Subtotal	133.3	129.5	116.3	85.8	89.5	86.4	83.3	83.5	81.3	78.2	77.7	77.7	76.1
Natural Gas	840.2	818.6	796.2	784.6	753.6	751.9	747.8	734.7	724.7	716.1	707.7	700.0	692.1
Steam Coal	169.6	168.3	164.8	161.4	159.3	157.2	153.1	150.1	145.7	142.3	139.4	136.6	135.2
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewables	22.8	23.2	23.1	23.0	23.3	24.3	25.0	25.5	26.0	26.5	27.1	27.8	28.5
Purchased Electricity	566.9	570.8	563.1	551.5	549.4	564.2	573.4	577.4	579.5	582.3	586.4	591.2	596.0
Total	1732.8	1710.4	1663.5	1606.2	1575.1	1584.1	1582.6	1571.2	1557.2	1545.4	1538.4	1533.4	1527.8
<b>Value of Shipments (billion 2000 dollars)</b>													
Wood Products	101.85	97.34	88.48	77.25	78.10	85.39	91.94	94.91	96.46	97.32	99.63	101.73	101.99
Plastics	175.69	170.01	176.33	173.09	173.71	179.51	184.39	187.32	189.86	192.40	195.94	199.26	201.96
Balance of Manufacturing	941.87	954.80	946.67	937.95	949.87	988.58	1016.76	1036.46	1053.81	1072.29	1095.10	1119.90	1144.78
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>													
Wood Products	3.72	3.76	3.82	3.92	3.92	3.91	3.90	3.90	3.89	3.89	3.88	3.88	3.88
Plastics	1.83	1.83	1.79	1.77	1.74	1.71	1.68	1.65	1.62	1.60	1.57	1.54	1.52
Balance of Manufacturing	1.84	1.79	1.76	1.71	1.66	1.60	1.56	1.52	1.48	1.44	1.40	1.37	1.33

Table 34. Wood, Plastics, and Balance of Manufacturing Sector Energy Consumption (trillion Btu)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Carbon Dioxide Emissions 2/ (million metric tons carbon dioxide equivalent)													
Wood Products	18.8	18.2	17.5	16.5	16.6	18.0	19.3	19.8	20.0	20.1	20.4	20.7	20.6
Plastics	42.2	40.5	41.1	39.7	39.2	39.6	40.0	39.9	39.8	39.7	39.8	39.7	39.7
Balance of Manufacturing	179.9	176.6	172.1	165.3	163.3	164.5	165.3	164.9	164.2	163.5	163.3	163.2	163.4
Wood, Plastics, and Balance of Manufacturing:													
Combined Heat and Power 3/													
Generating Capacity (gigawatts)													
Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Natural Gas	0.27	0.27	0.30	0.33	0.36	0.40	0.43	0.46	0.49	0.52	0.55	0.58	0.61
Coal	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Other 4/	0.30	0.29	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Total	0.79	0.77	0.82	0.86	0.89	0.92	0.95	0.98	1.01	1.04	1.07	1.10	1.13
Net Generation (billion kilowatthours)													
Petroleum	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Natural Gas	0.15	0.14	0.40	0.63	0.86	1.09	1.32	1.55	1.77	2.00	2.22	2.44	2.66
Coal	0.56	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Other 4/	1.50	1.43	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
Total	2.24	2.15	2.53	2.77	2.99	3.22	3.45	3.68	3.91	4.13	4.35	4.58	4.80
Disposition													
Sales to the Grid	0.87	0.83	0.91	0.95	0.98	1.02	1.06	1.09	1.13	1.16	1.19	1.23	1.26
Generation for Own Use	1.37	1.32	1.62	1.81	2.01	2.20	2.40	2.59	2.78	2.97	3.16	3.35	3.54

