

Table 21. Residential Sector Equipment Stock and Efficiency

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Equipment Stock (million units)													
Main Space Heaters													
Electric Heat Pumps	11.48	12.04	12.54	13.00	13.46	13.92	14.38	14.84	15.28	15.72	16.16	16.60	17.05
Electric Other	20.93	21.02	21.11	21.19	21.29	21.39	21.49	21.59	21.69	21.78	21.88	21.99	22.09
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	61.96	63.00	63.91	64.79	65.67	66.53	67.40	68.27	69.11	69.92	70.72	71.54	72.36
Distillate Fuel Oil	8.65	8.64	8.61	8.57	8.54	8.51	8.48	8.46	8.44	8.43	8.42	8.41	8.39
Liquefied Petroleum Gases	5.14	5.22	5.30	5.34	5.39	5.43	5.48	5.53	5.57	5.62	5.66	5.70	5.75
Kerosene	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Wood Stoves	2.00	1.98	1.96	1.93	1.91	1.89	1.87	1.85	1.83	1.82	1.80	1.78	1.76
Geothermal Heat Pumps	0.12	0.16	0.20	0.24	0.27	0.30	0.33	0.36	0.39	0.41	0.44	0.47	0.49
Total	111.10	112.86	114.43	115.87	117.33	118.78	120.24	121.70	123.11	124.50	125.88	127.28	128.69
Space Cooling (million units)													
Electric Heat Pumps	11.48	12.04	12.54	13.00	13.46	13.92	14.38	14.84	15.28	15.72	16.16	16.60	17.05
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	0.12	0.16	0.20	0.24	0.27	0.30	0.33	0.36	0.39	0.41	0.44	0.47	0.49
Central Air Conditioners	51.27	52.74	54.09	55.36	56.65	57.93	59.22	60.50	61.75	62.98	64.20	65.43	66.66
Room Air Conditioners	34.43	34.38	34.32	34.26	34.20	34.15	34.10	34.05	34.00	33.94	33.89	33.84	33.79
Total	97.30	99.31	101.14	102.86	104.59	106.31	108.03	109.75	111.42	113.06	114.69	116.34	118.00
Water Heaters (million units)													
Electric	42.28	42.95	43.57	44.13	44.72	45.29	45.87	46.44	47.00	47.54	48.09	48.64	49.20
Natural Gas	60.98	62.02	62.93	63.80	64.66	65.51	66.37	67.23	68.06	68.88	69.68	70.50	71.31
Distillate Fuel Oil	4.55	4.51	4.47	4.43	4.38	4.34	4.30	4.26	4.23	4.20	4.17	4.14	4.11
Liquefied Petroleum Gases	3.11	3.18	3.24	3.28	3.33	3.37	3.42	3.47	3.52	3.56	3.61	3.66	3.71
Solar Thermal	0.37	0.38	0.40	0.42	0.44	0.46	0.47	0.49	0.51	0.53	0.54	0.56	0.58
Total	111.28	113.05	114.62	116.06	117.52	118.98	120.44	121.90	123.32	124.70	126.09	127.49	128.91
Cooking Equipment (million units) 1/													
Electric	68.51	69.82	71.01	72.11	73.23	74.33	75.44	76.55	77.62	78.67	79.73	80.79	81.87
Natural Gas	38.25	38.63	38.95	39.26	39.56	39.87	40.18	40.50	40.80	41.09	41.39	41.69	41.99
Liquefied Petroleum Gases	4.83	4.89	4.95	4.99	5.03	5.07	5.11	5.15	5.19	5.23	5.26	5.30	5.33
Total	111.59	113.35	114.92	116.36	117.82	119.27	120.73	122.20	123.61	124.99	126.37	127.78	129.19
Clothes Dryers (million units)													
Electric	65.03	66.57	67.96	69.26	70.56	71.86	73.17	74.48	75.75	77.00	78.25	79.50	80.76
Natural Gas	17.80	18.15	18.46	18.74	19.01	19.28	19.55	19.83	20.09	20.35	20.61	20.87	21.13
Total	82.83	84.72	86.42	87.99	89.57	91.14	92.73	94.31	95.85	97.35	98.86	100.38	101.90
Other Appliances (million units)													
Refrigerators	130.86	132.72	134.38	135.90	137.43	138.95	140.48	142.02	143.50	144.95	146.40	147.87	149.35
Freezers	35.53	36.04	36.48	36.89	37.29	37.70	38.11	38.53	38.92	39.31	39.70	40.09	40.48
Stock Average Equipment Efficiency													
Main Space Heaters													
Electric Heat Pumps (HSPF)	7.29	7.31	7.41	7.49	7.56	7.61	7.67	7.72	7.77	7.82	7.86	7.90	7.94
Natural Gas Heat Pumps (GCOP)	1.30	1.30	1.30	1.30	1.30	1.30	1.32	1.33	1.34	1.35	1.35	1.36	1.37
Geothermal Heat Pumps (COP)	3.52	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53
Natural Gas Furnace (AFUE)	0.81	0.82	0.82	0.83	0.83	0.84	0.84	0.84	0.85	0.85	0.85	0.86	0.86
Distillate Furnace (AFUE)	0.81	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83	0.83
Space Cooling													
Electric Heat Pumps (SEER)	10.77	10.82	11.12	11.34	11.54	11.74	11.92	12.10	12.27	12.44	12.60	12.74	12.87

Table 21. Residential Sector Equipment Stock and Efficiency

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Natural Gas Heat Pumps (GCOP)	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Geothermal Heat Pumps (EER)	16.07	16.09	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12
Central Air Conditioners (SEER)	10.58	10.64	10.89	11.10	11.30	11.50	11.69	11.88	12.06	12.24	12.40	12.55	12.69
Room Air Conditioners (EER)	9.35	9.44	9.52	9.60	9.69	9.78	9.87	9.95	10.02	10.07	10.12	10.16	10.18
Water Heaters													
Electric (EF)	0.88	0.88	0.89	0.89	0.89	0.89	0.90	0.90	0.90	0.90	0.90	0.91	0.91
Natural Gas (EF)	0.56	0.56	0.57	0.57	0.58	0.58	0.59	0.59	0.59	0.60	0.60	0.60	0.60
Distillate Fuel Oil (EF)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Liquefied Petroleum Gases (EF)	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
Other Appliances (kilowatthours per year) 2/													
Refrigerators	711.46	690.99	671.33	654.09	637.79	622.73	607.69	594.16	581.96	571.14	561.56	553.12	545.73
Freezers	515.68	499.07	485.93	475.27	466.14	458.43	451.93	446.79	442.79	439.53	436.94	434.96	433.53
Building Shell Efficiency Index 3/													
Space Heating													
Pre-1998 Homes	0.99	0.98	0.98	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.95
New Construction	0.82	0.83	0.83	0.82	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81
All Homes	0.98	0.97	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.93	0.93	0.92
Space Cooling													
Pre-1998 Homes	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98
New Construction	1.03	1.04	1.03	1.04	1.04	1.04	1.03	1.02	1.02	1.02	1.02	1.02	1.02
All 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

Table 21. Residential Sector Equipment Stock and Efficiency

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Equipment Stock (million units)															
Main Space Heaters															
Electric Heat Pumps	17.50	17.96	18.41	18.86	19.31	19.75	20.19	20.63	21.08	21.53	21.97	22.41	22.84	23.28	2.7%
Electric Other	22.20	22.30	22.41	22.52	22.63	22.74	22.85	22.96	23.07	23.18	23.29	23.40	23.52	23.63	0.5%
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	0.00	29.8%
Natural Gas Other	73.16	73.95	74.73	75.50	76.25	76.99	77.70	78.40	79.11	79.83	80.53	81.19	81.85	82.50	1.1%
Distillate Fuel Oil	8.38	8.37	8.35	8.33	8.31	8.29	8.27	8.25	8.23	8.21	8.18	8.16	8.14	8.12	-0.2%
Liquefied Petroleum Gases	5.79	5.83	5.87	5.92	5.96	5.99	6.03	6.07	6.11	6.14	6.18	6.22	6.25	6.29	0.7%
Kerosene	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	-0.1%
Wood Stoves	1.74	1.72	1.71	1.69	1.67	1.65	1.64	1.62	1.60	1.58	1.57	1.55	1.54	1.52	-1.0%
Geothermal Heat Pumps	0.52	0.54	0.57	0.60	0.63	0.66	0.69	0.71	0.74	0.77	0.80	0.83	0.85	0.88	7.1%
Total	130.09	131.48	132.85	134.22	135.56	136.87	138.16	139.44	140.73	142.04	143.32	144.56	145.79	147.01	1.1%
Space Cooling (million units)															
Electric Heat Pumps	17.50	17.96	18.41	18.86	19.31	19.75	20.19	20.63	21.08	21.53	21.97	22.41	22.84	23.28	2.7%
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	0.00	29.8%
Geothermal Heat Pumps	0.52	0.54	0.57	0.60	0.63	0.66	0.69	0.71	0.74	0.77	0.80	0.83	0.85	0.88	7.1%
Central Air Conditioners	67.87	69.07	70.26	71.44	72.59	73.73	74.84	75.94	77.04	78.15	79.24	80.30	81.34	82.39	1.8%
Room Air Conditioners	33.75	33.70	33.65	33.60	33.55	33.50	33.45	33.39	33.34	33.29	33.24	33.19	33.14	33.08	-0.2%
Total	119.64	121.27	122.89	124.50	126.08	127.63	129.16	130.67	132.20	133.74	135.25	136.72	138.18	139.63	1.4%
Water Heaters (million units)															
Electric	49.76	50.33	50.89	51.46	52.02	52.57	53.12	53.67	54.22	54.79	55.35	55.89	56.44	56.98	1.1%
Natural Gas	72.11	72.90	73.68	74.45	75.20	75.93	76.64	77.35	78.06	78.77	79.47	80.14	80.80	81.45	1.1%
Distillate Fuel Oil	4.08	4.05	4.02	3.99	3.96	3.93	3.90	3.87	3.84	3.82	3.79	3.76	3.73	3.70	-0.8%
Liquefied Petroleum Gases	3.76	3.81	3.85	3.90	3.94	3.98	4.03	4.07	4.11	4.15	4.19	4.23	4.27	4.31	1.2%
Solar Thermal	0.59	0.61	0.63	0.64	0.66	0.68	0.69	0.71	0.73	0.74	0.76	0.78	0.79	0.81	3.0%
Total	130.31	131.70	133.08	134.45	135.79	137.10	138.39	139.67	140.96	142.27	143.56	144.80	146.03	147.25	1.1%
Cooking Equipment (million units) 1/															
Electric	82.94	84.01	85.07	86.13	87.16	88.18	89.18	90.18	91.19	92.21	93.21	94.19	95.16	96.13	1.3%
Natural Gas	42.28	42.57	42.85	43.13	43.39	43.65	43.90	44.14	44.39	44.64	44.88	45.11	45.34	45.56	0.7%
Liquefied Petroleum Gases	5.37	5.40	5.43	5.47	5.51	5.54	5.58	5.62	5.66	5.69	5.73	5.76	5.79	5.82	0.7%
Total	130.59	131.98	133.35	134.72	136.06	137.37	138.66	139.94	141.23	142.54	143.82	145.06	146.29	147.51	1.1%
Clothes Dryers (million units)															
Electric	82.01	83.24	84.46	85.67	86.85	88.01	89.15	90.29	91.43	92.58	93.70	94.79	95.87	96.94	1.5%
Natural Gas	21.39	21.64	21.88	22.12	22.36	22.58	22.81	23.03	23.25	23.47	23.69	23.90	24.10	24.30	1.2%
Total	103.39	104.88	106.34	107.79	109.21	110.60	111.96	113.31	114.68	116.05	117.39	118.69	119.97	121.24	1.4%
Other Appliances (million units)															
Refrigerators	150.82	152.27	153.71	155.14	156.54	157.91	159.25	160.59	161.94	163.30	164.64	165.93	167.20	168.48	1.0%
Freezers	40.86	41.24	41.61	41.98	42.33	42.68	43.01	43.34	43.68	44.01	44.34	44.66	44.96	45.27	0.9%
Stock Average Equipment Efficiency															
Main Space Heaters															
Electric Heat Pumps (HSPF)	7.97	8.01	8.03	8.06	8.09	8.11	8.14	8.16	8.17	8.18	8.19	8.20	8.21	8.21	0.5%
Natural Gas Heat Pumps (GCOP)	1.37	1.38	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.47	1.48	0.5%
Geothermal Heat Pumps (COP)	3.53	3.53	3.53	3.55	3.57	3.59	3.61	3.63	3.64	3.66	3.67	3.69	3.70	3.71	0.2%
Natural Gas Furnace (AFUE)	0.86	0.86	0.86	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.3%
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	0.83	0.1%
Space Cooling															
Electric Heat Pumps (SEER)	12.99	13.10	13.19	13.28	13.36	13.43	13.50	13.55	13.58	13.61	13.62	13.63	13.64	13.65	0.9%

Table 21. Residential Sector Equipment Stock and Efficiency

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Natural Gas Heat Pumps (GCOP)	0.62	0.62	0.62	0.63	0.63	0.64	0.65	0.65	0.66	0.66	0.67	0.67	0.68	0.68	0.4%
Geothermal Heat Pumps (EER)	16.12	16.12	16.12	16.24	16.34	16.43	16.52	16.61	16.69	16.77	16.85	16.93	17.00	17.07	0.2%
Central Air Conditioners (SEER)	12.81	12.92	13.02	13.12	13.20	13.28	13.35	13.40	13.44	13.47	13.49	13.50	13.52	13.53	1.0%
Room Air Conditioners (EER)	10.19	10.19	10.20	10.21	10.22	10.23	10.24	10.25	10.27	10.28	10.29	10.30	10.30	10.31	0.4%
Water Heaters															
Electric (EF)	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.1%
Natural Gas (EF)	0.60	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	0.3%
Distillate Fuel Oil (EF)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.0%
Liquefied Petroleum Gases (EF)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.3%
Other Appliances (kilowatthours per year) 2/															
Refrigerators	539.35	533.82	529.10	524.86	521.11	517.85	515.11	512.86	511.15	509.96	509.35	508.91	508.54	508.24	-1.2%
Freezers	432.59	432.05	431.81	431.86	432.08	432.45	432.97	433.65	434.26	434.82	435.32	435.74	436.08	436.35	-0.5%
Building Shell Efficiency Index 3/															
Space Heating															
Pre-1998 Homes	0.95	0.95	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.91	-0.3%
New Construction	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	-0.1%
All Homes	0.92	0.92	0.91	0.91	0.90	0.90	0.90	0.89	0.89	0.89	0.89	0.88	0.88	0.88	-0.4%
Space Cooling															
Pre-1998 Homes	0.98	0.98	0.98	0.98	0.98	0.98	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	-0.1%
New Construction	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	-0.1%
All Homes	0.99	0.99	0.99	0.99	0.99	0.99	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/ Kilowatt-hours 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 2001 (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 2001 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.

kWh/y = Kilowatt hours per year to run the appliance under certain test conditions as specified by the Department of Energy.

Btu = British thermal unit.

N/A = Not applicable.

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

Source: Energy Information Administration, AEO2007 National Energy Modeling System run aeo2007.d112106a.

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

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Commercial Building Delivered													
Energy Consumption (quadrillion Btu) 1/													
Assembly	0.55	0.55	0.53	0.55	0.56	0.56	0.57	0.58	0.58	0.59	0.60	0.60	0.61
Education	0.87	0.88	0.87	0.90	0.92	0.94	0.96	0.98	1.00	1.02	1.04	1.06	1.07
Food Sales	0.25	0.26	0.26	0.26	0.27	0.27	0.28	0.28	0.28	0.29	0.29	0.30	0.30
Food Service	0.43	0.44	0.43	0.43	0.44	0.45	0.45	0.46	0.47	0.48	0.48	0.49	0.50
Health Care	0.40	0.40	0.40	0.41	0.42	0.43	0.44	0.45	0.47	0.48	0.49	0.50	0.51
Lodging	0.59	0.58	0.57	0.57	0.58	0.59	0.59	0.61	0.62	0.64	0.65	0.67	0.68
Office - Large	0.71	0.73	0.73	0.75	0.77	0.79	0.81	0.83	0.84	0.86	0.88	0.89	0.91
Office - Small	0.54	0.56	0.56	0.58	0.60	0.61	0.62	0.64	0.65	0.66	0.67	0.68	0.69
Mercantile/Service	1.37	1.41	1.41	1.44	1.47	1.50	1.53	1.56	1.59	1.62	1.65	1.68	1.70
Warehouse	0.40	0.40	0.40	0.42	0.43	0.44	0.44	0.45	0.46	0.47	0.48	0.49	0.50
Other	0.50	0.51	0.50	0.53	0.55	0.56	0.58	0.60	0.62	0.63	0.65	0.66	0.68
Total	6.60	6.71	6.67	6.86	7.01	7.15	7.27	7.43	7.59	7.75	7.88	8.02	8.14
Commercial Building Floorspace													
(billion square feet)													
Assembly	7.79	7.89	7.99	8.06	8.12	8.19	8.26	8.34	8.42	8.50	8.58	8.66	8.74
Education	10.14	10.38	10.62	10.84	11.05	11.25	11.46	11.65	11.85	12.04	12.23	12.41	12.59
Food Sales	1.28	1.30	1.33	1.35	1.36	1.38	1.40	1.42	1.44	1.46	1.48	1.50	1.52
Food Service	1.68	1.72	1.75	1.78	1.80	1.83	1.86	1.88	1.91	1.94	1.97	1.99	2.02
Health Care	1.95	1.99	2.04	2.09	2.13	2.17	2.22	2.26	2.31	2.35	2.40	2.45	2.49
Lodging	5.19	5.29	5.40	5.49	5.59	5.68	5.77	5.87	5.96	6.06	6.17	6.27	6.37
Office - Large	6.91	6.97	7.03	7.09	7.15	7.21	7.28	7.35	7.42	7.49	7.56	7.62	7.68
Office - Small	6.67	6.73	6.80	6.87	6.94	7.02	7.09	7.17	7.25	7.33	7.41	7.49	7.56
Mercantile/Service	15.59	15.94	16.28	16.58	16.86	17.13	17.40	17.68	17.95	18.23	18.51	18.80	19.08
Warehouse	10.26	10.44	10.65	10.81	10.98	11.14	11.31	11.50	11.69	11.89	12.09	12.29	12.50
Other	5.52	5.62	5.73	5.88	6.04	6.19	6.33	6.48	6.63	6.77	6.92	7.07	7.22
Total	72.99	74.28	75.61	76.84	78.03	79.20	80.38	81.60	82.83	84.06	85.30	86.54	87.78
Stock Average Equipment Efficiency 2/													
Space Heating													
Electricity	1.10	1.11	1.13	1.14	1.16	1.17	1.18	1.19	1.20	1.20	1.21	1.22	1.22
Natural Gas	0.73	0.74	0.75	0.76	0.76	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78
Distillate Fuel Oil	0.75	0.76	0.76	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Space Cooling													
Electricity	2.77	2.80	2.83	2.86	2.89	2.91	2.96	3.01	3.06	3.10	3.14	3.18	3.22
Natural Gas	0.79	0.80	0.83	0.86	0.88	0.90	0.92	0.94	0.96	0.97	0.99	1.00	1.01
Water Heating													
Electricity	0.98	0.98	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	0.82	0.85	0.86	0.87	0.88	0.88	0.89	0.89	0.90	0.90	0.90	0.90
Distillate Fuel Oil	0.76	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Ventilation (cubic feet per minute per Btu) 3/													
Electricity	0.23	0.23	0.24	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.25	0.26	0.26
Cooking													
Electricity	0.71	0.71	0.72	0.72	0.73	0.73	0.73	0.73	0.74	0.74	0.74	0.74	0.74
Natural Gas	0.51	0.51	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Lighting Efficacy 4/													

