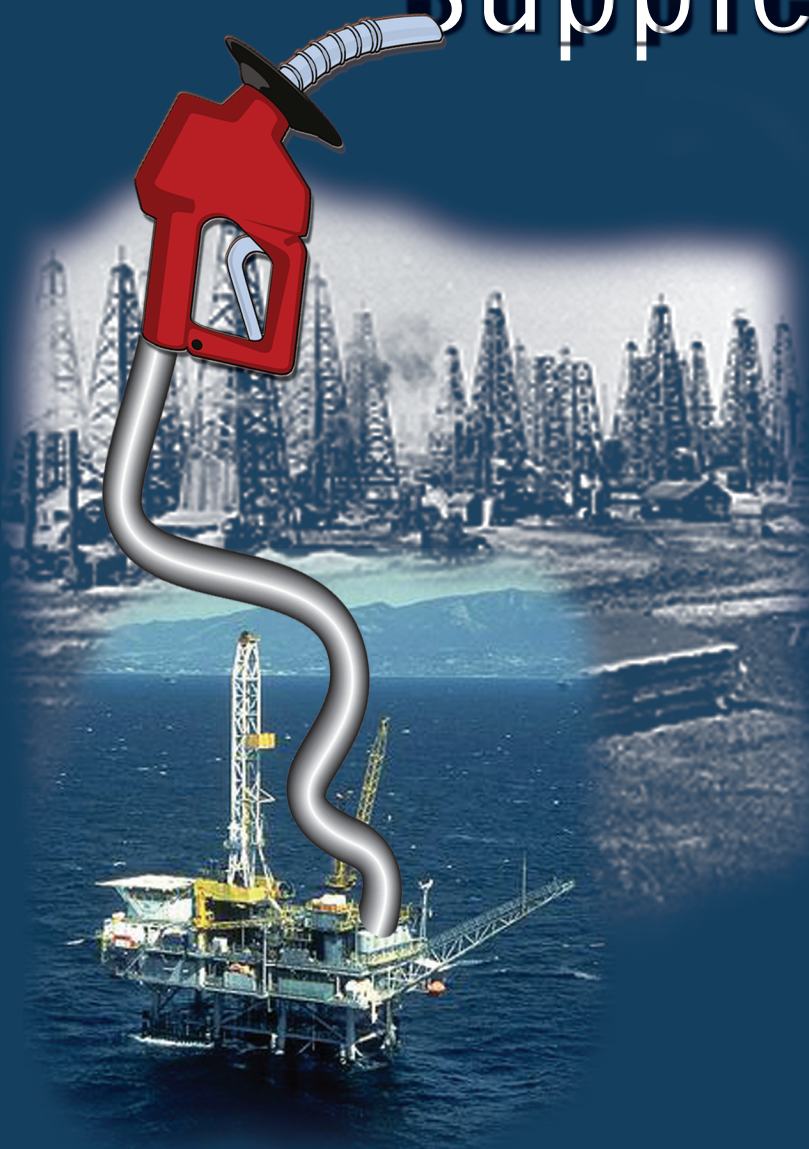


Supplemental Tables to the Annual Energy Outlook 2006



Part I:
Consumption and Prices
by
Sector and Census Division/
Residential, Commercial,
and Industrial Demand
Sector Data