Table 34. Wood, Plastics, and Balance of Manufacturing Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Wood Products Consumption 1/</b>														
Liquefied Petroleum Gases	3.5	3.4	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	-1.1%
Distillate Fuel Oil	7.6	7.3	7.0	7.0	6.8	6.7	6.7	6.6	6.6	6.6	6.4	6.4	6.3	-1.2%
Residual Fuel Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Petroleum Subtotal	11.1	10.7	10.4	10.3	10.1	9.9	9.8	9.8	9.8	9.7	9.5	9.4	9.4	-1.2%
Natural Gas	36.5	35.6	35.1	34.9	34.4	34.0	33.7	33.7	33.7	33.4	32.9	32.7	32.6	-1.5%
Steam Coal	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0%
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Renewables	247.4	245.3	245.0	245.7	245.3	244.6	246.4	250.5	254.4	256.6	256.6	258.0	261.6	0.6%
Purchased Electricity	97.2	96.0	95.1	94.7	94.0	93.2	93.2	94.2	94.9	95.1	94.4	94.3	94.9	0.8%
Total	393.0	388.3	386.4	386.4	384.6	382.6	383.9	389.0	393.6	395.7	394.3	395.2	399.3	0.4%
<b>Plastics Consumption 1/</b>														
Liquefied Petroleum Gases	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	-0.5%
Distillate Fuel Oil	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	-0.5%
Residual Fuel Oil	4.7	4.7	4.6	4.5	4.6	4.6	4.6	4.6	4.6	4.7	4.9	5.0	5.0	-0.9%
Petroleum Subtotal	9.1	9.1	9.0	8.8	8.9	8.9	8.9	8.9	8.9	9.1	9.2	9.3	9.4	-0.7%
Natural Gas	106.5	107.1	108.4	109.9	110.6	111.0	111.0	111.5	112.4	113.0	113.3	113.8	114.6	0.1%
Steam Coal	14.5	14.5	14.5	14.5	14.5	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-0.9%
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Purchased Electricity	177.7	178.4	179.4	180.4	181.3	181.9	182.9	183.9	184.9	186.0	186.7	187.4	188.6	0.4%
Total	307.7	309.1	311.2	313.6	315.3	316.3	317.3	318.7	320.7	322.4	323.6	325.0	327.0	0.2%
<b>Balance of Manufacturing Consumption 1/</b>														
Liquefied Petroleum Gases	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.3	-0.4%
Distillate Fuel Oil	26.6	26.2	26.0	26.0	26.1	26.1	26.1	26.2	26.2	26.3	26.3	26.4	26.4	-0.8%
Residual Fuel Oil	12.3	12.2	11.8	11.4	11.6	11.1	11.1	11.1	10.8	11.0	11.4	11.5	11.6	-3.4%
Petroleum Coke	22.1	21.8	20.9	20.0	20.4	19.6	19.4	19.3	19.0	19.3	19.9	20.1	20.2	-3.5%
Other Petroleum	5.2	5.0	4.8	4.6	4.5	4.4	4.3	4.2	4.1	4.0	4.0	3.9	3.8	-5.1%
Petroleum Subtotal	74.4	73.4	71.8	70.2	70.8	69.4	69.1	69.0	68.3	68.9	69.8	70.2	70.3	-2.5%
Natural Gas	687.3	684.6	688.8	694.2	694.4	692.9	692.0	692.9	695.1	695.3	694.8	695.2	696.5	-0.7%
Steam Coal	133.8	132.8	131.8	130.7	130.4	130.3	129.9	129.9	129.9	129.9	129.9	129.8	129.8	-1.1%
Metallurgical Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Renewables	29.1	29.5	30.0	30.4	30.8	31.2	31.6	32.0	32.5	32.9	33.4	33.8	34.3	1.6%
Purchased Electricity	599.6	600.8	602.2	603.9	603.9	604.8	605.7	606.3	607.6	609.5	610.0	611.2	612.6	0.3%
Total	1524.1	1521.2	1524.6	1529.5	1530.2	1528.6	1528.3	1530.2	1533.4	1536.6	1537.8	1540.2	1543.5	-0.4%
<b>Value of Shipments (billion 2000 dollars)</b>														
Wood Products	101.37	100.09	99.58	99.47	98.88	98.20	98.48	99.68	100.82	101.24	100.80	100.91	101.87	0.2%
Plastics	206.10	209.98	213.79	217.76	221.60	225.18	229.00	233.09	237.08	241.11	244.86	248.65	252.78	1.7%
Balance of Manufacturing	1166.51	1183.72	1199.94	1215.70	1229.25	1243.98	1258.84	1274.10	1289.90	1306.32	1321.66	1336.71	1352.87	1.5%
<b>Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)</b>														
Wood Products	3.88	3.88	3.88	3.88	3.89	3.90	3.90	3.90	3.90	3.91	3.91	3.92	3.92	0.2%
Plastics	1.49	1.47	1.46	1.44	1.42	1.40	1.39	1.37	1.35	1.34	1.32	1.31	1.29	-1.4%
Balance of Manufacturing	1.31	1.29	1.27	1.26	1.24	1.23	1.21	1.20	1.19	1.18	1.16	1.15	1.14	-1.9%