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

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
(efficacy in lumens per watt)													
Electricity	37.90	39.04	40.05	40.93	41.69	42.34	42.90	43.34	43.70	44.00	44.27	44.52	44.74
Refrigeration													
Electricity	1.74	1.76	1.78	1.79	1.81	1.82	1.84	1.85	1.87	1.88	1.89	1.90	1.90

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Commercial Building Delivered															
Energy Consumption (quadrillion Btu) 1/															
Assembly	0.61	0.62	0.62	0.63	0.64	0.64	0.65	0.65	0.66	0.67	0.68	0.68	0.69	0.70	1.0%
Education	1.08	1.10	1.11	1.13	1.14	1.16	1.17	1.19	1.20	1.22	1.24	1.26	1.28	1.29	1.6%
Food Sales	0.30	0.31	0.31	0.31	0.32	0.32	0.33	0.33	0.34	0.34	0.35	0.35	0.36	0.36	1.3%
Food Service	0.50	0.51	0.52	0.52	0.53	0.54	0.55	0.55	0.56	0.57	0.58	0.59	0.60	0.61	1.4%
Health Care	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.62	0.63	0.64	0.65	0.66	2.0%
Lodging	0.69	0.70	0.72	0.73	0.75	0.76	0.78	0.79	0.81	0.83	0.84	0.86	0.88	0.89	1.7%
Office - Large	0.92	0.93	0.95	0.96	0.98	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.14	1.16	1.9%
Office - Small	0.70	0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.79	0.80	0.81	0.82	0.83	0.85	1.7%
Mercantile/Service	1.72	1.75	1.78	1.81	1.84	1.87	1.90	1.93	1.96	2.00	2.04	2.07	2.11	2.15	1.7%
Warehouse	0.51	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63	1.8%
Other	0.70	0.71	0.73	0.74	0.76	0.78	0.80	0.81	0.83	0.85	0.87	0.89	0.91	0.93	2.4%
Total	8.26	8.39	8.52	8.65	8.79	8.94	9.08	9.22	9.38	9.55	9.71	9.88	10.05	10.23	1.7%
Commercial Building Floorspace (billion square feet)															
Assembly	8.82	8.90	8.99	9.08	9.17	9.26	9.36	9.46	9.56	9.67	9.78	9.88	10.00	10.11	1.0%
Education	12.78	12.96	13.14	13.33	13.51	13.71	13.90	14.11	14.31	14.53	14.75	14.97	15.21	15.44	1.6%
Food Sales	1.54	1.55	1.57	1.59	1.62	1.64	1.66	1.68	1.71	1.73	1.76	1.78	1.81	1.83	1.4%
Food Service	2.05	2.08	2.11	2.13	2.16	2.19	2.23	2.26	2.29	2.33	2.36	2.40	2.43	2.47	1.5%
Health Care	2.54	2.59	2.64	2.69	2.74	2.79	2.84	2.89	2.95	3.00	3.06	3.11	3.17	3.23	1.9%
Lodging	6.48	6.59	6.70	6.81	6.93	7.06	7.19	7.32	7.45	7.59	7.73	7.87	8.00	8.14	1.7%
Office - Large	7.74	7.80	7.86	7.93	8.00	8.07	8.15	8.22	8.31	8.39	8.47	8.55	8.64	8.72	0.9%
Office - Small	7.63	7.71	7.78	7.86	7.94	8.02	8.11	8.21	8.30	8.39	8.49	8.59	8.68	8.78	1.1%
Mercantile/Service	19.37	19.67	19.97	20.28	20.61	20.95	21.31	21.68	22.05	22.44	22.83	23.22	23.63	24.03	1.7%
Warehouse	12.70	12.92	13.13	13.35	13.57	13.80	14.03	14.26	14.50	14.75	14.99	15.24	15.49	15.74	1.7%
Other	7.38	7.53	7.69	7.85	8.01	8.17	8.34	8.51	8.68	8.85	9.02	9.19	9.37	9.55	2.1%
Total	89.03	90.29	91.57	92.89	94.26	95.67	97.12	98.60	100.12	101.66	103.23	104.82	106.42	108.03	1.5%
Stock Average Equipment Efficiency 2/															
Space Heating															
Electricity	1.23	1.23	1.24	1.25	1.25	1.26	1.27	1.27	1.28	1.28	1.29	1.29	1.30	1.31	0.6%
Natural Gas	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.3%
Distillate Fuel Oil	0.78	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%
Space Cooling															
Electricity	3.25	3.29	3.32	3.35	3.38	3.41	3.44	3.46	3.49	3.51	3.53	3.56	3.58	3.59	1.0%
Natural Gas	1.02	1.04	1.05	1.06	1.07	1.07	1.08	1.09	1.10	1.10	1.11	1.11	1.12	1.12	1.3%
Water Heating															
Electricity	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.0%
Natural Gas	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.5%
Distillate Fuel Oil	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.1%
Ventilation (cubic feet per minute per Btu) 3/															
Electricity	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.28	0.28	0.7%
Cooking															
Electricity	0.74	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	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.1%
Lighting Efficacy 4/															

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
(efficacy in lumens per watt)															
Electricity	44.96	45.16	45.33	45.49	45.64	45.77	45.91	46.04	46.15	46.26	46.35	46.43	46.52	46.59	0.7%
Refrigeration															
Electricity	1.91	1.92	1.92	1.92	1.93	1.93	1.94	1.94	1.94	1.94	1.94	1.94	1.95	1.95	0.4%

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

- 1/ Excludes commercial sector energy consumption (from uses such as street lights) 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.

Btu = British thermal unit.

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

Source: Energy Information Administration, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 23. Industrial Sector Macroeconomic Indicators

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
GDP (billion 2000 dollars)	10703.5	11048.6	11415.0	11696.0	12051.9	12419.0	12790.3	13175.1	13529.9	13895.4	14290.3	14697.7	15139.2
Nonfarm Employment (millions)	131.4	133.4	135.4	136.7	138.6	140.4	141.9	143.3	144.3	145.1	146.0	147.0	148.1
Value of Shipments (billion 2000 dollars)													
Nonmanufacturing Sector													
Agriculture/Forestry/Fishing/Hunting	270.5	268.1	268.5	268.8	268.3	271.7	276.8	279.6	281.6	283.8	285.1	287.8	291.0
Mining	219.7	220.5	228.8	236.8	240.9	242.2	242.5	243.0	245.4	244.1	248.0	248.6	249.3
Construction	1003.7	1049.6	1060.0	1041.2	1049.1	1056.4	1076.8	1089.8	1102.0	1123.8	1141.3	1164.5	1193.3
Manufacturing Sector													
Food Products	450.0	470.1	477.6	489.8	497.5	505.9	513.9	521.3	530.4	539.6	547.4	556.5	565.9
Beverages and Tobacco Products	103.7	103.0	105.5	104.6	103.0	101.5	100.9	101.0	101.9	103.2	104.4	105.5	106.8
Textile Mills and Products	76.9	74.7	73.0	69.8	66.9	64.8	63.7	63.0	62.6	62.3	61.9	61.8	61.7
Apparel	42.3	42.6	44.6	42.5	39.8	37.4	35.4	33.8	32.5	31.1	29.8	28.5	27.3
Wood Products	97.1	98.8	100.6	96.7	92.6	90.7	91.8	93.3	93.8	94.7	95.9	98.6	101.7
Furniture and Related Products	79.2	81.4	84.4	83.3	85.0	85.5	87.6	89.5	90.8	92.5	94.4	95.7	97.6
Paper Products	157.4	155.8	158.0	160.4	160.9	161.4	163.0	165.8	169.0	171.9	174.4	176.7	179.3
Printing	83.9	78.4	77.9	77.5	77.1	77.5	78.4	79.1	79.8	80.4	81.1	81.8	82.6
Chemical Manufacturing	469.8	458.6	467.3	485.6	493.9	500.2	509.6	521.9	534.5	547.8	561.7	576.6	592.7
Bulk Chemicals	200.4	188.3	195.5	206.3	209.4	208.3	208.4	209.9	210.7	211.3	211.9	212.2	212.7
Inorganic	29.7	29.2	30.3	30.4	30.4	30.0	29.8	29.8	29.7	29.5	29.3	29.0	28.8
Organic	82.2	73.5	76.7	82.1	84.2	84.1	84.1	84.7	85.1	85.4	85.9	86.2	86.5
Resin, Synthetic Rubber, and Fibers	70.1	66.8	70.2	75.4	77.0	76.5	76.6	77.2	77.7	78.2	78.6	79.0	79.6
Agricultural Chemicals	18.4	18.8	18.3	18.3	17.8	17.7	17.8	18.2	18.1	18.1	18.1	18.0	17.8
Other Chemical Products	269.4	270.4	271.8	279.3	284.5	292.0	301.2	312.0	323.8	336.5	349.9	364.3	380.0
Petroleum and Coal Products	246.7	243.3	245.5	251.2	254.1	258.5	260.9	264.9	269.0	271.9	274.6	278.2	280.8
Petroleum Refineries	224.5	222.4	226.6	231.2	233.4	237.5	239.6	243.0	246.3	248.5	250.7	253.8	256.3
Other Petroleum and Coal Products	22.2	20.9	19.0	20.0	20.7	21.0	21.3	21.9	22.7	23.4	23.9	24.4	24.5
Plastics and Rubber Products	180.1	179.8	181.0	184.7	186.9	188.3	191.5	195.9	200.6	205.4	210.2	215.1	220.7
Leather and Leather Products	5.2	5.2	5.1	4.8	4.6	4.5	4.4	4.3	4.2	4.1	4.0	4.0	3.9
Stone, Clay, and Glass Products	91.5	94.8	98.0	101.9	103.8	104.3	105.0	106.5	108.4	110.8	112.9	115.4	118.1
Glass and Glass Products	22.0	21.3	21.1	22.2	23.0	23.4	23.7	24.0	24.7	25.6	26.6	27.5	28.1
Cement Manufacturing	7.6	7.8	8.2	8.4	8.5	8.5	8.5	8.5	8.6	8.7	8.8	8.9	9.0
Other Nonmetallic Mineral Products	61.8	65.7	68.7	71.3	72.3	72.4	72.8	73.9	75.2	76.4	77.5	79.1	81.0
Primary Metals Industry	144.3	140.2	147.9	151.0	152.5	153.6	155.4	157.6	160.4	163.1	165.0	167.0	168.5
Iron and Steel Mills and Products	68.5	64.3	69.5	71.0	72.0	72.5	73.6	74.3	75.3	76.3	77.1	78.0	78.4
Alumina and Aluminum Products	30.4	30.2	29.8	30.6	31.0	31.1	31.1	31.6	32.3	32.8	33.2	33.7	34.1
Other Primary Metal Products	45.4	45.8	48.5	49.4	49.6	50.0	50.7	51.7	52.8	53.9	54.6	55.3	56.0
Fabricated Metal Products	250.9	251.9	263.6	268.3	273.5	277.3	278.9	283.3	289.0	294.9	300.9	307.4	313.1
Machinery	278.2	295.9	314.1	318.1	317.1	316.9	318.9	323.2	331.0	340.4	350.2	360.6	370.8
Computers and Electronics	494.8	543.9	581.8	616.2	640.8	671.7	701.7	733.7	770.6	806.0	841.4	882.7	926.2
Transportation Equipment	666.2	661.6	665.7	674.8	699.7	730.6	755.2	794.8	823.9	847.9	865.3	882.9	899.6
Electrical Equipment	106.8	108.3	112.4	116.8	118.9	121.4	123.9	125.8	128.5	131.2	133.8	136.5	139.3
Miscellaneous Manufacturing	131.8	136.4	137.7	142.9	149.2	155.1	162.2	169.4	176.3	183.6	191.9	200.7	210.4
Total Industrial Value of Shipments	5650.6	5762.9	5899.1	5987.7	6076.1	6177.7	6298.2	6440.5	6586.2	6734.6	6875.8	7032.9	7200.1

Table 23. Industrial Sector Macroeconomic Indicators

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
GDP (billion 2000 dollars)	15611.0	16072.4	16560.0	17076.9	17583.9	18081.9	18590.2	19118.5	19666.4	20225.4	20784.9	21338.3	21909.4	22494.2	2.9%
Nonfarm Employment (millions)	149.6	151.1	152.8	154.6	156.4	158.0	159.5	160.9	162.3	163.7	165.2	166.6	167.9	169.2	1.0%
Value of Shipments (billion 2000 dollars)															
Nonmanufacturing Sector															
Agriculture/Forestry/Fishing/Hunting	293.4	294.8	296.7	298.8	300.9	303.0	305.5	307.9	310.6	313.2	315.7	317.9	320.6	323.0	0.7%
Mining	250.2	252.2	255.6	256.8	258.0	258.6	258.2	257.1	255.8	255.0	255.2	255.7	256.2	255.8	0.6%
Construction	1216.1	1241.4	1264.4	1290.8	1308.6	1321.3	1332.7	1349.5	1373.4	1396.7	1412.7	1416.1	1426.5	1444.4	1.3%
Manufacturing Sector															
Food Products	573.1	581.4	590.3	600.3	610.4	621.1	631.5	643.5	656.2	668.9	682.1	695.6	707.4	720.4	1.7%
Beverages and Tobacco Products	107.3	107.6	108.2	108.8	109.5	110.0	110.6	111.3	112.0	112.7	113.5	114.3	115.1	115.9	0.5%
Textile Mills and Products	61.0	60.0	59.2	58.5	57.7	56.7	55.8	55.2	55.0	54.8	54.2	53.3	52.3	51.4	-1.5%
Apparel	26.2	25.2	24.2	23.2	22.3	21.3	20.4	19.5	18.7	18.0	17.2	16.4	15.6	14.8	-4.1%
Wood Products	102.8	103.4	104.5	105.6	105.9	106.3	106.0	107.4	110.0	111.9	112.3	111.8	112.0	113.4	0.6%
Furniture and Related Products	99.6	101.4	103.3	105.0	107.1	109.0	111.3	113.1	115.2	117.6	120.2	122.7	126.4	129.5	1.9%
Paper Products	181.2	182.9	185.2	187.7	190.2	192.6	195.0	197.3	200.0	202.7	205.6	208.2	211.0	213.5	1.3%
Printing	83.4	84.1	84.8	85.4	86.0	86.6	87.3	87.9	88.5	89.2	89.8	90.5	91.3	92.0	0.6%
Chemical Manufacturing	605.9	616.0	627.5	639.6	651.8	663.9	676.8	689.7	703.1	717.3	732.4	747.8	764.7	780.9	2.2%
Bulk Chemicals	212.6	212.4	213.7	215.2	216.5	217.4	218.5	219.2	220.0	221.1	222.3	223.4	224.9	226.2	0.7%
Inorganic	28.5	28.1	27.9	27.8	27.6	27.5	27.2	27.0	26.9	26.7	26.6	26.4	26.2	26.0	-0.5%
Organic	86.6	86.5	87.2	88.1	88.9	89.8	90.5	91.1	91.7	92.3	93.1	93.7	94.5	95.1	1.0%
Resin, Synthetic Rubber, and Fibers	79.8	80.1	80.8	81.5	82.1	82.5	82.9	83.3	83.8	84.4	85.0	85.7	86.5	87.2	1.1%
Agricultural Chemicals	17.7	17.7	17.8	17.8	17.8	17.7	17.8	17.8	17.7	17.7	17.6	17.6	17.7	17.8	-0.2%
Other Chemical Products	393.2	403.6	413.8	424.4	435.3	446.5	458.3	470.4	483.0	496.2	510.1	524.4	539.8	554.7	2.9%
Petroleum and Coal Products	282.5	285.7	289.0	292.0	296.3	300.9	301.2	304.2	307.5	310.9	314.4	317.1	320.7	324.6	1.2%
Petroleum Refineries	258.0	260.8	263.7	266.3	270.3	274.5	274.4	277.0	279.8	282.7	285.7	288.1	291.3	294.9	1.1%
Other Petroleum and Coal Products	24.6	24.9	25.3	25.7	26.0	26.4	26.8	27.2	27.7	28.2	28.6	29.1	29.5	29.8	1.4%
Plastics and Rubber Products	225.0	228.4	232.6	237.6	242.3	246.8	251.2	255.7	260.9	266.2	271.4	276.2	281.1	285.7	1.9%
Leather and Leather Products	3.8	3.7	3.6	3.5	3.5	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.7	-2.7%
Stone, Clay, and Glass Products	119.9	121.0	122.9	125.5	127.5	129.4	131.1	132.8	135.1	137.2	139.5	141.5	143.0	144.6	1.7%
Glass and Glass Products	28.5	28.7	29.3	30.2	30.8	31.5	32.1	32.6	33.2	33.8	34.4	35.0	35.4	35.9	2.1%
Cement Manufacturing	9.0	9.1	9.2	9.4	9.5	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.2	10.3	1.1%
Other Nonmetallic Mineral Products	82.4	83.2	84.4	85.9	87.2	88.3	89.3	90.5	92.0	93.5	95.0	96.3	97.3	98.4	1.6%
Primary Metals Industry	168.8	170.6	173.4	176.3	178.8	180.9	182.7	185.3	188.2	191.8	194.8	197.5	199.4	201.5	1.5%
Iron and Steel Mills and Products	78.2	78.9	80.0	81.1	82.0	82.8	83.4	84.4	85.7	87.1	88.4	89.3	89.7	90.3	1.4%
Alumina and Aluminum Products	34.0	34.2	34.9	35.6	35.9	36.3	36.6	37.0	37.2	37.7	38.1	38.6	39.0	39.2	1.1%
Other Primary Metal Products	56.6	57.5	58.5	59.7	60.8	61.8	62.8	63.9	65.4	66.9	68.4	69.7	70.8	72.0	1.8%
Fabricated Metal Products	317.6	321.0	325.7	331.1	336.6	342.3	348.4	354.4	361.0	368.1	375.4	381.8	387.6	393.9	1.8%
Machinery	379.1	385.4	393.1	402.1	411.6	421.0	431.1	441.4	452.6	465.1	477.5	489.0	500.6	512.5	2.2%
Computers and Electronics	961.1	1000.0	1041.6	1088.7	1136.4	1187.0	1238.6	1291.5	1349.7	1410.8	1471.4	1533.6	1595.9	1664.8	4.6%
Transportation Equipment	911.1	928.8	950.1	969.8	990.7	1017.3	1030.2	1047.1	1074.6	1100.6	1127.1	1150.8	1167.2	1185.5	2.4%
Electrical Equipment	142.3	145.5	148.8	152.2	155.6	159.2	163.0	166.7	170.4	174.3	178.1	182.1	186.3	190.6	2.3%
Miscellaneous Manufacturing	219.3	226.0	232.6	239.5	247.0	255.1	264.2	273.4	283.1	293.3	304.2	315.8	328.1	340.1	3.7%
Total Industrial Value of Shipments	7330.7	7466.4	7617.2	7779.0	7934.5	8093.8	8236.1	8395.1	8584.8	8779.3	8967.7	9138.6	9311.8	9501.5	2.0%

Table 23. Industrial Sector Macroeconomic Indicators

GDP = Gross domestic product.