Energy Information Administration

Supplemental Tables to the Annual Energy Outlook 2006

Table 21. Residential Sector Equipment Stock and Efficiency

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Equipment Stock (million units)														
Main Space Heaters														
Electric Heat Pumps	11.01	11.45	11.92	12.30	12.69	13.08	13.46	13.82	14.18	14.52	14.87	15.22	15.58	15.93
Electric Other	20.97	21.12	21.30	21.47	21.65	21.85	22.05	22.24	22.43	22.61	22.78	22.96	23.15	23.33
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
Natural Gas Other	60.82	61.78	62.79	63.75	64.65	65.54	66.40	67.30	68.19	69.05	69.90	70.75	71.62	72.49
Distillate	8.02	8.01	8.00	7.99	7.97	7.96	7.95	7.94	7.93	7.91	7.90	7.89	7.87	7.86
Liquefied Petroleum Gas	5.06	5.13	5.19	5.22	5.27	5.32	5.37	5.42	5.47	5.51	5.55	5.60	5.64	5.69
Kerosene	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.78	0.77	0.77	0.77	0.76	0.76
Wood Stoves	2.04	2.04	2.02	2.01	2.00	1.98	1.97	1.96	1.94	1.93	1.92	1.91	1.90	1.89
Geothermal Heat Pumps	0.09	0.11	0.14	0.17	0.21	0.23	0.25	0.28	0.30	0.32	0.35	0.37	0.39	0.41
Total	108.83	110.46	112.17	113.70	115.22	116.75	118.24	119.73	121.20	122.63	124.04	125.46	126.91	128.35
Space Cooling (million units)														
Electric Heat Pumps	11.01	11.45	11.92	12.30	12.69	13.08	13.46	13.82	14.18	14.52	14.87	15.22	15.58	15.93
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
Geothermal Heat Pumps	0.09	0.11	0.14	0.17	0.21	0.23	0.25	0.28	0.30	0.32	0.35	0.37	0.39	0.41
Central Air Conditioners	49.82	51.29	52.80	54.22	55.63	57.04	58.43	59.82	61.21	62.55	63.88	65.21	66.56	67.90
Room Air Conditioners	34.49	34.43	34.38	34.33	34.28	34.23	34.18	34.14	34.09	34.05	34.00	33.95	33.91	33.87
Total	95.41	97.28	99.23	101.03	102.80	104.58	106.32	108.06	109.77	111.45	113.10	114.76	116.44	118.11
Water Heaters (million units)														
Electric	41.65	42.17	42.72	43.19	43.67	44.18	44.66	45.12	45.58	46.01	46.44	46.88	47.32	47.76
Natural Gas	60.04	61.12	62.24	63.30	64.31	65.31	66.29	67.29	68.29	69.26	70.22	71.18	72.16	73.13
Distillate	4.58	4.54	4.51	4.47	4.43	4.39	4.35	4.32	4.28	4.24	4.21	4.17	4.14	4.11
Liquefied Petroleum Gas	3.04	3.11	3.16	3.19	3.24	3.29	3.35	3.40	3.45	3.50	3.54	3.59	3.64	3.69
Solar Thermal	0.33	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.43	0.44	0.45	0.46	0.47	0.48
Total	109.65	111.28	112.99	114.53	116.04	117.57	119.06	120.55	122.02	123.45	124.86	126.28	127.72	129.17
Cooking Equipment (million units) 1/														
Electric	67.14	68.26	69.44	70.49	71.53	72.58	73.59	74.59	75.57	76.51	77.43	78.36	79.30	80.23
Natural Gas	38.05	38.50	38.98	39.43	39.87	40.30	40.73	41.18	41.63	42.08	42.53	42.99	43.46	43.93
Liquefied Petroleum Gas	4.77	4.83	4.87	4.90	4.94	4.99	5.03	5.07	5.11	5.15	5.18	5.21	5.25	5.28
Total	109.96	111.59	113.29	114.83	116.34	117.86	119.35	120.84	122.31	123.74	125.15	126.56	128.01	129.45
Clothes Dryers (million units)														
Electric	63.22	64.48	65.77	66.95	68.10	69.26	70.39	71.52	72.63	73.69	74.73	75.77	76.83	77.89
Natural Gas	17.85	18.36	18.89	19.39	19.88	20.36	20.83	21.31	21.80	22.29	22.78	23.27	23.77	24.26
Total	81.07	82.84	84.67	86.34	87.97	89.61	91.22	92.83	94.43	95.98	97.51	99.04	100.60	102.15
Other Appliances (million units)														
Refrigerators	129.13	130.86	132.66	134.28	135.87	137.47	139.03	140.59	142.14	143.63	145.11	146.59	148.11	149.62
Freezers	35.06	35.53	36.02	36.47	36.89	37.32	37.74	38.16	38.57	38.97	39.37	39.77	40.17	40.57