Table 34. Wood, Plastics, and Balance of Manufacturing Sector Energy Consumption (trillion Btu)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Carbon Dioxide Emissions 2/ (million metric tons carbon dioxide equivalent)</b>														
Wood Products	20.4	20.1	19.8	19.8	19.6	19.5	19.5	19.7	19.8	19.8	19.7	19.7	19.9	0.4%
Plastics	39.9	40.0	40.2	40.5	40.7	40.9	41.1	41.3	41.6	41.8	42.0	42.3	42.7	0.2%
Balance of Manufacturing	163.6	163.4	163.3	163.9	163.9	164.0	164.2	164.4	164.7	165.3	165.6	166.0	167.1	-0.2%
<b>Wood, Plastics, and Balance of Manufacturing:</b>														
<b>Combined Heat and Power 3/</b>														
<b>Generating Capacity (gigawatts)</b>														
Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.0%
Natural Gas	0.63	0.66	0.69	0.72	0.75	0.77	0.80	0.82	0.85	0.87	0.89	0.91	0.94	5.3%
Coal	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.0%
Other 4/	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.3%
Total	1.16	1.19	1.21	1.24	1.27	1.30	1.32	1.35	1.37	1.39	1.41	1.43	1.46	2.7%
<b>Net Generation (billion kilowatthours)</b>														
Petroleum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.0%
Natural Gas	2.88	3.10	3.31	3.52	3.73	3.92	4.11	4.29	4.46	4.62	4.79	4.96	5.12	16.1%
Coal	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.0%
Other 4/	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	0.3%
Total	5.01	5.23	5.44	5.65	5.86	6.05	6.24	6.42	6.59	6.76	6.92	7.09	7.26	5.2%
<b>Disposition</b>														
Sales to the Grid	1.29	1.32	1.36	1.39	1.42	1.44	1.47	1.50	1.52	1.54	1.57	1.59	1.61	2.8%
Generation for Own Use	3.72	3.91	4.09	4.27	4.44	4.61	4.77	4.92	5.07	5.22	5.36	5.50	5.64	6.2%



Table 34. Wood, Plastics, and Balance of Manufacturing Sector Energy Consumption (trillion Btu)

1/ Fuel consumption includes consumption for combined heat and power.

2/ Includes emissions attributable to the fuels consumed to generate the purchased electricity.

3/ Includes industrial-owned generators not classified as combined heat and power, such as standby generators.

4/ Includes wood and other biomass, waste heat, municipal solid waste, and renewable sources.

5/ Efficiency is calculated as the sum of the thermal output and electrical generation in Btus divided by the energy input.

6/ Power-to-Heat is calculated as the electrical generation in Btus divided by the thermal output.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: 2005 and 2006 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," (preliminary). Other 2005 and 2006 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.