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

Source: 2005: Global Insight macroeconomic model CTL0806. Projections: Energy Information Administration, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 24. Refining Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	224.54	222.41	226.55	231.17	233.39	237.46	239.63	243.04	246.31	248.55	250.71	253.84	256.31
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	13.8	13.9	14.1	32.8	33.0	33.1	33.2	33.3	33.3	33.4	33.4	33.6	33.8
Distillate Fuel Oil	4.8	4.4	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gases	12.8	15.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Coke	569.9	563.6	582.1	604.3	588.9	597.1	595.9	631.6	646.3	658.2	661.1	671.7	685.5
Still Gas	1735.2	1624.8	1683.8	1458.3	1519.4	1558.2	1437.6	1573.9	1549.0	1596.4	1504.2	1615.5	1627.8
Other Petroleum 2/	33.8	30.9	33.8	16.0	17.0	15.2	19.2	20.7	22.9	24.2	24.6	24.8	24.0
Petroleum Subtotal	2370.3	2252.7	2335.0	2111.4	2158.3	2203.5	2085.9	2259.5	2251.6	2312.2	2223.3	2345.6	2371.1
Natural Gas	1042.5	972.5	990.3	1204.3	1162.8	1238.5	1449.1	1289.0	1341.7	1317.2	1445.7	1318.3	1327.8
Steam Coal 3/	101.1	115.8	149.4	110.3	114.9	114.9	114.9	193.7	202.9	202.9	235.7	235.7	235.7
Biofuels Heat and Coproducts	212.6	244.8	315.2	354.3	454.0	613.1	688.6	707.4	721.8	727.4	730.6	736.1	740.1
Purchased Electricity	130.4	132.1	135.6	166.3	169.3	178.8	185.7	184.9	189.2	195.0	193.3	198.6	200.8
Total	3856.9	3717.8	3925.5	3946.6	4059.4	4348.9	4524.1	4634.4	4707.1	4754.7	4828.6	4834.3	4875.2
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.06	0.06	0.06	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13
Distillate Fuel Oil	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquefied Petroleum Gases	0.06	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Coke	2.54	2.53	2.57	2.61	2.52	2.51	2.49	2.60	2.62	2.65	2.64	2.65	2.67
Still Gas	7.73	7.31	7.43	6.31	6.51	6.56	6.00	6.48	6.29	6.42	6.00	6.36	6.35
Other Petroleum 2/	0.15	0.14	0.15	0.07	0.07	0.06	0.08	0.09	0.09	0.10	0.10	0.10	0.09
Petroleum Subtotal	10.56	10.13	10.31	9.13	9.25	9.28	8.70	9.30	9.14	9.30	8.87	9.24	9.25
Natural Gas	4.64	4.37	4.37	5.21	4.98	5.22	6.05	5.30	5.45	5.30	5.77	5.19	5.18
Steam Coal	0.45	0.52	0.66	0.48	0.49	0.48	0.48	0.80	0.82	0.82	0.94	0.93	0.92
Biofuels Heat and Coproducts	0.95	1.10	1.39	1.53	1.95	2.58	2.87	2.91	2.93	2.93	2.91	2.90	2.89
Purchased Electricity	0.58	0.59	0.60	0.72	0.73	0.75	0.77	0.76	0.77	0.78	0.77	0.78	0.78
Total	17.18	16.72	17.33	17.07	17.39	18.31	18.88	19.07	19.11	19.13	19.26	19.04	19.02
Carbon Dioxide Emissions 4/ (million metric tons)	234.0	224.5	233.9	232.6	234.3	242.9	248.0	257.3	261.0	264.4	268.4	270.2	272.5
Combined Heat and Power													
Generating Capacity (gigawatts)													
Petroleum	0.86	0.86	0.86	0.85	0.87	0.87	0.87	1.07	1.07	1.07	1.08	1.08	1.08
Natural Gas	1.78	1.87	1.87	3.26	3.42	3.42	3.42	3.52	3.52	3.52	3.59	3.59	3.59
Coal	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.95	1.06	1.06	1.46	1.46	1.46
Other 5/	0.50	0.62	0.62	0.62	0.65	0.65	0.65	0.67	0.67	0.67	0.68	0.68	0.68
Total	3.16	3.36	3.36	4.74	4.94	4.94	4.94	6.20	6.31	6.31	6.81	6.81	6.81
Net Generation (billion kilowatthours)													
Petroleum	1.29	1.10	1.13	6.30	6.43	6.43	6.43	8.13	8.13	8.13	8.19	8.19	8.19
Natural Gas	18.82	16.87	14.55	21.46	22.67	22.67	22.67	23.46	23.46	23.46	24.07	24.07	24.07
Coal	0.27	0.40	0.41	0.00	0.00	0.00	0.00	7.47	8.35	8.35	11.46	11.46	11.46
Other 5/	5.66	4.73	3.67	4.09	4.33	4.33	4.33	4.45	4.45	4.45	4.56	4.56	4.56
Total	26.05	23.10	19.76	31.85	33.42	33.42	33.42	43.50	44.38	44.38	48.28	48.28	48.28
Disposition													
Sales to the Grid	5.97	5.82	6.62	12.20	12.38	12.38	12.38	17.18	17.72	17.72	19.80	19.80	19.80
Generation for Own Use	20.08	17.28	13.14	19.65	21.04	21.04	21.04	26.32	26.66	26.66	28.48	28.48	28.48
Energy Consumed at Ethanol Plants (trillion Btu)													
Natural Gas	49.3	56.0	72.2	113.3	164.5	252.5	291.7	299.1	303.8	308.1	311.0	314.6	316.9
Coal	101.1	115.8	149.4	110.3	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9

Table 24. Refining Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Electricity	6.3	7.2	9.3	19.1	24.6	33.3	37.2	37.9	38.4	38.8	39.1	39.4	39.7
Total	156.6	179.0	231.0	242.8	304.0	400.7	443.8	451.9	457.1	461.7	465.0	468.9	471.5

Table 24. Refining Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	257.98	260.84	263.70	266.28	270.26	274.49	274.38	277.00	279.80	282.68	285.72	288.08	291.29	294.87	1.1%
Energy Consumption (trillion Btu) 1/															
Residual Fuel Oil	34.0	34.2	34.6	34.8	35.1	35.5	35.7	35.9	36.1	36.2	36.5	36.7	37.0	37.3	4.0%
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	0.0	N/A
Liquefied Petroleum Gases	0.0	0.0	0.0	0.0	0.0	0.0	2.4	5.6	14.6	0.0	5.0	8.6	23.6	27.6	2.5%
Petroleum Coke	694.4	710.1	739.9	769.2	788.6	809.2	814.7	828.7	840.4	835.8	848.9	848.9	860.9	870.3	1.8%
Still Gas	1530.6	1608.8	1652.9	1561.6	1647.4	1707.9	1676.4	1680.5	1571.3	1733.1	1748.8	1651.4	1637.1	1781.2	0.4%
Other Petroleum 2/	26.6	27.6	27.9	26.8	27.4	28.5	30.7	31.1	32.0	32.4	34.4	35.9	39.4	40.1	1.0%
Petroleum Subtotal	2285.6	2380.7	2455.2	2392.4	2498.5	2581.2	2559.9	2581.8	2494.4	2637.6	2673.6	2581.4	2598.1	2756.6	0.8%
Natural Gas	1453.2	1372.8	1341.2	1473.7	1384.3	1327.1	1358.9	1367.9	1535.2	1355.6	1356.6	1505.7	1525.4	1360.0	1.4%
Steam Coal 3/	254.9	280.6	300.2	321.4	341.6	449.3	466.8	594.5	784.2	921.6	920.8	992.9	1017.8	1047.4	9.2%
Biofuels Heat and Coproducts	747.9	758.7	770.2	777.9	791.5	804.1	809.1	819.3	832.8	841.1	850.5	856.2	866.2	876.2	5.2%
Purchased Electricity	200.7	202.0	206.1	202.6	205.4	210.3	206.9	210.6	215.1	212.6	217.0	220.0	220.7	224.5	2.1%
Total	4942.3	4994.8	5073.0	5168.0	5221.3	5372.0	5401.6	5574.0	5861.7	5968.4	6018.5	6156.3	6228.1	6264.6	2.1%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Fuel Oil	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	0.13	2.9%
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	0.00	N/A
Liquefied Petroleum Gases	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.05	0.00	0.02	0.03	0.08	0.09	1.3%
Petroleum Coke	2.69	2.72	2.81	2.89	2.92	2.95	2.97	2.99	3.00	2.96	2.97	2.95	2.96	2.95	0.6%
Still Gas	5.93	6.17	6.27	5.86	6.10	6.22	6.11	6.07	5.62	6.13	6.12	5.73	5.62	6.04	-0.8%
Other Petroleum 2/	0.10	0.11	0.11	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.14	0.14	-0.1%
Petroleum Subtotal	8.86	9.13	9.31	8.98	9.25	9.40	9.33	9.32	8.91	9.33	9.36	8.96	8.92	9.35	-0.3%
Natural Gas	5.63	5.26	5.09	5.53	5.12	4.83	4.95	4.94	5.49	4.80	4.75	5.23	5.24	4.61	0.2%
Steam Coal	0.99	1.08	1.14	1.21	1.26	1.64	1.70	2.15	2.80	3.26	3.22	3.45	3.49	3.55	8.0%
Biofuels Heat and Coproducts	2.90	2.91	2.92	2.92	2.93	2.93	2.95	2.96	2.98	2.98	2.98	2.97	2.97	2.97	4.1%
Purchased Electricity	0.78	0.77	0.78	0.76	0.76	0.77	0.75	0.76	0.77	0.75	0.76	0.76	0.76	0.76	1.0%
Total	19.16	19.15	19.24	19.41	19.32	19.57	19.69	20.12	20.95	21.11	21.06	21.37	21.38	21.25	1.0%
Carbon Dioxide Emissions 4/ (million metric tons)	275.3	279.4	284.7	288.7	293.1	306.2	307.7	322.1	343.8	356.0	359.1	368.4	373.0	378.0	2.1%
Combined Heat and Power															
Generating Capacity (gigawatts)															
Petroleum	1.09	1.09	1.09	1.11	1.11	1.11	1.12	1.12	1.12	1.14	1.14	1.14	1.16	1.16	1.2%
Natural Gas	3.75	3.75	3.75	3.90	3.90	3.90	4.06	4.06	4.06	4.21	4.21	4.21	4.36	4.36	3.5%
Coal	1.69	2.00	2.23	2.49	2.73	4.03	4.24	5.77	8.06	9.71	9.70	10.57	10.87	11.23	28.8%
Other 5/	0.71	0.71	0.71	0.74	0.74	0.74	0.77	0.77	0.77	0.80	0.80	0.80	0.83	0.83	1.2%
Total	7.24	7.55	7.79	8.24	8.48	9.78	10.19	11.73	14.01	15.87	15.86	16.73	17.23	17.58	6.8%
Net Generation (billion kilowatthours)															
Petroleum	8.25	8.31	8.31	8.44	8.44	8.44	8.56	8.57	8.57	8.69	8.69	8.69	8.82	8.82	8.7%
Natural Gas	24.67	25.28	25.28	26.50	26.50	26.50	27.71	27.71	27.71	28.92	28.92	28.92	30.14	30.14	2.3%
Coal	13.28	15.71	17.58	19.58	21.50	31.72	33.37	45.48	63.48	76.51	76.43	83.28	85.63	88.44	24.1%
Other 5/	4.68	4.80	4.80	5.04	5.04	5.04	5.27	5.27	5.27	5.51	5.51	5.51	5.75	5.75	0.8%
Total	50.89	54.11	55.98	59.56	61.47	71.69	74.92	87.03	105.03	119.64	119.56	126.40	130.34	133.14	7.3%
Disposition															
Sales to the Grid	21.08	22.60	23.74	25.16	26.34	32.62	33.83	41.27	52.33	60.53	60.48	64.68	66.32	68.04	10.3%
Generation for Own Use	29.81	31.51	32.23	34.39	35.13	39.07	41.09	45.76	52.70	59.11	59.08	61.72	64.02	65.10	5.4%
Energy Consumed at Ethanol Plants (trillion Btu)															
Natural Gas	322.0	329.1	336.7	341.8	350.7	359.0	362.3	369.1	377.9	383.4	389.6	393.4	399.9	406.5	8.2%
Coal	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	114.9	0.0%

Table 24. Refining Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Electricity	40.2	40.9	41.6	42.1	43.0	43.8	44.2	44.8	45.7	46.2	46.8	47.2	47.9	48.5	7.9%
Total	477.0	484.9	493.2	498.8	508.6	517.7	521.4	528.8	538.5	544.5	551.3	555.4	562.6	569.9	4.7%

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.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). 2004 and 2005 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. 2004 and 2005 electricity consumption at ethanol plants: U.S. Department of Agriculture, 1998 Ethanol Cost-of-Production Survey, Agricultural Economic Report Number 808. Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 25. Food Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	450.04	470.14	477.58	489.79	497.52	505.91	513.92	521.33	530.40	539.56	547.44	556.48	565.88
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	7.8	7.1	5.1	4.8	4.6	4.3	4.2	4.1	4.1	4.3	4.2	4.0	4.0
Distillate Fuel Oil	20.1	19.9	15.1	14.2	14.7	14.6	14.7	14.4	15.1	15.2	15.7	15.4	15.5
Liquefied Petroleum Gases	5.9	5.8	4.7	4.4	4.3	4.2	4.2	4.1	4.2	4.2	4.3	4.2	4.3
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	33.8	32.9	24.9	23.4	23.6	23.2	23.1	22.6	23.4	23.7	24.1	23.7	23.8
Natural Gas	537.4	544.5	557.3	568.3	572.5	579.9	585.9	592.4	598.7	606.3	611.2	619.1	626.2
Steam Coal	194.7	202.0	201.8	201.9	201.7	201.5	201.4	201.1	201.0	200.8	200.7	200.6	200.5
Renewables	43.8	46.2	47.1	48.5	49.4	50.4	51.3	52.2	53.3	54.4	55.3	56.4	57.5
Purchased Electricity	229.7	239.1	239.6	242.9	244.6	246.1	248.2	250.4	253.4	255.9	257.9	260.0	262.3
Total	1039.5	1064.7	1070.7	1085.0	1091.8	1101.1	1109.8	1118.6	1129.7	1141.1	1149.2	1159.8	1170.4
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.02	0.02	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	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Liquefied Petroleum Gases	0.01	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	0.08	0.07	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Natural Gas	1.19	1.16	1.17	1.16	1.15	1.15	1.14	1.14	1.13	1.12	1.12	1.11	1.11
Steam Coal	0.43	0.43	0.42	0.41	0.41	0.40	0.39	0.39	0.38	0.37	0.37	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	0.10	0.10
Purchased Electricity	0.51	0.51	0.50	0.50	0.49	0.49	0.48	0.48	0.48	0.47	0.47	0.47	0.46
Total	2.31	2.26	2.24	2.22	2.19	2.18	2.16	2.15	2.13	2.11	2.10	2.08	2.07
Carbon Dioxide Emissions 3/ (million metric tons)	92.8	95.5	94.9	95.7	95.9	96.6	97.5	98.1	98.8	99.7	100.5	101.1	101.8
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	0.44	0.42	0.45	0.49	0.54	0.59	0.64	0.69	0.74	0.80	0.85	0.90	0.96
Coal	0.86	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
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	1.39	1.46	1.50	1.54	1.58	1.63	1.68	1.74	1.78	1.84	1.89	1.95	2.00
Net Generation (billion kilowatthours)													
Petroleum	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
Natural Gas	1.62	1.55	1.80	2.09	2.40	2.79	3.19	3.57	3.92	4.32	4.70	5.12	5.55
Coal	3.95	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
Other 5/	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Total	5.86	6.04	6.29	6.58	6.89	7.28	7.68	8.06	8.42	8.82	9.19	9.61	10.04
Disposition													
Sales to the Grid	0.22	0.22	0.28	0.36	0.44	0.54	0.65	0.75	0.84	0.95	1.05	1.16	1.27
Generation for Own Use	5.64	5.83	6.01	6.22	6.45	6.74	7.03	7.31	7.57	7.87	8.15	8.46	8.77

Table 25. Food Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	573.12	581.40	590.29	600.27	610.36	621.08	631.53	643.50	656.23	668.90	682.10	695.62	707.35	720.45	1.7%
Energy Consumption (trillion Btu) 1/															
Residual Fuel Oil	4.0	3.9	3.7	3.7	3.6	3.6	3.8	3.8	3.9	3.9	3.9	4.0	4.1	4.2	-2.1%
Distillate Fuel Oil	15.8	15.5	15.1	15.4	15.3	15.3	16.1	16.2	16.2	16.3	16.4	16.7	17.0	17.1	-0.6%
Liquefied Petroleum Gases	4.4	4.3	4.3	4.4	4.4	4.5	4.6	4.7	4.7	4.8	4.8	4.9	5.0	5.1	-0.5%
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	0.0	N/A
Petroleum Subtotal	24.1	23.7	23.1	23.6	23.3	23.5	24.5	24.7	24.8	24.9	25.2	25.7	26.2	26.3	-0.9%
Natural Gas	630.3	638.3	647.8	657.4	669.1	681.8	693.5	706.7	721.3	735.7	750.3	765.2	778.5	793.8	1.5%
Steam Coal	200.3	200.2	200.1	200.0	200.0	200.1	200.3	200.5	200.8	201.0	201.2	201.5	201.7	201.9	0.0%
Renewables	58.4	59.5	60.6	61.8	63.0	64.3	65.6	67.0	68.5	70.0	71.6	73.2	74.7	76.3	2.0%
Purchased Electricity	263.5	264.7	266.4	268.6	270.7	273.3	275.8	278.7	281.8	285.0	288.6	292.2	294.9	298.3	0.9%
Total	1176.7	1186.4	1198.0	1211.4	1226.1	1243.0	1259.6	1277.6	1297.3	1316.7	1336.9	1357.9	1376.0	1396.6	1.1%
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	0.01	-3.8%
Distillate Fuel Oil	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	-2.3%
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	0.01	-2.2%
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	0.00	N/A
Petroleum Subtotal	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	0.04	-2.6%
Natural Gas	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-0.2%
Steam Coal	0.35	0.34	0.34	0.33	0.33	0.32	0.32	0.31	0.31	0.30	0.30	0.29	0.29	0.28	-1.7%
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	0.11	0.3%
Purchased Electricity	0.46	0.46	0.45	0.45	0.44	0.44	0.44	0.43	0.43	0.43	0.42	0.42	0.42	0.41	-0.8%
Total	2.05	2.04	2.03	2.02	2.01	2.00	1.99	1.99	1.98	1.97	1.96	1.95	1.95	1.94	-0.6%
Carbon Dioxide Emissions 3/ (million metric tons)	102.1	102.6	103.3	104.3	105.5	106.9	108.3	109.7	111.1	112.7	114.3	115.9	117.4	119.1	0.9%
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	0.06	N/A
Natural Gas	1.02	1.09	1.16	1.24	1.32	1.39	1.47	1.55	1.63	1.71	1.79	1.87	1.96	2.04	6.5%
Coal	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	N/A
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	0.03	N/A
Total	2.06	2.13	2.20	2.28	2.36	2.44	2.51	2.59	2.67	2.75	2.84	2.92	3.00	3.08	3.0%
Net Generation (billion kilowatthours)															
Petroleum	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	0.15	N/A
Natural Gas	5.98	6.49	7.03	7.57	8.16	8.73	9.28	9.85	10.46	11.07	11.67	12.26	12.86	13.48	9.0%
Coal	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	N/A
Other 5/	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	0.16	N/A
Total	10.47	10.98	11.52	12.06	12.65	13.22	13.77	14.34	14.95	15.56	16.16	16.75	17.36	17.97	4.5%
Disposition															
Sales to the Grid	1.38	1.52	1.66	1.80	1.96	2.11	2.25	2.40	2.56	2.72	2.88	3.04	3.20	3.36	11.6%
Generation for Own Use	9.09	9.46	9.86	10.26	10.69	11.11	11.52	11.94	12.39	12.84	13.28	13.71	14.16	14.61	3.7%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 26. Paper Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	157.39	155.78	158.04	160.38	160.93	161.38	163.05	165.75	169.02	171.94	174.44	176.71	179.31
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	112.7	115.2	105.3	103.7	102.3	102.3	102.6	102.7	103.5	104.5	104.8	104.3	104.7
Distillate Fuel Oil	14.3	14.4	13.6	13.5	13.7	13.7	13.8	13.8	13.9	14.0	14.1	14.1	14.0
Liquefied Petroleum Gases	5.0	4.5	4.1	3.9	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0
Petroleum Coke	10.7	10.7	10.6	10.5	10.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Other Petroleum	13.1	13.1	12.9	12.8	12.8	12.8	12.8	12.7	12.8	12.7	12.7	12.7	12.7
Petroleum Subtotal	155.9	157.9	146.5	144.4	143.2	143.2	143.5	143.6	144.6	145.6	146.0	145.5	145.8
Natural Gas	513.9	455.1	469.7	474.7	476.3	478.4	481.7	487.4	492.6	498.2	503.1	509.3	515.1
Steam Coal	270.2	272.6	272.3	271.9	271.3	270.8	270.4	270.1	270.0	269.8	269.6	269.5	269.4
Renewables	1172.6	1155.1	1170.2	1184.7	1188.1	1191.0	1202.1	1220.5	1243.0	1263.6	1281.6	1298.3	1317.5
Purchased Electricity	219.6	224.7	222.3	220.9	217.4	213.4	211.7	211.9	213.0	213.1	213.0	212.3	212.0
Total	2332.2	2265.4	2281.0	2296.6	2296.4	2296.6	2309.4	2333.5	2363.1	2390.3	2413.3	2434.9	2459.7
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.72	0.74	0.67	0.65	0.64	0.63	0.63	0.62	0.61	0.61	0.60	0.59	0.58
Distillate Fuel Oil	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Liquefied Petroleum Gases	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Petroleum Coke	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Other Petroleum	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07
Petroleum Subtotal	0.99	1.01	0.93	0.90	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.82	0.81
Natural Gas	3.26	2.92	2.97	2.96	2.96	2.96	2.95	2.94	2.91	2.90	2.88	2.88	2.87
Steam Coal	1.72	1.75	1.72	1.70	1.69	1.68	1.66	1.63	1.60	1.57	1.55	1.53	1.50
Renewables	7.45	7.41	7.40	7.39	7.38	7.38	7.37	7.36	7.35	7.35	7.35	7.35	7.35
Purchased Electricity	1.40	1.44	1.41	1.38	1.35	1.32	1.30	1.28	1.26	1.24	1.22	1.20	1.18
Total	14.82	14.54	14.43	14.32	14.27	14.23	14.16	14.08	13.98	13.90	13.83	13.78	13.72
Carbon Dioxide Emissions 2/ (million metric tons)	105.9	104.1	102.8	102.3	101.3	100.7	100.7	101.0	101.4	101.7	102.1	102.1	102.3
Combined Heat and Power 4/													
Generating Capacity (gigawatts)													
Petroleum	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Natural Gas	2.04	1.69	1.74	1.80	1.86	1.93	2.00	2.07	2.14	2.22	2.30	2.39	2.48
Coal	1.35	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
Other 5/	4.54	4.44	4.54	4.63	4.65	4.67	4.74	4.85	4.99	5.12	5.23	5.33	5.45
Total	8.23	7.77	7.92	8.07	8.15	8.24	8.38	8.57	8.78	8.98	9.17	9.36	9.57
Net Generation (billion kilowatthours)													
Petroleum	3.36	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
Natural Gas	8.72	7.26	7.63	8.08	8.53	9.06	9.61	10.17	10.70	11.32	11.92	12.58	13.28
Coal	7.11	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08
Other 5/	29.90	28.10	28.71	29.24	29.37	29.48	29.88	30.54	31.35	32.10	32.74	33.34	34.03
Total	49.09	46.03	47.01	47.98	48.56	49.20	50.16	51.37	52.71	54.08	55.33	56.59	57.97
Disposition													
Sales to the Grid	2.39	2.13	2.30	2.49	2.60	2.73	2.91	3.14	3.40	3.66	3.90	4.15	4.41
Generation for Own Use	46.70	43.90	44.71	45.49	45.96	46.48	47.25	48.23	49.31	50.41	51.42	52.44	53.56

Table 26. Paper Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	181.24	182.91	185.18	187.74	190.23	192.59	194.95	197.34	199.97	202.72	205.58	208.23	210.95	213.54	1.3%
Energy Consumption (trillion Btu) 1/															
Residual Fuel Oil	104.6	104.4	103.8	103.8	103.3	103.2	104.0	104.1	104.3	104.2	104.4	104.7	104.9	105.1	-0.4%
Distillate Fuel Oil	14.1	14.1	14.0	14.0	14.0	14.0	14.1	14.2	14.1	14.1	14.1	14.1	14.2	14.1	-0.1%
Liquefied Petroleum Gases	4.0	4.0	4.0	4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.2	-0.3%
Petroleum Coke	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	-0.1%
Other Petroleum	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.8	12.8	12.8	-0.1%
Petroleum Subtotal	145.8	145.6	144.9	144.9	144.5	144.4	145.4	145.5	145.6	145.6	145.8	146.2	146.4	146.6	-0.3%
Natural Gas	520.1	526.8	535.4	544.2	555.5	565.9	575.5	586.2	598.2	610.8	623.4	635.6	648.6	662.2	1.5%
Steam Coal	269.2	269.0	268.8	268.8	268.9	269.0	269.1	269.2	269.3	269.5	269.6	269.7	269.9	270.0	0.0%
Renewables	1332.2	1345.2	1362.6	1382.1	1401.3	1419.9	1438.8	1458.0	1479.2	1501.4	1524.6	1546.5	1569.2	1591.1	1.3%
Purchased Electricity	210.8	208.8	207.7	206.9	205.7	204.8	204.2	203.4	202.8	202.3	201.9	201.3	200.5	199.4	-0.5%
Total	2478.1	2495.4	2519.4	2547.0	2575.8	2604.0	2632.9	2662.3	2695.1	2729.6	2765.3	2799.3	2834.6	2869.2	0.9%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Fuel Oil	0.58	0.57	0.56	0.55	0.54	0.54	0.53	0.53	0.52	0.51	0.51	0.50	0.50	0.49	-1.6%
Distillate Fuel Oil	0.08	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	-1.3%
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	0.02	-1.6%
Petroleum Coke	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	-1.3%
Other Petroleum	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	-1.3%
Petroleum Subtotal	0.80	0.80	0.78	0.77	0.76	0.75	0.75	0.74	0.73	0.72	0.71	0.70	0.69	0.69	-1.5%
Natural Gas	2.87	2.88	2.89	2.90	2.92	2.94	2.95	2.97	2.99	3.01	3.03	3.05	3.07	3.10	0.2%
Steam Coal	1.49	1.47	1.45	1.43	1.41	1.40	1.38	1.36	1.35	1.33	1.31	1.30	1.28	1.26	-1.3%
Renewables	7.35	7.35	7.36	7.36	7.37	7.37	7.38	7.39	7.40	7.41	7.42	7.43	7.44	7.45	0.0%
Purchased Electricity	1.16	1.14	1.12	1.10	1.08	1.06	1.05	1.03	1.01	1.00	0.98	0.97	0.95	0.93	-1.7%
Total	13.67	13.64	13.61	13.57	13.54	13.52	13.51	13.49	13.48	13.46	13.45	13.44	13.44	13.44	-0.3%
Carbon Dioxide Emissions 2/ (million metric tons)	102.2	102.1	102.2	102.6	103.1	103.6	104.3	104.8	105.4	106.1	106.8	107.5	108.2	108.9	0.2%
Combined Heat and Power 4/															
Generating Capacity (gigawatts)															
Petroleum	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	N/A
Natural Gas	2.57	2.68	2.80	2.93	3.07	3.22	3.37	3.52	3.68	3.86	4.04	4.22	4.41	4.61	4.1%
Coal	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	N/A
Other 5/	5.54	5.62	5.73	5.85	5.97	6.08	6.20	6.32	6.45	6.58	6.73	6.86	7.00	7.14	1.9%
Total	9.76	9.95	10.17	10.42	10.69	10.95	11.21	11.48	11.78	12.09	12.41	12.72	13.05	13.39	2.2%
Net Generation (billion kilowatthours)															
Petroleum	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	N/A
Natural Gas	13.98	14.82	15.75	16.73	17.83	18.95	20.08	21.24	22.50	23.83	25.19	26.57	28.02	29.56	5.8%
Coal	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.08	N/A
Other 5/	34.56	35.03	35.66	36.36	37.05	37.72	38.40	39.09	39.86	40.66	41.49	42.28	43.10	43.89	1.8%
Total	59.21	60.52	62.07	63.76	65.55	67.34	69.14	71.00	73.02	75.15	77.35	79.51	81.78	84.11	2.4%
Disposition															
Sales to the Grid	4.65	4.90	5.20	5.53	5.87	6.22	6.57	6.92	7.31	7.72	8.15	8.56	9.00	9.45	6.1%
Generation for Own Use	54.56	55.61	56.87	58.23	59.67	61.12	62.58	64.07	65.71	67.43	69.20	70.95	72.78	74.66	2.1%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 27. Bulk Chemical Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	200.40	188.26	195.46	206.29	209.41	208.26	208.41	209.90	210.69	211.26	211.86	212.21	212.66
Energy Consumption (trillion Btu) 1/													
Heat and Power													
Residual Fuel Oil	26.4	22.1	16.1	15.3	14.5	14.0	14.0	13.6	14.0	14.4	14.4	13.8	13.8
Distillate Fuel Oil	5.8	5.0	4.2	4.2	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.1
Liquefied Petroleum Gases	47.7	33.3	24.8	29.3	29.4	28.0	27.3	26.4	26.0	25.6	25.6	25.4	25.5
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
Other Petroleum 2/	402.9	350.8	311.4	317.1	308.1	291.0	285.0	268.8	264.9	260.9	263.2	249.9	251.4
Petroleum Subtotal	482.7	411.2	356.5	365.9	356.4	337.4	330.6	313.0	309.2	305.3	307.6	293.3	294.8
Natural Gas	1471.0	1390.4	1497.1	1559.0	1579.2	1581.9	1581.9	1605.0	1607.9	1610.3	1606.4	1620.0	1618.2
Steam Coal	260.1	251.4	252.8	254.8	254.9	253.6	252.5	251.6	250.7	249.7	248.9	247.9	247.1
Purchased Electricity	464.0	463.6	478.2	501.2	503.0	492.2	484.5	480.2	474.7	468.0	461.8	454.3	447.7
Total Heat and Power	2677.8	2516.6	2584.6	2681.0	2693.4	2665.2	2649.5	2649.7	2642.6	2633.3	2624.7	2615.6	2607.8
Feedstock													
Liquefied Petroleum Gases	2131.8	1984.5	2058.7	2183.2	2215.0	2187.3	2172.9	2171.3	2169.3	2165.6	2165.7	2163.9	2166.4
Petrochemical Feedstocks	1233.0	1150.1	1198.7	1272.0	1290.3	1276.4	1270.5	1273.0	1273.4	1273.1	1272.4	1272.1	1273.2
Natural Gas	600.0	574.3	576.4	591.5	586.2	581.0	580.1	584.1	581.8	579.8	577.5	574.5	570.2
Total Feedstocks	3964.9	3708.9	3833.9	4046.7	4091.5	4044.7	4023.5	4028.4	4024.5	4018.5	4015.6	4010.5	4009.8
Total	6642.7	6225.4	6418.5	6727.7	6784.9	6709.9	6673.1	6678.1	6667.1	6651.7	6640.2	6626.1	6617.6
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Heat and Power													
Residual Fuel Oil	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
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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	2.0	1.9	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2
Petroleum Subtotal	2.4	2.2	1.8	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.5	1.4	1.4
Natural Gas	7.3	7.4	7.7	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Steam Coal	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Purchased Electricity	2.3	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.1
Total Heat and Power	13.4	13.4	13.2	13.0	12.9	12.8	12.7	12.6	12.5	12.5	12.4	12.3	12.3
Feedstock													
Liquefied Petroleum Gases	10.6	10.5	10.5	10.6	10.6	10.5	10.4	10.3	10.3	10.3	10.2	10.2	10.2
Petrochemical Feedstocks	6.2	6.1	6.1	6.2	6.2	6.1	6.1	6.1	6.0	6.0	6.0	6.0	6.0
Natural Gas	3.0	3.1	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
Total Feedstocks	19.8	19.7	19.6	19.6	19.5	19.4	19.3	19.2	19.1	19.0	19.0	18.9	18.9
Total	33.1	33.1	32.8	32.6	32.4	32.2	32.0	31.8	31.6	31.5	31.3	31.2	31.1
Carbon Dioxide Emissions 3/ (million metric tons)	349.0	330.7	337.4	351.7	353.0	348.4	346.1	345.1	343.4	341.6	340.6	338.3	336.8
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	7.62	7.63	7.69	7.79	7.91	8.11	8.33	8.56	8.78	9.01	9.23	9.47	9.70
Coal	0.55	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/	1.10	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Total	9.35	9.05	9.12	9.21	9.34	9.53	9.75	9.98	10.20	10.43	10.65	10.89	11.12
Net Generation (billion kilowatthours)													
Petroleum	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Natural Gas	42.09	40.39	40.89	41.61	42.56	44.07	45.72	47.47	49.17	50.92	52.60	54.40	56.16
Coal	3.02	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
Other 5/	8.94	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53
Total	54.28	50.92	51.41	52.13	53.09	54.59	56.24	58.00	59.69	61.44	63.13	64.92	66.68

Table 27. Bulk Chemical Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Disposition													
Sales to the Grid	9.14	8.57	8.72	8.93	9.21	9.65	10.14	10.65	11.15	11.67	12.16	12.69	13.20
Generation for Own Use	45.14	42.35	42.69	43.20	43.88	44.94	46.10	47.35	48.54	49.78	50.97	52.23	53.48

Table 27. Bulk Chemical Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	212.61	212.38	213.70	215.23	216.48	217.44	218.50	219.22	220.04	221.06	222.28	223.44	224.90	226.19	0.7%
Energy Consumption (trillion Btu) 1/															
Heat and Power															
Residual Fuel Oil	13.5	13.1	12.6	12.6	12.1	12.1	12.5	12.3	12.3	12.0	12.0	12.2	12.1	12.1	-2.4%
Distillate Fuel Oil	4.2	4.0	3.9	3.9	3.9	3.8	3.9	3.9	3.8	3.8	3.8	3.7	3.8	3.7	-1.2%
Liquefied Petroleum Gases	25.8	25.6	25.6	25.9	25.9	26.2	26.5	26.8	26.7	26.9	27.2	27.5	27.8	27.9	-0.7%
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	0.0	N/A
Other Petroleum 2/	253.1	244.2	241.0	245.2	238.7	241.3	247.7	247.3	246.1	240.2	241.6	246.8	247.7	245.7	-1.4%
Petroleum Subtotal	296.5	286.9	283.1	287.6	280.6	283.3	290.6	290.3	288.9	282.8	284.5	290.1	291.3	289.4	-1.4%
Natural Gas	1613.6	1622.7	1640.8	1654.1	1680.3	1695.1	1705.5	1716.0	1728.8	1747.3	1760.2	1770.3	1787.0	1805.9	1.1%
Steam Coal	246.1	245.1	244.7	244.5	244.1	243.8	243.5	242.9	242.1	241.5	241.0	240.8	240.6	240.4	-0.2%
Purchased Electricity	439.8	430.0	424.4	419.1	412.8	406.5	400.5	393.7	386.7	380.7	375.5	370.3	365.5	360.2	-1.0%
Total Heat and Power	2596.1	2584.7	2593.0	2605.3	2617.8	2628.8	2640.1	2642.8	2646.6	2652.2	2661.2	2671.6	2684.5	2695.8	0.3%
Feedstock															
Liquefied Petroleum Gases	2163.1	2155.6	2164.1	2175.4	2183.5	2191.5	2199.4	2204.8	2211.1	2223.0	2238.7	2254.3	2272.3	2287.0	0.6%
Petrochemical Feedstocks	1269.7	1266.3	1271.2	1276.0	1279.0	1283.5	1288.2	1291.5	1297.2	1303.1	1309.6	1316.8	1325.9	1334.0	0.6%
Natural Gas	566.7	563.8	564.5	565.4	566.5	566.5	568.6	569.2	568.5	569.6	570.7	572.1	574.9	577.5	0.0%
Total Feedstocks	3999.5	3985.7	3999.8	4016.8	4029.0	4041.4	4056.2	4065.5	4076.8	4095.7	4119.1	4143.2	4173.2	4198.5	0.5%
Total	6595.5	6570.4	6592.8	6622.1	6646.8	6670.2	6696.4	6708.3	6723.3	6747.9	6780.3	6814.8	6857.6	6894.3	0.4%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Heat and Power															
Residual Fuel Oil	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	0.1	-3.1%
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	0.0	-1.9%
Liquefied Petroleum Gases	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	0.1	-1.4%
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	0.0	N/A
Other Petroleum	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-2.1%
Petroleum Subtotal	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	-2.1%
Natural Gas	7.6	7.6	7.7	7.7	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	8.0	0.3%
Steam Coal	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-0.9%
Purchased Electricity	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	-1.7%
Total Heat and Power	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0	11.9	11.9	-0.5%
Feedstock															
Liquefied Petroleum Gases	10.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.0	10.1	10.1	10.1	10.1	10.1	-0.2%
Petrochemical Feedstocks	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	-0.1%
Natural Gas	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-0.7%
Total Feedstocks	18.8	18.8	18.7	18.7	18.6	18.6	18.6	18.5	18.5	18.5	18.5	18.5	18.6	18.6	-0.2%
Total	31.0	30.9	30.9	30.8	30.7	30.7	30.6	30.6	30.6	30.5	30.5	30.5	30.5	30.5	-0.3%
Carbon Dioxide Emissions 3/ (million metric tons)	334.6	331.8	331.7	332.4	332.8	333.2	334.0	333.7	333.3	333.4	334.0	334.9	336.1	337.0	0.1%
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	0.08	N/A
Natural Gas	9.93	10.19	10.46	10.74	11.04	11.32	11.59	11.85	12.13	12.40	12.66	12.90	13.15	13.40	2.3%
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	0.49	N/A
Other 5/	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	N/A
Total	11.35	11.61	11.88	12.16	12.46	12.74	13.01	13.27	13.55	13.82	14.08	14.32	14.57	14.82	2.0%
Net Generation (billion kilowatthours)															
Petroleum	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	N/A
Natural Gas	57.90	59.88	61.93	64.06	66.31	68.45	70.50	72.47	74.58	76.63	78.59	80.45	82.33	84.24	3.0%
Coal	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	N/A
Other 5/	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	N/A
Total	68.43	70.41	72.45	74.59	76.84	78.97	81.02	83.00	85.10	87.16	89.11	90.97	92.86	94.76	2.5%

Table 27. Bulk Chemical Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Disposition															
Sales to the Grid	13.72	14.30	14.90	15.53	16.19	16.81	17.42	18.00	18.61	19.22	19.79	20.34	20.89	21.45	3.7%
Generation for Own Use	54.71	56.11	57.55	59.06	60.65	62.16	63.61	65.00	66.49	67.94	69.32	70.63	71.97	73.31	2.2%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 28. Glass Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	22.03	21.30	21.09	22.19	23.01	23.38	23.68	24.02	24.66	25.63	26.64	27.45	28.10
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	2.2	1.9	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.6
Distillate Fuel Oil	20.7	19.8	17.3	17.8	18.5	18.7	18.9	18.9	19.4	20.2	21.0	21.3	21.7
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	23.0	21.6	18.5	19.2	19.9	20.1	20.3	20.3	20.9	21.8	22.6	22.9	23.3
Natural Gas	144.0	137.9	139.3	145.9	150.3	152.4	154.0	156.1	159.4	164.7	170.2	175.0	178.3
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	40.9	40.0	39.3	40.9	42.1	42.5	42.9	43.4	44.4	45.8	47.4	48.6	49.5
Total	207.9	199.5	197.1	206.0	212.3	215.1	217.1	219.7	224.7	232.3	240.2	246.4	251.2
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.10	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Distillate Fuel Oil	0.94	0.93	0.82	0.80	0.81	0.80	0.80	0.78	0.79	0.79	0.79	0.78	0.77
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	1.04	1.02	0.88	0.86	0.87	0.86	0.86	0.84	0.85	0.85	0.85	0.83	0.83
Natural Gas	6.54	6.47	6.61	6.57	6.53	6.52	6.50	6.50	6.46	6.43	6.39	6.37	6.35
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	1.86	1.88	1.86	1.84	1.83	1.82	1.81	1.81	1.80	1.79	1.78	1.77	1.76
Total	9.44	9.37	9.35	9.28	9.23	9.20	9.17	9.15	9.11	9.06	9.02	8.98	8.94
Carbon Dioxide Emissions 2/ (million metric tons)	17.1	16.5	16.1	16.7	17.2	17.4	17.6	17.8	18.1	18.7	19.4	19.9	20.2
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	0.01	0.01	0.01	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	0.01	0.01	0.01	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	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09
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	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09
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	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09

Table 28. Glass Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	28.47	28.70	29.31	30.17	30.85	31.53	32.09	32.59	33.21	33.78	34.42	34.97	35.42	35.87	2.1%
Energy Consumption (trillion Btu) 1/															
Residual Fuel Oil	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	-0.4%
Distillate Fuel Oil	22.1	22.0	22.2	22.8	23.1	23.4	24.2	24.5	24.7	25.1	25.4	25.7	26.1	26.3	1.1%
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	0.0	N/A
Petroleum Subtotal	23.7	23.6	23.7	24.4	24.6	25.0	25.8	26.1	26.4	26.7	27.1	27.4	27.8	28.0	1.0%
Natural Gas	179.8	181.0	184.5	189.3	193.5	197.4	200.1	202.8	206.5	209.7	213.3	216.3	218.7	221.3	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	0.0	N/A
Purchased Electricity	50.0	50.2	51.0	52.3	53.2	54.3	55.1	55.7	56.5	57.4	58.3	59.1	59.7	60.3	1.7%
Total	253.5	254.8	259.3	266.0	271.3	276.7	281.0	284.7	289.4	293.8	298.6	302.8	306.1	309.6	1.8%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Fuel Oil	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	-2.4%
Distillate Fuel Oil	0.78	0.77	0.76	0.76	0.75	0.74	0.75	0.75	0.74	0.74	0.74	0.74	0.74	0.73	-0.9%
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	0.00	N/A
Petroleum Subtotal	0.83	0.82	0.81	0.81	0.80	0.79	0.81	0.80	0.79	0.79	0.79	0.78	0.78	0.78	-1.1%
Natural Gas	6.31	6.31	6.30	6.28	6.27	6.26	6.24	6.22	6.22	6.21	6.20	6.19	6.17	6.17	-0.2%
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	0.0	N/A
Purchased Electricity	1.76	1.75	1.74	1.73	1.73	1.72	1.72	1.71	1.70	1.70	1.69	1.69	1.69	1.68	-0.4%
Total	8.90	8.88	8.85	8.82	8.78	8.78	8.76	8.73	8.71	8.70	8.68	8.66	8.64	8.63	-0.3%
Carbon Dioxide Emissions 2/ (million metric tons)	20.4	20.5	20.8	21.4	21.8	22.3	22.7	23.0	23.4	23.7	24.1	24.5	24.8	25.1	1.7%
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	0.00	N/A
Natural Gas	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	N/A
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	0.00	N/A
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	0.00	N/A
Total	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	N/A
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	0.00	N/A
Natural Gas	0.10	0.11	0.12	0.14	0.15	0.16	0.18	0.19	0.21	0.22	0.23	0.25	0.26	0.27	N/A
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	0.00	N/A
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	0.00	N/A
Total	0.10	0.11	0.12	0.14	0.15	0.16	0.18	0.19	0.21	0.22	0.23	0.25	0.26	0.27	N/A
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	0.00	N/A
Generation for own use	0.10	0.11	0.12	0.14	0.15	0.16	0.18	0.19	0.21	0.22	0.23	0.25	0.26	0.27	N/A

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 29. Cement Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	7.63	7.78	8.18	8.40	8.54	8.52	8.48	8.50	8.58	8.69	8.76	8.88	9.01
Energy Consumption (trillion Btu) 1/													
Residual Fuel Oil	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9
Distillate Fuel Oil	12.9	12.9	12.5	12.5	12.8	12.9	12.9	13.0	13.1	13.2	13.3	13.3	13.3
Petroleum Coke	55.7	56.1	58.0	58.8	59.2	58.6	57.9	57.5	57.6	57.8	57.7	58.0	58.3
Other Petroleum 2/	35.6	35.9	37.1	37.6	37.8	37.4	37.0	36.8	36.8	37.0	37.0	37.1	37.3
Petroleum Subtotal	105.4	105.9	108.6	110.0	110.8	109.8	108.8	108.2	108.5	108.9	109.0	109.4	109.8
Natural Gas	21.7	21.7	23.2	23.8	24.0	24.1	24.1	24.2	24.3	24.6	24.7	25.0	25.3
Steam Coal	241.6	244.2	252.7	256.4	258.1	255.8	253.3	252.1	252.5	253.7	253.9	255.3	257.0
Metallurgical Coal	8.0	8.1	8.4	8.5	8.5	8.5	8.4	8.3	8.3	8.4	8.4	8.4	8.5
Coal Subtotal	249.6	252.3	261.0	264.9	266.6	264.2	261.7	260.4	260.8	262.1	262.3	263.7	265.5
Purchased Electricity	44.6	45.5	47.5	48.5	49.0	48.6	48.2	48.1	48.4	48.8	49.0	49.5	50.0
Total	421.2	425.4	440.3	447.2	450.4	446.8	442.8	440.9	442.0	444.5	445.0	447.6	450.6
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Residual Fuel Oil	0.15	0.13	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Distillate Fuel Oil	1.69	1.66	1.53	1.49	1.50	1.52	1.52	1.53	1.53	1.51	1.52	1.50	1.47
Petroleum Coke	7.30	7.21	7.10	7.00	6.93	6.88	6.83	6.77	6.71	6.65	6.59	6.53	6.47
Other Petroleum 2/	4.67	4.61	4.53	4.48	4.43	4.40	4.37	4.33	4.29	4.26	4.22	4.18	4.15
Petroleum Subtotal	13.80	13.61	13.28	13.09	12.97	12.90	12.82	12.74	12.65	12.53	12.44	12.32	12.20
Natural Gas	2.84	2.79	2.83	2.83	2.81	2.83	2.84	2.84	2.83	2.83	2.82	2.82	2.81
Steam Coal	31.65	31.38	30.90	30.52	30.22	30.03	29.86	29.66	29.43	29.19	28.98	28.76	28.53
Metallurgical Coal	1.05	1.04	1.02	1.01	1.00	0.99	0.99	0.98	0.97	0.96	0.96	0.95	0.94
Coal Subtotal	32.70	32.42	31.92	31.53	31.22	31.03	30.85	30.64	30.40	30.15	29.94	29.71	29.48
Purchased Electricity	5.84	5.85	5.81	5.77	5.74	5.71	5.68	5.66	5.64	5.62	5.60	5.58	5.56
Total	55.18	54.66	53.84	53.22	52.74	52.46	52.19	51.88	51.52	51.13	50.80	50.42	50.04
Carbon Dioxide Emissions 3/ (million metric tons)	39.5	39.9	41.2	41.8	42.0	41.7	41.4	41.2	41.3	41.5	41.6	41.8	42.1
Combined Heat and Power 4/													
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	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal	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
Other 5/	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
Total	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15
Net Generation (billion kilowatthours)													
Petroleum	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Natural Gas	0.01	0.01	0.03	0.05	0.07	0.09	0.11	0.12	0.14	0.15	0.17	0.19	0.20
Coal	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Other 5/	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Total	0.49	0.50	0.52	0.54	0.56	0.58	0.59	0.61	0.63	0.64	0.66	0.67	0.69
Disposition													
Sales to the Grid	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.09
Generation for Own Use	0.45	0.46	0.47	0.49	0.50	0.52	0.53	0.54	0.56	0.57	0.58	0.59	0.60

Table 29. Cement Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	9.03	9.09	9.22	9.36	9.48	9.60	9.67	9.75	9.88	10.00	10.12	10.22	10.25	10.30	1.1%
Energy Consumption (trillion Btu) 1/															
Residual 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	0.9	0.9	-0.5%
Distillate Fuel Oil	13.3	13.2	13.2	13.2	13.2	13.2	13.3	13.2	13.1	13.1	13.1	13.0	13.0	12.9	0.0%
Petroleum Coke	58.0	57.9	58.3	58.6	58.9	59.2	59.2	59.3	59.7	60.1	60.6	60.9	60.8	60.9	0.3%
Other Petroleum 2/	37.2	37.1	37.4	37.8	38.0	38.2	38.2	38.2	38.4	38.6	38.8	39.0	38.9	38.9	0.3%
Petroleum Subtotal	109.4	109.2	109.7	110.5	111.0	111.5	111.6	111.6	112.2	112.8	113.4	113.8	113.6	113.6	0.3%
Natural Gas	25.3	25.5	25.9	26.2	26.6	26.9	27.1	27.3	27.7	28.0	28.3	28.6	28.7	28.9	1.2%
Steam Coal	256.3	256.3	258.1	260.2	261.6	263.5	264.5	265.9	268.3	270.4	272.8	274.6	274.7	275.4	0.5%
Metallurgical Coal	8.5	8.5	8.5	8.6	8.7	8.8	8.8	8.8	8.9	9.0	9.1	9.1	9.1	9.2	0.5%
Coal Subtotal	264.7	264.8	266.6	268.8	270.3	272.2	273.3	274.7	277.2	279.4	281.9	283.7	283.9	284.5	0.5%
Purchased Electricity	50.0	50.1	50.7	51.3	51.7	52.3	52.5	52.8	53.3	53.8	54.4	54.8	54.9	55.0	0.8%
Total	449.4	449.7	452.9	456.8	459.6	462.9	464.4	466.4	470.4	474.0	478.1	481.0	481.1	482.1	0.5%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Fuel Oil	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	-1.6%
Distillate Fuel Oil	1.47	1.46	1.43	1.41	1.39	1.37	1.37	1.35	1.33	1.31	1.29	1.27	1.27	1.25	-1.1%
Petroleum Coke	6.42	6.37	6.32	6.26	6.22	6.17	6.12	6.08	6.05	6.02	5.99	5.96	5.94	5.91	-0.8%
Other Petroleum 2/	4.12	4.09	4.06	4.03	4.01	3.98	3.95	3.92	3.89	3.86	3.84	3.81	3.80	3.78	-0.8%
Petroleum Subtotal	12.12	12.02	11.90	11.81	11.71	11.61	11.53	11.44	11.35	11.28	11.20	11.13	11.09	11.04	-0.8%
Natural Gas	2.80	2.81	2.81	2.80	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	0.0%
Steam Coal	28.38	28.20	27.99	27.79	27.60	27.44	27.35	27.26	27.15	27.05	26.95	26.87	26.81	26.75	-0.6%
Metallurgical Coal	0.94	0.93	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.90	0.89	0.89	0.89	-0.6%
Coal Subtotal	29.31	29.13	28.92	28.71	28.52	28.35	28.26	28.17	28.05	27.95	27.85	27.76	27.70	27.64	-0.6%
Purchased Electricity	5.54	5.51	5.49	5.48	5.46	5.44	5.43	5.41	5.40	5.39	5.38	5.37	5.36	5.35	-0.4%
Total	49.77	49.47	49.12	48.79	48.49	48.20	48.02	47.82	47.61	47.42	47.23	47.06	46.95	46.82	-0.6%
Carbon Dioxide Emissions 3/ (million metric tons)	42.0	42.0	42.3	42.7	43.0	43.4	43.6	43.8	44.2	44.6	45.0	45.3	45.4	45.5	0.5%
Combined Heat and Power 4/															
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	0.02	N/A
Natural Gas	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	5.7%
Coal	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	0.08	N/A
Other 5/	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	0.01	N/A
Total	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.18	1.5%
Net Generation (billion kilowatthours)															
Petroleum	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	N/A
Natural Gas	0.22	0.23	0.25	0.27	0.29	0.30	0.32	0.33	0.35	0.37	0.38	0.40	0.41	0.42	15.3%
Coal	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	N/A
Other 5/	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	N/A
Total	0.71	0.72	0.74	0.76	0.77	0.79	0.81	0.82	0.84	0.86	0.87	0.88	0.90	0.91	2.4%
Disposition															
Sales to the Grid	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14	5.2%
Generation for Own Use	0.62	0.63	0.64	0.66	0.67	0.68	0.69	0.71	0.72	0.73	0.74	0.75	0.76	0.77	2.1%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 30. Iron and Steel Industries Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	68.48	64.26	69.55	70.96	71.96	72.49	73.58	74.33	75.27	76.33	77.13	77.99	78.42
Energy Consumption (trillion Btu) 1/													
Distillate Fuel Oil	6.6	6.0	5.7	5.7	5.8	5.9	5.9	6.0	6.1	6.2	6.3	6.2	6.1
Residual Fuel Oil	1.9	1.6	1.0	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.7	0.7
Other Petroleum 2/	100.4	104.4	103.2	94.1	89.4	84.7	82.2	78.1	76.3	73.8	72.2	69.4	67.2
Petroleum Subtotal	108.9	112.0	109.8	100.4	95.8	91.2	88.8	84.7	83.1	80.8	79.2	76.3	74.1
Natural Gas	409.8	387.4	422.6	430.0	429.8	427.5	427.1	427.1	426.2	427.4	426.1	427.1	424.5
Metallurgical Coal	627.0	596.8	614.4	610.2	604.5	597.2	593.1	587.9	584.2	581.5	577.9	574.8	570.0
Net Coke Imports	22.5	20.2	23.2	22.8	22.0	20.9	20.3	19.5	19.0	18.7	18.3	18.0	17.7
Steam Coal	53.6	52.1	53.5	53.5	53.3	53.0	52.9	52.8	52.7	52.7	52.6	52.5	52.3
Coal Subtotal	703.1	669.2	691.2	686.5	679.8	671.1	666.3	660.2	655.9	652.8	648.7	645.4	640.0
Renewables	7.1	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Purchased Electricity	197.8	190.8	207.3	210.6	212.6	212.4	214.6	215.8	218.1	220.6	222.5	224.4	225.3
Total	1426.7	1365.0	1436.6	1433.2	1423.7	1407.9	1402.4	1393.5	1389.0	1387.3	1382.3	1378.9	1369.7
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Distillate Fuel Oil	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Residual Fuel Oil	0.03	0.02	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/	1.47	1.62	1.48	1.33	1.24	1.17	1.12	1.05	1.01	0.97	0.94	0.89	0.86
Petroleum Subtotal	1.59	1.74	1.58	1.42	1.33	1.26	1.21	1.14	1.10	1.06	1.03	0.98	0.95
Natural Gas	5.98	6.03	6.08	6.06	5.97	5.90	5.80	5.75	5.66	5.60	5.52	5.48	5.41
Metallurgical Coal	9.16	9.29	8.83	8.60	8.40	8.24	8.06	7.91	7.76	7.62	7.49	7.37	7.27
Net Coke Imports	0.33	0.31	0.33	0.32	0.31	0.29	0.28	0.26	0.25	0.24	0.24	0.23	0.23
Steam Coal	0.78	0.81	0.77	0.75	0.74	0.73	0.72	0.71	0.70	0.69	0.68	0.67	0.67
Coal Subtotal	10.27	10.41	9.94	9.67	9.45	9.26	9.06	8.88	8.71	8.55	8.41	8.27	8.16
Renewables	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07
Purchased Electricity	2.89	2.97	2.98	2.97	2.95	2.93	2.92	2.90	2.90	2.89	2.89	2.88	2.87
Total	20.83	21.24	20.66	20.20	19.78	19.42	19.06	18.75	18.45	18.17	17.92	17.68	17.47
Carbon Dioxide Emissions 3/ (million metric tons)	132.8	127.3	133.5	133.2	132.3	131.0	130.9	130.2	129.9	130.0	129.9	129.6	129.0
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	0.04	0.01	0.01	0.02	0.02	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.12
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	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Total	1.37	1.30	1.30	1.31	1.31	1.33	1.34	1.35	1.36	1.37	1.38	1.40	1.41
Net Generation (billion kilowatthours)													
Petroleum	0.03	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	0.48	0.43	0.46	0.50	0.56	0.64	0.74	0.83	0.92	1.01	1.09	1.18	1.27
Coal	1.49	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Other 5/	4.72	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Total	6.72	5.69	5.71	5.76	5.81	5.90	5.99	6.09	6.17	6.26	6.35	6.44	6.53
Disposition													
Sales to the Grid	0.82	0.85	0.85	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.92	0.93	0.94
Generation for Own Use	5.90	4.84	4.86	4.90	4.95	5.03	5.11	5.20	5.27	5.35	5.43	5.51	5.58

Table 30. Iron and Steel Industries Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	78.20	78.86	79.97	81.05	82.04	82.79	83.44	84.43	85.69	87.12	88.35	89.27	89.70	90.29	1.4%
Energy Consumption (trillion Btu) 1/															
Distillate Fuel Oil	6.1	6.0	5.9	5.9	5.8	5.7	5.8	5.7	5.6	5.6	5.5	5.5	5.4	5.3	-0.4%
Residual Fuel Oil	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-3.3%
Other Petroleum 2/	64.3	62.0	60.5	60.4	59.3	58.8	58.7	58.2	58.1	58.0	58.2	58.3	57.5	56.9	-2.4%
Petroleum Subtotal	71.1	68.7	67.1	66.9	65.8	65.1	65.1	64.6	64.4	64.3	64.4	64.5	63.7	63.0	-2.3%
Natural Gas	418.9	419.3	422.4	425.2	429.2	431.4	432.5	435.9	440.8	446.8	451.4	454.4	455.8	458.1	0.7%
Metallurgical Coal	562.4	559.0	557.9	557.3	557.2	556.2	554.8	555.1	556.7	559.3	561.0	561.4	559.7	558.8	-0.3%
Net Coke Imports	17.0	16.8	16.8	17.0	17.0	17.0	17.0	17.2	17.5	17.9	18.4	18.6	18.6	18.6	-0.3%
Steam Coal	51.9	51.9	51.9	52.0	52.0	52.0	52.0	52.1	52.2	52.5	52.6	52.7	52.7	52.6	0.0%
Coal Subtotal	631.3	627.6	626.7	626.2	626.2	625.3	623.8	624.3	626.4	629.7	632.0	632.8	630.9	630.1	-0.2%
Renewables	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	N/A
Purchased Electricity	224.4	225.5	228.1	230.8	233.0	235.0	236.9	239.6	243.2	247.4	251.2	254.3	255.8	257.8	1.2%
Total	1351.4	1346.8	1349.9	1354.8	1360.0	1362.6	1363.9	1370.1	1380.5	1393.8	1404.7	1411.6	1411.9	1414.6	0.1%
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	0.06	0.06	0.06	0.06	0.06	-1.8%
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	0.01	-4.6%
Other Petroleum 2/	0.82	0.79	0.76	0.74	0.72	0.71	0.70	0.69	0.68	0.67	0.66	0.65	0.64	0.63	-3.7%
Petroleum Subtotal	0.91	0.87	0.84	0.83	0.80	0.79	0.78	0.76	0.75	0.74	0.73	0.72	0.71	0.70	-3.6%
Natural Gas	5.36	5.32	5.28	5.25	5.23	5.21	5.18	5.16	5.14	5.13	5.11	5.09	5.08	5.07	-0.7%
Metallurgical Coal	7.19	7.09	6.98	6.88	6.79	6.72	6.65	6.57	6.50	6.42	6.35	6.29	6.24	6.19	-1.6%
Net Coke Imports	0.22	0.21	0.21	0.21	0.21	0.21	0.20	0.20	0.20	0.21	0.21	0.21	0.21	0.21	-1.7%
Steam Coal	0.66	0.66	0.65	0.64	0.63	0.63	0.62	0.62	0.61	0.60	0.60	0.59	0.59	0.58	-1.3%
Coal Subtotal	8.07	7.96	7.84	7.73	7.63	7.55	7.48	7.39	7.31	7.23	7.15	7.09	7.03	6.98	-1.6%
Renewables	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	0.06	-1.4%
Purchased Electricity	2.87	2.86	2.85	2.85	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.85	2.85	2.85	-0.2%
Total	17.28	17.08	16.88	16.72	16.58	16.46	16.35	16.23	16.11	16.00	15.90	15.81	15.74	15.67	-1.2%
Carbon Dioxide Emissions 3/ (million metric tons)	127.3	126.9	127.3	128.0	128.7	129.2	129.7	130.5	131.6	133.1	134.5	135.4	135.7	136.3	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	0.00	N/A
Natural Gas	0.13	0.14	0.15	0.17	0.18	0.20	0.21	0.22	0.24	0.25	0.26	0.27	0.29	0.30	15.3%
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	0.26	N/A
Other 5/	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	1.03	N/A
Total	1.42	1.43	1.44	1.46	1.47	1.49	1.50	1.51	1.52	1.54	1.55	1.56	1.58	1.59	0.8%
Net Generation (billion kilowatthours)															
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	0.06	N/A
Natural Gas	1.35	1.45	1.55	1.65	1.76	1.86	1.96	2.06	2.16	2.27	2.36	2.46	2.55	2.64	7.5%
Coal	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	N/A
Other 5/	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	N/A
Total	6.61	6.71	6.81	6.91	7.02	7.12	7.22	7.32	7.42	7.52	7.62	7.71	7.81	7.90	1.3%
Disposition															
Sales to the Grid	0.95	0.96	0.97	0.98	1.00	1.01	1.02	1.03	1.04	1.05	1.07	1.08	1.09	1.10	1.0%
Generation for Own Use	5.66	5.74	5.83	5.92	6.02	6.11	6.20	6.29	6.38	6.47	6.55	6.64	6.72	6.80	1.4%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 31. Aluminum Industry Energy Consumption

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	30.43	30.16	29.85	30.64	30.97	31.10	31.08	31.62	32.28	32.80	33.21	33.68	34.07
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	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Petroleum Coke	39.9	39.2	38.5	37.8	37.0	36.3	35.6	34.9	34.3	33.6	33.0	32.4	31.8
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	41.7	41.0	40.1	39.3	38.6	37.8	37.1	36.5	35.8	35.2	34.6	34.0	33.4
Natural Gas	126.7	123.8	122.2	123.7	123.6	123.4	122.6	123.7	125.0	125.9	126.4	127.1	127.4
Steam Coal	31.7	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Renewables	22.2	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
Purchased Electricity	181.2	179.5	176.8	174.6	172.0	169.4	166.8	164.9	163.2	161.3	159.3	157.4	155.5
Total	403.5	389.2	384.0	382.5	379.1	375.5	371.4	370.0	368.9	367.3	365.2	363.4	361.2
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	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Petroleum Coke	1.31	1.30	1.29	1.23	1.20	1.17	1.14	1.10	1.06	1.03	0.99	0.96	0.93
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	1.37	1.36	1.34	1.28	1.25	1.22	1.19	1.15	1.11	1.07	1.04	1.01	0.98
Natural Gas	4.16	4.11	4.09	4.04	3.99	3.97	3.94	3.91	3.87	3.84	3.80	3.77	3.74
Steam Coal	1.04	0.99	1.01	0.98	0.97	0.96	0.97	0.95	0.93	0.91	0.90	0.89	0.88
Renewables	0.73	0.49	0.50	0.49	0.48	0.48	0.48	0.47	0.46	0.45	0.45	0.44	0.44
Purchased Electricity	5.96	5.95	5.92	5.70	5.55	5.45	5.37	5.22	5.05	4.92	4.80	4.67	4.56
Total	13.26	12.90	12.86	12.48	12.24	12.07	11.95	11.70	11.43	11.20	11.00	10.79	10.60
Carbon Dioxide Emissions 2/ (million metric tons)	46.4	45.6	44.4	43.8	43.1	42.6	42.2	41.8	41.4	41.0	40.8	40.3	39.9
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	0.02	0.02	0.02	0.03	0.03	0.04
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/	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total	0.70	0.70	0.70	0.70	0.71	0.71	0.71	0.72	0.72	0.73	0.73	0.73	0.74
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	0.05	0.08	0.11	0.15	0.18	0.21	0.24	0.27
Coal	2.67	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Other 5/	2.40	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
Total	5.07	4.06	4.06	4.07	4.09	4.11	4.14	4.17	4.20	4.23	4.26	4.30	4.33
Disposition													
Sales to the Grid	2.22	1.46	1.46	1.46	1.46	1.46	1.47	1.47	1.48	1.48	1.49	1.49	1.50
Generation for Own Use	2.86	2.60	2.61	2.62	2.63	2.65	2.67	2.70	2.72	2.75	2.78	2.80	2.83

Table 31. Aluminum Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Value of Shipments (billion 2000 dollars)	34.00	34.24	34.92	35.57	35.95	36.28	36.55	36.98	37.18	37.72	38.12	38.62	38.95	39.21	1.1%
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	0.9	0.9	-0.2%
Liquefied Petroleum Gases	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-0.8%
Petroleum Coke	31.2	30.7	30.1	29.5	29.0	28.5	28.0	27.5	27.1	26.8	26.5	26.2	25.9	25.6	-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	0.0	N/A
Petroleum Subtotal	32.8	32.2	31.7	31.1	30.6	30.1	29.5	29.1	28.7	28.4	28.1	27.8	27.5	27.2	-1.6%
Natural Gas	126.4	126.4	127.7	129.1	130.0	130.8	131.4	132.4	132.8	134.1	135.0	136.2	136.9	137.5	0.4%
Steam Coal	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	N/A
Renewables	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	N/A
Purchased Electricity	153.1	151.0	149.3	147.6	145.8	144.0	142.4	140.9	139.3	138.1	136.8	135.7	134.4	133.0	-1.2%
Total	357.2	354.5	353.6	352.8	351.3	349.8	348.2	347.2	345.7	345.6	344.9	344.6	343.7	342.6	-0.5%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Distillate Fuel Oil	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-1.2%
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	0.02	-1.8%
Petroleum Coke	0.92	0.90	0.86	0.83	0.81	0.79	0.76	0.74	0.73	0.71	0.70	0.68	0.66	0.65	-2.7%
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	0.00	N/A
Petroleum Subtotal	0.97	0.94	0.91	0.88	0.85	0.83	0.81	0.79	0.77	0.75	0.74	0.72	0.71	0.69	-2.7%
Natural Gas	3.72	3.69	3.66	3.63	3.62	3.61	3.60	3.58	3.57	3.56	3.54	3.53	3.52	3.51	-0.6%
Steam Coal	0.88	0.88	0.86	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.79	0.78	0.77	0.77	-1.0%
Renewables	0.44	0.44	0.43	0.42	0.41	0.41	0.41	0.40	0.40	0.40	0.39	0.39	0.38	0.38	-1.0%
Purchased Electricity	4.50	4.41	4.28	4.15	4.05	3.97	3.90	3.81	3.75	3.66	3.59	3.51	3.45	3.39	-2.2%
Total	10.51	10.35	10.13	9.92	9.77	9.64	9.53	9.39	9.30	9.16	9.05	8.92	8.82	8.74	-1.5%
Carbon Dioxide Emissions 2/ (million metric tons)	39.3	38.8	38.5	38.3	38.1	37.9	37.7	37.5	37.3	37.2	37.0	36.9	36.8	36.7	-0.9%
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	0.00	N/A
Natural Gas	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10	N/A
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	0.36	N/A
Other 5/	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	N/A
Total	0.74	0.75	0.75	0.76	0.76	0.77	0.77	0.77	0.78	0.78	0.79	0.79	0.79	0.80	0.5%
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	0.00	N/A
Natural Gas	0.30	0.34	0.37	0.41	0.45	0.48	0.51	0.54	0.57	0.61	0.63	0.66	0.69	0.71	N/A
Coal	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	N/A
Other 5/	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	1.56	N/A
Total	4.36	4.39	4.43	4.46	4.50	4.54	4.57	4.60	4.63	4.66	4.69	4.72	4.74	4.77	0.6%
Disposition															
Sales to the Grid	1.50	1.51	1.51	1.52	1.53	1.53	1.54	1.54	1.55	1.55	1.55	1.56	1.56	1.57	0.3%
Generation for Own Use	2.86	2.89	2.92	2.95	2.98	3.01	3.03	3.06	3.09	3.11	3.14	3.16	3.18	3.20	0.8%

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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 32. Metal Based Durables Sector Energy Consumption
(trillion Btu)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fabricated Metal Product Consumption 1/													
Liquefied Petroleum Gases	2.4	2.0	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1
Distillate Fuel Oil	3.3	3.3	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.4
Residual Fuel Oil	3.0	2.6	1.8	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4
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
Petroleum Subtotal	8.7	8.0	5.9	5.6	5.7	5.7	5.7	5.7	5.8	5.9	6.0	5.9	5.9
Natural Gas	197.3	189.7	196.5	197.0	196.7	197.5	196.4	197.1	198.1	199.4	199.7	201.1	201.4
Metallurgical Coal	3.9	3.7	3.7	3.6	3.6	3.5	3.4	3.3	3.2	3.2	3.1	3.0	3.0
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	161.3	162.0	165.8	166.5	167.6	168.3	168.3	169.9	172.4	174.4	176.4	178.6	180.2
Total	371.4	363.6	372.2	372.9	373.8	375.2	373.9	376.2	379.6	383.0	385.4	388.8	390.7
Machinery Consumption 1/													
Liquefied Petroleum Gases	1.4	1.3	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Distillate Fuel Oil	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	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	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	2.2	2.1	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Natural Gas	79.0	78.0	82.0	82.7	81.2	80.9	80.8	81.5	82.3	83.7	84.5	85.8	86.5
Steam Coal	2.4	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	88.4	92.9	96.5	96.7	95.7	95.1	95.4	96.6	98.6	100.7	102.8	104.9	106.8
Total	172.0	175.5	182.7	183.6	181.1	180.1	180.3	182.1	185.0	188.5	191.5	194.8	197.5
Computers Consumption 1/													
Liquefied Petroleum Gases	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Distillate Fuel Oil	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Residual Fuel Oil	0.1	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
Petroleum Subtotal	1.0	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0
Natural Gas	52.0	53.1	55.8	56.9	57.4	59.4	61.5	63.6	65.9	68.3	70.2	72.7	75.2
Steam Coal	15.8	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
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	129.9	138.2	143.6	147.0	149.0	153.8	159.2	165.2	171.6	177.1	182.6	188.6	195.0
Total	198.8	209.0	217.0	221.4	223.9	230.7	238.2	246.3	255.0	262.9	270.3	278.8	287.8
Transportation Equipment Consumption 1/													
Liquefied Petroleum Gases	2.2	2.0	1.6	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Distillate Fuel Oil	2.0	1.9	1.5	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6
Residual Fuel Oil	11.7	11.0	8.3	8.3	8.1	7.8	7.6	7.6	7.5	8.0	7.8	7.5	7.6
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	15.9	14.9	11.4	11.1	10.9	10.7	10.5	10.5	10.6	11.1	10.9	10.6	10.7
Natural Gas	188.1	179.7	184.0	183.3	186.8	193.5	197.5	205.2	209.5	212.5	213.6	215.8	216.2
Steam Coal	4.2	4.2	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.0	4.0	3.9
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	173.6	173.3	171.8	170.2	173.9	179.2	183.3	191.0	196.3	199.5	201.4	203.1	204.1
Total	381.8	372.0	371.3	368.8	375.8	387.4	395.4	410.8	420.4	427.0	430.0	433.4	434.9
Electrical Equipment Consumption 1/													
Liquefied Petroleum Gases	1.1	0.9	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Distillate Fuel Oil	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.5	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	77.1	77.6	79.8	82.0	82.8	83.9	84.9	85.5	86.7	87.8	89.0	90.2	91.5

Table 32. Metal Based Durables Sector Energy Consumption
(trillion Btu)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Petroleum Subtotal	78.9	79.1	81.1	83.3	84.1	85.2	86.1	86.8	88.0	89.2	90.3	91.6	92.9
Natural Gas	53.9	52.8	55.1	55.8	55.8	56.8	57.7	58.5	59.3	60.3	61.0	61.8	62.7
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
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	52.3	53.2	54.4	54.8	54.9	55.6	56.4	57.1	58.1	58.9	59.8	60.6	61.4
Total	185.2	185.1	190.6	193.9	194.8	197.6	200.4	202.5	205.5	208.5	211.1	214.0	217.0
Value of Shipments (billion 2000 dollars)													
Fabricated Metal Products	250.89	251.85	263.61	268.33	273.49	277.34	278.86	283.32	289.04	294.86	300.94	307.44	313.07
Machinery	278.15	295.90	314.06	318.11	317.06	316.94	318.88	323.17	330.99	340.41	350.22	360.63	370.76
Computers	494.78	543.94	581.82	616.19	640.83	671.66	701.70	733.72	770.57	806.02	841.39	882.69	926.19
Transportation Equipment	666.20	661.62	665.72	674.76	699.67	730.65	755.23	794.83	823.93	847.91	865.35	882.92	899.56
Electrical Equipment	106.78	108.28	112.41	116.84	118.93	121.45	123.86	125.83	128.48	131.23	133.78	136.49	139.27
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Fabricated Metal Products	1.48	1.44	1.41	1.39	1.37	1.35	1.34	1.33	1.31	1.30	1.28	1.26	1.25
Machinery	0.62	0.59	0.58	0.58	0.57	0.57	0.57	0.56	0.56	0.55	0.55	0.54	0.53
Computers	0.40	0.38	0.37	0.36	0.35	0.34	0.34	0.34	0.33	0.33	0.32	0.32	0.31
Transportation Equipment	0.57	0.56	0.56	0.55	0.54	0.53	0.52	0.52	0.51	0.50	0.50	0.49	0.48
Electrical Equipment	1.73	1.71	1.70	1.66	1.64	1.63	1.62	1.61	1.60	1.59	1.58	1.57	1.56
Carbon Dioxide Emissions 2/ (million metric tons)													
Fabricated Metal Products	42.2	41.8	42.2	42.1	42.1	42.3	42.4	42.6	43.0	43.4	43.9	44.3	44.5
Machinery	21.4	22.2	22.7	22.7	22.3	22.2	22.3	22.5	22.9	23.3	23.8	24.2	24.6
Computers	29.1	30.7	31.4	32.0	32.2	33.2	34.4	35.6	36.8	37.9	39.1	40.2	41.5
Transportation Equipment	44.6	44.0	43.1	42.6	43.2	44.5	45.6	47.4	48.5	49.2	49.8	50.0	50.2
Electrical Equipment	16.9	17.0	17.2	17.4	17.4	17.6	17.9	18.1	18.4	18.6	18.9	19.1	19.4
Fabricated Metal Products, Machinery, Computers, Transportation Equipment, and Electrical Equipment:													
Combined Heat and Power 3/ Generating Capacity (gigawatts)													
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
Natural Gas	0.08	0.07	0.09	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.25	0.27	0.30
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	0.41	0.41	0.42	0.43	0.45	0.47	0.49	0.51	0.53	0.56	0.58	0.60	0.63
Net Generation (billion kilowatthours)													
Petroleum	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Natural Gas	0.20	0.21	0.30	0.40	0.52	0.67	0.84	1.00	1.15	1.32	1.49	1.67	1.86
Coal	0.72	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Other 4/	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	1.10	1.16	1.24	1.34	1.46	1.62	1.78	1.94	2.09	2.26	2.43	2.61	2.81
Disposition													
Sales to the Grid	0.02	0.02	0.03	0.05	0.07	0.09	0.12	0.15	0.17	0.20	0.22	0.25	0.28
Generation for Own Use	1.08	1.14	1.21	1.30	1.39	1.52	1.66	1.80	1.92	2.07	2.21	2.36	2.53

Table 32. Metal Based Durables Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Fabricated Metal Product Consumption 1/															
Liquefied Petroleum Gases	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.5%
Distillate Fuel Oil	2.5	2.4	2.3	2.3	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	-1.7%
Residual Fuel Oil	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-3.0%
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	0.0	N/A
Petroleum Subtotal	6.0	5.9	5.7	5.7	5.6	5.6	5.7	5.7	5.7	5.6	5.6	5.6	5.7	5.7	-1.4%
Natural Gas	200.1	199.2	198.7	198.6	199.7	200.2	200.4	200.9	202.0	203.2	204.3	205.1	205.6	206.7	0.3%
Metallurgical Coal	2.9	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	-1.4%
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	0.2	-0.5%
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	0.0	N/A
Purchased Electricity	181.0	180.8	181.4	182.3	183.1	184.2	185.4	186.3	187.8	189.6	191.5	193.0	194.2	195.7	0.8%
Total	390.1	388.9	388.8	389.5	391.3	392.8	394.4	395.7	398.3	401.3	404.3	406.6	408.3	410.8	0.5%
Machinery Consumption 1/															
Liquefied Petroleum Gases	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-0.6%
Distillate Fuel Oil	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-1.0%
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	N/A
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	0.0	N/A
Petroleum Subtotal	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-0.7%
Natural Gas	86.5	86.9	87.4	87.8	88.8	89.3	89.7	90.1	91.0	91.9	92.7	93.2	93.8	94.6	0.8%
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	2.5	N/A
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	N/A
Purchased Electricity	108.1	108.8	110.1	111.5	112.9	114.4	115.9	117.3	119.1	121.2	123.2	125.0	126.7	128.6	1.3%
Total	198.8	199.9	201.6	203.5	206.0	207.9	209.8	211.7	214.3	217.4	220.1	222.4	224.7	227.4	1.0%
Computers Consumption 1/															
Liquefied Petroleum Gases	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-0.5%
Distillate Fuel Oil	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	4.6%
Residual Fuel Oil	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	5.3%
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	0.0	N/A
Petroleum Subtotal	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.4%
Natural Gas	76.7	79.5	83.0	86.4	90.3	94.2	97.8	101.5	106.1	110.9	115.3	119.6	123.8	128.8	3.6%
Steam Coal	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	N/A
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	N/A
Purchased Electricity	199.1	204.0	209.9	216.3	222.7	229.7	236.7	243.6	251.7	260.2	268.6	277.0	285.2	294.6	3.1%
Total	293.4	301.1	310.7	320.5	330.9	341.8	352.5	363.2	376.0	389.5	402.3	415.1	427.5	442.0	3.0%
Transportation Equipment Consumption 1/															
Liquefied Petroleum Gases	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	-0.7%
Distillate Fuel Oil	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-0.3%
Residual Fuel Oil	7.6	7.4	7.2	7.2	7.0	7.1	7.3	7.3	7.5	7.4	7.5	7.7	7.8	7.8	-1.4%
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	0.0	N/A
Petroleum Subtotal	10.8	10.6	10.3	10.4	10.2	10.3	10.6	10.6	10.8	10.7	10.9	11.1	11.3	11.2	-1.1%
Natural Gas	215.2	217.1	219.7	221.6	225.3	228.9	230.0	232.1	236.1	240.0	243.4	246.0	247.7	250.1	1.3%
Steam Coal	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.7	-0.5%
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	0.0	N/A
Purchased Electricity	203.9	204.8	206.8	208.4	210.2	213.4	214.1	215.2	218.4	221.2	224.1	226.4	227.2	228.5	1.1%
Total	433.8	436.3	440.7	444.3	449.5	456.4	458.5	461.7	469.1	475.7	482.1	487.2	489.8	493.5	1.1%
Electrical Equipment Consumption 1/															
Liquefied Petroleum Gases	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	1.0	0.4%
Distillate Fuel Oil	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	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	0.0	N/A
Petroleum Coke	92.9	94.3	95.8	97.3	98.6	100.0	101.4	102.8	104.3	105.9	107.4	108.9	110.5	112.0	1.5%

Table 32. Metal Based Durables Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Petroleum Subtotal	94.3	95.7	97.2	98.7	100.1	101.4	102.9	104.3	105.9	107.5	109.0	110.6	112.2	113.8	1.5%
Natural Gas	63.2	64.1	65.1	65.8	66.7	67.4	68.1	68.9	69.7	70.5	71.1	71.7	72.4	73.1	1.3%
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	0.0	N/A
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	0.1	N/A
Purchased Electricity	62.1	62.8	63.6	64.4	65.0	65.7	66.4	67.0	67.6	68.2	68.7	69.3	69.8	70.2	1.1%
Total	219.6	222.7	225.9	228.9	231.8	234.7	237.5	240.2	243.2	246.3	248.9	251.6	254.4	257.2	1.3%
Value of Shipments (billion 2000 dollars)															
Fabricated Metal Products	317.56	321.02	325.74	331.15	336.56	342.30	348.43	354.39	360.98	368.10	375.35	381.76	387.64	393.93	1.8%
Machinery	379.09	385.35	393.09	402.11	411.58	420.96	431.06	441.37	452.61	465.11	477.54	488.97	500.58	512.47	2.2%
Computers	961.08	999.99	1041.58	1088.69	1136.40	1187.00	1238.63	1291.49	1349.66	1410.76	1471.35	1533.58	1595.88	1664.85	4.6%
Transportation Equipment	911.14	928.77	950.15	969.83	990.70	1017.33	1030.23	1047.05	1074.60	1100.57	1127.11	1150.77	1167.16	1185.50	2.4%
Electrical Equipment	142.26	145.50	148.81	152.22	155.64	159.23	162.98	166.71	170.43	174.31	178.09	182.13	186.32	190.58	2.3%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Fabricated Metal Products	1.23	1.21	1.19	1.18	1.16	1.15	1.13	1.12	1.10	1.09	1.08	1.06	1.05	1.04	-1.3%
Machinery	0.52	0.52	0.51	0.51	0.50	0.49	0.49	0.48	0.47	0.47	0.46	0.45	0.45	0.44	-1.2%
Computers	0.31	0.30	0.30	0.29	0.29	0.29	0.28	0.28	0.28	0.28	0.27	0.27	0.27	0.27	-1.5%
Transportation Equipment	0.48	0.47	0.46	0.46	0.45	0.45	0.45	0.44	0.44	0.43	0.43	0.42	0.42	0.42	-1.2%
Electrical Equipment	1.54	1.53	1.52	1.50	1.49	1.47	1.46	1.44	1.43	1.41	1.40	1.38	1.37	1.35	-0.9%
Carbon Dioxide Emissions 2/ (million metric tons)															
Fabricated Metal Products	44.5	44.3	44.3	44.6	44.9	45.3	45.7	45.9	46.3	46.8	47.3	47.7	48.1	48.6	0.6%
Machinery	24.8	24.9	25.1	25.4	25.8	26.2	26.6	26.9	27.4	27.8	28.3	28.7	29.2	29.7	1.2%
Computers	42.3	43.2	44.4	45.8	47.4	49.1	50.8	52.4	54.2	56.2	58.1	60.0	61.9	64.3	3.0%
Transportation Equipment	50.0	50.1	50.5	51.0	51.7	52.6	53.1	53.5	54.3	55.2	56.0	56.7	57.1	57.6	1.1%
Electrical Equipment	19.6	19.8	20.1	20.3	20.6	20.9	21.2	21.5	21.7	22.0	22.2	22.5	22.7	23.0	1.2%
Fabricated Metal Products, Machinery, Computers, Transportation Equipment, and Electrical Equipment:															
Combined Heat and Power 3/ Generating Capacity (gigawatts)															
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	0.11	N/A
Natural Gas	0.32	0.35	0.39	0.42	0.46	0.49	0.53	0.57	0.60	0.64	0.68	0.72	0.76	0.80	10.0%
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	0.22	N/A
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	0.00	N/A
Total	0.66	0.69	0.72	0.75	0.79	0.83	0.86	0.90	0.94	0.98	1.02	1.05	1.09	1.13	4.2%
Net Generation (billion kilowatthours)															
Petroleum	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	0.15	N/A
Natural Gas	2.06	2.29	2.54	2.79	3.06	3.33	3.60	3.87	4.16	4.45	4.73	5.01	5.29	5.58	13.9%
Coal	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	0.75	N/A
Other 4/	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	0.04	N/A
Total	3.00	3.23	3.48	3.73	4.01	4.27	4.54	4.81	5.10	5.39	5.67	5.95	6.24	6.53	7.2%
Disposition															
Sales to the Grid	0.31	0.34	0.38	0.42	0.46	0.50	0.54	0.58	0.62	0.66	0.70	0.74	0.78	0.82	17.1%
Generation for Own Use	2.69	2.89	3.10	3.31	3.55	3.77	4.00	4.23	4.48	4.72	4.97	5.21	5.45	5.70	6.7%

Table 32. Metal Based Durables 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.

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

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

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wood Products Consumption 1/													
Liquefied Petroleum Gases	5.0	4.6	3.9	3.4	3.2	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9
Distillate Fuel Oil	9.3	8.5	7.0	6.5	6.5	6.4	6.5	6.5	6.7	6.7	6.8	6.9	6.9
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
Petroleum Subtotal	14.3	13.0	10.9	9.9	9.7	9.4	9.5	9.5	9.6	9.6	9.7	9.7	9.8
Natural Gas	50.8	48.0	49.3	46.9	43.9	42.5	42.3	42.2	41.4	40.9	40.2	40.3	40.3
Steam Coal	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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	221.5	226.4	229.9	220.3	211.2	207.0	209.4	213.0	214.4	216.6	219.5	225.7	233.1
Purchased Electricity	75.0	77.8	78.7	77.6	76.6	76.0	76.9	78.3	78.9	79.7	80.7	82.7	85.0
Total	363.2	366.8	370.3	356.3	342.9	336.5	339.6	344.6	345.9	348.3	351.7	359.9	369.8
Plastics Consumption 1/													
Liquefied Petroleum Gases	5.5	5.1	4.2	3.8	3.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Distillate Fuel Oil	1.1	1.1	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.6	0.7
Residual Fuel Oil	8.7	8.2	5.2	4.9	4.4	4.2	4.1	3.9	3.9	4.1	4.2	3.9	4.1
Petroleum Subtotal	15.3	14.4	10.2	9.4	8.9	8.5	8.4	8.1	8.1	8.3	8.5	8.1	8.3
Natural Gas	118.6	113.4	117.1	117.6	117.2	117.1	117.5	119.8	120.7	122.1	122.6	123.9	124.6
Steam Coal	21.8	21.9	21.8	21.8	21.7	21.6	21.4	20.5	20.4	19.8	19.7	19.7	19.6
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	182.8	182.0	180.7	181.4	181.4	180.5	181.6	184.0	186.5	188.7	190.8	192.7	195.0
Total	338.6	331.6	329.8	330.2	329.2	327.8	329.0	332.4	335.7	339.0	341.6	344.4	347.6
Balance of Manufacturing Consumption 1/													
Liquefied Petroleum Gases	10.8	10.1	8.1	7.2	7.0	6.7	6.6	6.4	6.4	6.3	6.3	6.3	6.4
Distillate Fuel Oil	30.6	28.9	20.9	19.4	21.4	21.3	21.4	21.2	22.2	21.9	22.9	22.5	22.2
Residual Fuel Oil	30.2	29.2	20.4	18.3	16.2	14.5	13.9	12.4	12.1	11.9	12.0	11.1	11.2
Petroleum Coke	67.6	63.2	44.8	38.8	34.5	31.3	30.2	27.6	26.9	26.6	26.5	24.6	24.6
Other Petroleum	21.0	19.0	15.6	15.2	14.0	12.7	11.8	11.3	10.7	11.0	10.2	9.5	9.1
Petroleum Subtotal	160.1	150.4	109.8	98.9	93.1	86.6	83.8	79.0	78.3	77.7	77.9	74.1	73.6
Natural Gas	814.8	777.3	801.1	787.7	769.4	760.2	755.7	758.7	756.2	757.4	753.2	757.1	755.7
Steam Coal	203.2	200.9	199.3	197.4	195.4	192.3	185.8	179.8	175.7	170.6	169.2	166.3	165.8
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	22.3	22.4	22.6	22.9	23.0	23.3	23.7	24.2	24.7	25.3	26.0	26.6	27.4
Purchased Electricity	565.5	565.7	563.2	560.0	556.5	554.4	557.7	564.4	571.6	578.3	585.5	592.7	601.0
Total	1766.0	1716.7	1695.9	1666.9	1637.5	1616.7	1606.7	1606.1	1606.5	1609.4	1611.7	1616.9	1623.4
Value of Shipments (billion 2000 dollars)													
Wood Products	97.06	98.85	100.62	96.68	92.61	90.74	91.76	93.32	93.84	94.73	95.92	98.55	101.69
Plastics	180.08	179.79	181.04	184.73	186.91	188.26	191.47	195.86	200.56	205.43	210.15	215.06	220.65
Balance of Manufacturing	921.82	924.38	936.25	945.47	952.57	961.81	978.46	999.61	1022.53	1047.54	1073.48	1101.01	1131.68
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Wood Products	3.74	3.71	3.68	3.68	3.70	3.71	3.70	3.69	3.69	3.68	3.67	3.65	3.64
Plastics	1.88	1.84	1.82	1.79	1.76	1.74	1.72	1.70	1.67	1.65	1.63	1.60	1.58
Balance of Manufacturing	1.92	1.86	1.81	1.76	1.72	1.68	1.64	1.61	1.57	1.54	1.50	1.47	1.43
Carbon Dioxide Emissions 2/ (million metric tons)													
Wood Products	18.1	18.4	18.2	17.7	17.3	17.1	17.3	17.5	17.6	17.7	17.9	18.2	18.6
Plastics	44.3	43.7	42.7	42.7	42.3	42.2	42.5	42.9	43.3	43.7	44.2	44.5	44.9
Balance of Manufacturing	180.1	177.0	173.3	170.6	167.7	166.3	166.3	166.6	167.0	167.7	169.0	169.7	170.9

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

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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	0.32	0.37	0.42	0.49	0.55	0.61	0.67	0.73	0.79	0.85	0.91
Coal	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Other 4/	0.40	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Total	0.89	0.80	0.85	0.90	0.96	1.02	1.09	1.15	1.21	1.27	1.32	1.38	1.44
Net Generation (billion kilowatthours)													
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
Natural Gas	0.10	0.07	0.42	0.80	1.20	1.69	2.18	2.64	3.06	3.51	3.93	4.38	4.84
Coal	0.63	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Other 4/	2.08	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
Total	2.84	2.24	2.58	2.96	3.37	3.86	4.34	4.81	5.23	5.68	6.10	6.55	7.00
Disposition													
Sales to the Grid	1.23	0.90	0.97	1.04	1.12	1.20	1.28	1.36	1.43	1.50	1.56	1.63	1.70
Generation for Own Use	1.60	1.34	1.61	1.92	2.25	2.66	3.06	3.45	3.80	4.18	4.54	4.92	5.30

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Wood Products Consumption 1/															
Liquefied Petroleum Gases	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	-1.8%
Distillate Fuel Oil	6.9	6.8	6.6	6.6	6.5	6.3	6.4	6.4	6.3	6.4	6.4	6.2	6.2	6.2	-1.3%
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	N/A
Petroleum Subtotal	9.9	9.7	9.5	9.4	9.3	9.2	9.2	9.2	9.2	9.3	9.3	9.1	9.1	9.0	-1.4%
Natural Gas	39.6	39.1	38.9	38.7	38.6	38.5	38.2	38.3	38.8	39.2	39.1	38.8	38.6	38.8	-0.8%
Steam Coal	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	N/A
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	0.0	N/A
Renewables	235.9	237.5	240.5	243.3	244.2	245.6	245.2	248.9	255.5	260.3	261.5	260.6	261.6	265.2	0.6%
Purchased Electricity	85.8	86.2	87.1	87.8	88.0	88.4	88.3	89.3	91.3	92.7	93.1	92.8	92.9	93.9	0.8%
Total	372.7	374.2	377.4	380.8	381.7	383.3	382.5	387.3	396.4	403.0	404.5	402.8	403.8	408.5	0.4%
Plastics Consumption 1/															
Liquefied Petroleum Gases	3.6	3.6	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8	-1.2%
Distillate Fuel Oil	0.7	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	-1.7%
Residual Fuel Oil	4.2	4.1	3.9	4.0	3.8	3.9	4.1	4.1	4.2	4.1	4.2	4.3	4.4	4.3	-2.5%
Petroleum Subtotal	8.5	8.3	8.2	8.3	8.1	8.2	8.5	8.5	8.6	8.5	8.6	8.8	8.9	8.8	-1.9%
Natural Gas	124.6	125.2	126.6	127.9	130.4	132.0	133.3	134.6	136.5	138.7	140.5	142.0	143.7	145.5	1.0%
Steam Coal	19.6	19.5	19.4	19.4	19.3	19.3	19.2	19.2	19.2	19.1	19.1	19.0	19.0	18.9	-0.6%
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	0.0	N/A
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	N/A
Purchased Electricity	196.3	196.8	198.1	199.9	201.4	202.9	204.1	205.4	207.2	209.1	210.9	212.3	213.8	215.1	0.7%
Total	349.0	349.9	352.3	355.5	359.2	362.3	365.2	367.7	371.4	375.3	379.0	382.1	385.3	388.4	0.6%
Balance of Manufacturing Consumption 1/															
Liquefied Petroleum Gases	6.4	6.4	6.4	6.5	6.5	6.6	6.7	6.9	7.0	7.1	7.2	7.4	7.5	7.7	-1.1%
Distillate Fuel Oil	22.8	22.1	21.0	21.5	21.4	21.2	22.5	22.5	22.1	22.5	22.6	22.5	23.3	23.2	-0.9%
Residual Fuel Oil	11.4	10.9	10.7	11.0	10.5	10.7	11.3	11.2	11.3	11.1	11.4	12.0	12.1	12.0	-3.5%
Petroleum Coke	24.7	23.4	22.6	23.1	22.2	22.5	23.5	23.4	23.6	23.2	23.7	24.5	24.8	24.7	-3.7%
Other Petroleum	8.7	8.1	7.5	7.3	7.1	7.0	7.0	6.9	6.9	6.7	6.6	6.6	6.6	6.5	-4.2%
Petroleum Subtotal	74.0	70.9	68.2	69.4	67.7	68.1	71.0	70.8	70.6	71.5	73.0	74.4	74.1	74.1	-2.8%
Natural Gas	750.2	751.1	755.8	760.3	772.1	780.5	787.5	793.9	805.7	818.9	830.8	842.1	855.3	869.9	0.5%
Steam Coal	165.2	163.3	161.7	161.2	160.7	160.7	161.1	161.4	161.9	162.6	163.2	163.9	164.8	165.5	-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	0.0	N/A
Renewables	28.0	28.4	28.9	29.5	30.0	30.5	31.1	31.7	32.4	33.1	33.8	34.5	35.3	36.1	1.9%
Purchased Electricity	606.7	609.3	613.4	617.5	621.7	626.8	632.7	638.3	645.4	653.6	662.2	671.0	680.3	689.4	0.8%
Total	1624.0	1623.1	1628.1	1637.9	1652.2	1666.5	1683.4	1696.1	1716.3	1738.7	1761.6	1784.5	1810.1	1835.1	0.3%
Value of Shipments (billion 2000 dollars)															
Wood Products	102.78	103.40	104.53	105.65	105.86	106.33	105.96	107.39	110.03	111.93	112.32	111.77	112.04	113.39	0.6%
Plastics	225.01	228.36	232.61	237.58	242.33	246.81	251.18	255.72	260.92	266.23	271.41	276.21	281.08	285.71	1.9%
Balance of Manufacturing	1157.50	1177.12	1197.86	1219.71	1242.31	1265.17	1290.20	1315.65	1343.74	1373.43	1404.19	1435.19	1468.94	1501.18	2.0%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Wood Products	3.63	3.62	3.61	3.60	3.61	3.61	3.61	3.61	3.60	3.60	3.60	3.60	3.60	3.60	-0.1%
Plastics	1.55	1.53	1.51	1.50	1.48	1.47	1.45	1.44	1.42	1.41	1.40	1.38	1.37	1.36	-1.2%
Balance of Manufacturing	1.40	1.38	1.36	1.34	1.33	1.32	1.30	1.29	1.28	1.27	1.25	1.24	1.23	1.22	-1.7%
Carbon Dioxide Emissions 2/ (million metric tons)															
Wood Products	18.7	18.7	18.8	18.9	19.0	19.2	19.2	19.4	19.8	20.2	20.3	20.2	20.3	20.6	0.5%
Plastics	45.1	45.1	45.3	45.8	46.3	46.8	47.3	47.7	48.2	48.8	49.3	49.8	50.2	50.8	0.6%
Balance of Manufacturing	171.4	171.1	171.6	172.9	174.7	176.5	178.8	180.4	182.6	185.2	187.9	190.5	193.5	196.7	0.4%

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005- 2030
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	0.08	N/A
Natural Gas	0.97	1.04	1.11	1.18	1.26	1.34	1.41	1.49	1.57	1.65	1.72	1.80	1.87	1.95	8.2%
Coal	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	N/A
Other 4/	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	N/A
Total	1.50	1.57	1.65	1.72	1.80	1.87	1.95	2.02	2.10	2.18	2.26	2.33	2.41	2.48	4.6%
Net Generation (billion kilowatthours)															
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	0.03	N/A
Natural Gas	5.28	5.79	6.33	6.87	7.46	8.03	8.58	9.13	9.72	10.30	10.87	11.42	11.98	12.55	22.7%
Coal	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	N/A
Other 4/	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	N/A
Total	7.45	7.96	8.50	9.04	9.63	10.19	10.74	11.30	11.88	12.47	13.04	13.59	14.15	14.72	7.8%
Disposition															
Sales to the Grid	1.77	1.85	1.93	2.01	2.10	2.19	2.27	2.36	2.44	2.53	2.62	2.70	2.79	2.87	4.7%
Generation for Own Use	5.68	6.12	6.57	7.03	7.53	8.01	8.47	8.95	9.44	9.94	10.42	10.89	11.36	11.85	9.1%

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

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

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.

Table 34. Nonmanufacturing Sector Energy Consumption
(trillion Btu)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture													
Distillate Fuel Oil	496.4	475.9	466.1	461.5	461.8	464.8	468.1	467.1	466.1	465.4	463.9	463.2	462.9
Liquefied Petroleum Gases	83.1	80.7	79.5	78.7	79.0	80.6	81.7	81.7	81.5	81.4	81.0	80.9	80.9
Motor Gasoline	156.5	151.7	149.6	148.5	148.4	149.6	151.1	151.3	151.3	151.5	151.4	151.7	152.1
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	736.0	708.3	695.3	688.8	689.2	695.0	700.9	700.1	699.0	698.3	696.3	695.8	695.9
Natural Gas	82.4	79.0	77.6	77.5	79.0	80.9	82.4	82.9	83.4	84.1	84.7	85.4	86.1
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	21.4	20.8	20.6	20.6	20.8	21.1	21.4	21.6	21.9	22.1	22.4	22.6	22.9
Purchased Electricity	122.0	118.4	117.0	116.4	116.5	117.5	118.9	119.2	119.5	119.8	119.9	120.3	120.8
Total	961.8	926.5	910.5	903.3	905.5	914.5	923.6	923.8	923.7	924.4	923.4	924.0	925.7
Construction													
Distillate Fuel Oil	491.3	507.0	506.7	493.9	494.1	493.5	498.2	500.1	501.6	506.9	510.6	516.4	524.3
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
Motor Gasoline	153.4	158.6	158.9	155.1	155.1	154.9	156.5	157.1	157.6	159.3	160.5	162.4	164.9
Asphalt and Road Oil	1289.5	1319.2	1316.0	1274.3	1262.3	1249.6	1250.9	1245.3	1239.4	1243.1	1243.1	1248.3	1258.5
Petroleum Subtotal	1934.1	1984.8	1981.6	1923.3	1911.5	1898.0	1905.5	1902.4	1898.6	1909.3	1914.2	1927.1	1947.7
Natural Gas	282.3	294.3	293.3	285.2	286.8	288.0	292.4	295.2	297.8	302.9	307.0	312.4	319.2
Purchased Electricity	113.1	117.8	117.8	114.8	115.0	115.1	116.4	117.1	117.7	119.2	120.3	122.0	124.2
Total	2329.6	2396.9	2392.7	2323.3	2313.3	2301.0	2314.4	2314.7	2314.1	2331.4	2341.5	2361.5	2391.1
Mining													
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
Distillate Fuel Oil	124.6	124.3	127.0	127.3	127.7	128.0	128.4	128.4	128.4	127.7	127.7	127.0	126.3
Motor Gasoline	16.0	16.0	16.4	16.7	16.8	16.8	16.8	16.7	16.8	16.6	16.7	16.7	16.6
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	140.6	140.2	143.4	144.0	144.6	144.8	145.2	145.1	145.2	144.3	144.5	143.7	142.9
Natural Gas	654.5	636.7	685.2	702.6	709.6	709.9	707.1	705.5	709.0	704.1	711.3	711.3	711.5
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	1133.9	1099.1	1122.3	1098.7	1109.9	1106.1	1098.9	1087.9	1093.3	1082.8	1102.2	1104.2	1106.5
Steam Coal	18.8	20.2	20.5	20.4	20.5	20.6	20.7	20.8	20.8	20.8	20.9	20.8	20.8
Renewables	2.2	2.2	2.3	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	231.7	233.8	240.6	243.7	245.8	245.8	245.5	244.8	245.0	243.0	243.5	242.1	240.9
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	2181.7	2132.2	2214.3	2211.8	2232.7	2229.5	2219.7	2206.5	2215.7	2197.4	2224.7	2224.4	2225.0
Value of Shipments (billion 2000 dollars)													
Agriculture	270.50	268.09	268.51	268.80	268.35	271.75	276.83	279.56	281.63	283.85	285.09	287.78	290.95
Construction	1003.72	1049.57	1059.99	1041.23	1049.10	1056.39	1076.81	1089.83	1101.99	1123.79	1141.30	1164.45	1193.26
Mining	219.67	220.53	228.82	236.79	240.88	242.23	242.54	242.98	245.37	244.07	248.02	248.60	249.30
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)													
Agriculture	3.56	3.46	3.39	3.36	3.37	3.37	3.34	3.30	3.28	3.26	3.24	3.21	3.18
Construction	2.32	2.28	2.26	2.23	2.21	2.18	2.15	2.12	2.10	2.07	2.05	2.03	2.00
Mining	9.93	9.67	9.68	9.34	9.27	9.20	9.15	9.08	9.03	9.00	8.97	8.95	8.92
Carbon Dioxide Emissions 1/ (million metric tons)													
Agriculture	79.8	76.9	75.3	74.6	74.5	75.3	76.1	76.1	76.0	76.0	76.0	76.0	76.1
Construction	82.8	85.8	85.4	83.1	83.0	83.1	84.1	84.5	84.8	85.9	86.7	87.8	89.3
Mining	90.7	90.1	93.4	94.7	95.2	95.3	95.3	95.0	95.1	94.4	95.0	94.5	94.2

Agriculture, Construction, and Mining:

Table 34. Nonmanufacturing Sector Energy Consumption
(trillion Btu)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Combined Heat and Power 2/ Generating Capacity (gigawatts)													
Petroleum	0.03	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	0.29	0.15	0.16	0.17	0.18	0.20	0.22	0.24	0.26	0.29	0.31	0.33	0.36
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
Other 3/	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
Total	0.58	0.43	0.44	0.45	0.46	0.48	0.50	0.52	0.55	0.57	0.59	0.62	0.64
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	0.51	0.48	0.54	0.62	0.71	0.85	1.00	1.17	1.33	1.50	1.68	1.87	2.06
Coal	0.59	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
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
Total	1.34	1.36	1.42	1.50	1.59	1.73	1.88	2.05	2.21	2.39	2.56	2.75	2.94
Disposition													
Sales to the Grid	0.27	0.28	0.28	0.29	0.29	0.30	0.31	0.31	0.32	0.33	0.33	0.34	0.35
Generation for Own Use	1.06	1.08	1.14	1.21	1.30	1.43	1.58	1.74	1.89	2.06	2.22	2.41	2.59

Table 34. Nonmanufacturing Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
Agriculture															
Distillate Fuel Oil	461.7	459.9	458.2	456.7	455.3	453.8	453.0	452.0	452.0	453.3	454.4	455.3	457.0	458.2	-0.2%
Liquefied Petroleum Gases	80.8	80.5	80.5	80.6	80.6	80.7	80.7	80.6	80.7	80.8	80.9	80.9	81.0	81.1	0.0%
Motor Gasoline	152.2	151.9	151.8	152.0	152.6	153.3	154.1	154.9	155.9	156.7	157.6	158.3	159.3	160.2	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	0.0	N/A
Petroleum Subtotal	694.7	692.3	690.5	689.2	688.5	687.7	687.9	687.5	688.5	690.8	692.9	694.5	697.3	699.5	-0.1%
Natural Gas	86.6	86.9	87.4	88.0	88.9	89.8	90.7	91.7	92.7	93.7	94.7	95.6	96.8	97.8	0.9%
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	0.0	N/A
Renewables	23.1	23.2	23.4	23.6	23.8	24.0	24.2	24.4	24.7	24.9	25.2	25.4	25.7	25.9	0.9%
Purchased Electricity	121.1	121.0	121.1	121.2	121.4	121.6	122.2	122.7	123.3	124.0	124.6	125.1	125.9	126.5	0.3%
Total	925.5	923.5	922.4	922.1	922.6	923.1	925.0	926.3	929.3	933.4	937.3	940.6	945.6	949.8	0.1%
Construction															
Distillate Fuel Oil	529.9	537.0	542.8	549.9	553.9	555.8	557.6	561.1	567.5	574.8	579.5	579.9	582.7	588.1	0.6%
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	0.0	N/A
Motor Gasoline	166.7	168.8	170.5	173.0	174.8	175.9	177.0	178.6	181.1	183.6	185.2	185.2	186.2	188.0	0.7%
Asphalt and Road Oil	1263.3	1271.3	1280.3	1295.3	1303.6	1311.3	1318.1	1329.4	1344.0	1358.1	1366.3	1366.1	1371.9	1380.4	0.2%
Petroleum Subtotal	1959.9	1977.0	1993.6	2018.2	2032.2	2043.0	2052.6	2069.1	2092.6	2116.5	2131.0	2131.2	2140.8	2156.4	0.3%
Natural Gas	324.6	330.6	336.2	343.1	348.7	353.1	357.3	362.8	370.1	377.1	382.0	383.9	387.6	393.2	1.2%
Purchased Electricity	125.8	127.6	129.2	131.1	132.2	133.0	133.8	135.1	137.1	139.0	140.2	140.3	141.0	142.5	0.8%
Total	2410.3	2435.3	2459.0	2492.4	2513.2	2529.1	2543.8	2567.1	2599.9	2632.5	2653.2	2655.4	2669.4	2692.1	0.5%
Mining															
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	-0.1%
Distillate Fuel Oil	125.5	125.2	125.5	125.7	126.1	126.2	126.0	126.0	126.3	126.9	127.5	128.2	128.5	129.0	0.1%
Motor Gasoline	16.5	16.6	16.6	16.7	16.7	16.8	16.8	16.7	16.7	16.6	16.7	16.7	16.7	16.7	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	0.0	N/A
Petroleum Subtotal	142.0	141.7	142.1	142.4	142.8	143.0	142.8	142.7	142.9	143.6	144.2	144.9	145.2	145.7	0.2%
Natural Gas	712.0	715.9	721.9	723.5	726.7	728.0	727.4	724.8	721.0	719.0	719.9	721.0	722.4	721.4	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	0.0	N/A
Lease and Plant Fuel	1112.0	1152.6	1198.6	1206.2	1210.4	1209.2	1200.6	1191.8	1173.8	1163.2	1158.0	1157.1	1155.3	1150.3	0.2%
Steam Coal	20.8	20.7	20.8	20.9	21.1	21.2	21.3	21.5	21.7	21.9	22.1	22.2	22.4	22.5	0.4%
Renewables	2.4	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	0.0%
Purchased Electricity excluding Oil Shale	239.8	239.2	240.0	240.0	240.1	239.9	239.5	239.0	238.4	238.2	238.3	238.5	238.3	237.9	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	0.0	N/A
Total	2228.9	2272.6	2325.8	2335.4	2343.3	2343.6	2333.9	2322.1	2300.1	2288.1	2284.8	2286.0	2285.8	2279.9	0.3%
Value of Shipments (billion 2000 dollars)															
Agriculture	293.35	294.79	296.65	298.82	300.91	302.96	305.49	307.87	310.62	313.23	315.72	317.95	320.60	322.96	0.7%
Construction	1216.09	1241.44	1264.38	1290.82	1308.56	1321.31	1332.69	1349.53	1373.43	1396.66	1412.71	1416.07	1426.55	1444.41	1.3%
Mining	250.15	252.24	255.57	256.79	258.02	258.58	258.16	257.13	255.77	255.02	255.20	255.75	256.23	255.83	0.6%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Agriculture	3.15	3.13	3.11	3.09	3.07	3.05	3.03	3.01	2.99	2.98	2.97	2.96	2.95	2.94	-0.6%
Construction	1.98	1.96	1.94	1.93	1.92	1.91	1.91	1.90	1.89	1.88	1.88	1.88	1.87	1.86	-0.8%
Mining	8.91	9.01	9.10	9.09	9.08	9.06	9.04	9.03	8.99	8.97	8.95	8.94	8.92	8.91	-0.3%
Carbon Dioxide Emissions 1/ (million metric tons)															
Agriculture	76.0	75.8	75.7	75.7	75.8	75.9	76.2	76.3	76.6	77.0	77.4	77.7	78.2	78.6	0.1%
Construction	90.3	91.6	92.6	94.1	95.1	95.8	96.5	97.5	98.9	100.4	101.4	101.6	102.3	103.5	0.8%
Mining	93.8	93.8	94.2	94.4	94.8	95.1	95.2	95.1	94.8	94.9	95.1	95.4	95.6	95.7	0.2%

Agriculture, Construction, and Mining:

Table 34. Nonmanufacturing Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005- 2030
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	0.02	N/A
Natural Gas	0.39	0.42	0.45	0.48	0.51	0.55	0.58	0.60	0.63	0.66	0.69	0.72	0.75	0.78	6.8%
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	0.13	N/A
Other 3/	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	0.13	N/A
Total	0.67	0.70	0.73	0.76	0.80	0.83	0.86	0.89	0.92	0.95	0.98	1.00	1.03	1.06	3.6%
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	0.01	N/A
Natural Gas	2.25	2.47	2.71	2.95	3.20	3.43	3.66	3.87	4.10	4.32	4.53	4.74	4.94	5.15	10.0%
Coal	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	N/A
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	0.21	N/A
Total	3.13	3.35	3.59	3.83	4.08	4.31	4.54	4.75	4.98	5.20	5.42	5.62	5.82	6.03	6.1%
Disposition															
Sales to the Grid	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.49	2.3%
Generation for Own Use	2.77	2.99	3.21	3.44	3.68	3.91	4.12	4.33	4.54	4.75	4.96	5.15	5.34	5.54	6.7%

Table 34. 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.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.

Source: 2004 and 2005 nonutility and CHP summer capacity, net generation, fuel use, and thermal output: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report," 2002 (preliminary). Other 2004 and 2005 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2007 National Energy Modeling System run aeo2007.d112106a.