Table 21. Residential Sector Equipment Stock and Efficiency

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Stock Average Equipment Efficiency														
Main Space Heaters														
Electric Heat Pumps (HSPF)	7.26	7.29	7.32	7.42	7.50	7.56	7.62	7.67	7.72	7.76	7.81	7.85	7.88	7.92
Natural Gas Heat Pumps (GCOP)	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.32	1.33	1.34	1.35	1.36	1.36	1.37
Geothermal Heat Pumps (COP)	3.40	3.43	3.44	3.46	3.47	3.47	3.48	3.48	3.49	3.49	3.49	3.49	3.50	3.50
Natural Gas Furnace (AFUE)	0.80	0.81	0.82	0.82	0.83	0.83	0.83	0.84	0.84	0.84	0.85	0.85	0.85	0.85
Distillate Furnace (AFUE)	0.81	0.81	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83
Space Cooling														
Electric Heat Pumps (SEER)	10.71	10.77	10.83	11.10	11.30	11.49	11.66	11.83	11.99	12.14	12.30	12.44	12.57	12.69
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	0.62
Geothermal Heat Pumps (EER)	13.64	14.16	14.54	14.86	15.07	15.20	15.32	15.41	15.48	15.55	15.61	15.67	15.72	15.77
Cent. Air Conditioners (SEER)	10.53	10.61	10.67	10.91	11.11	11.30	11.49	11.67	11.83	11.99	12.15	12.29	12.42	12.54
Room Air Conditioners (EER)	9.19	9.27	9.34	9.40	9.45	9.51	9.57	9.63	9.67	9.72	9.75	9.78	9.79	9.80
Water Heaters														
Electric (EF)	0.88	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)	0.55	0.56	0.56	0.57	0.57	0.57	0.58	0.58	0.58	0.59	0.59	0.59	0.59	0.59
Distillate (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
Liquefied Petroleum Gas (EF)	0.55	0.56	0.56	0.57	0.57	0.58	0.58	0.58	0.58	0.59	0.59	0.59	0.59	0.59
Other Appliances (kilowatthours per year) 2/														
Refrigerators	733.74	711.53	691.13	671.51	654.23	637.92	622.90	607.95	594.52	582.42	571.66	562.15	553.79	546.48
Freezers	535.20	515.72	499.11	485.96	475.29	466.16	458.46	451.98	446.86	442.87	439.63	437.05	435.08	433.66
Building Shell Efficiency Index														
Space Heating														
Pre-1998 Homes	0.99	0.99	0.98	0.98	0.97	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94
New Construction	0.70	0.70	0.70	0.70	0.70	0.71	0.71	0.70	0.67	0.67	0.67	0.67	0.67	0.67
All Homes	0.98	0.97	0.96	0.95	0.94	0.93	0.93	0.92	0.91	0.91	0.90	0.90	0.89	0.88
Space Cooling														
Pre-1998 Homes	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98
New Construction	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.82	0.82	0.82	0.82	0.82	0.82
All Homes	0.99	0.99	0.98	0.98	0.97	0.97	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94

Table 21. Residential Sector Equipment Stock and Efficiency

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Equipment Stock (million units)															
Main Space Heaters															
Electric Heat Pumps	16.29	16.66	17.01	17.35	17.68	18.00	18.32	18.65	18.98	19.31	19.64	19.97	20.30	20.63	2.3%
Electric Other	23.52	23.71	23.90	24.07	24.24	24.40	24.56	24.73	24.90	25.07	25.25	25.43	25.61	25.80	0.8%
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	14.1%
Natural Gas Other	73.34	74.19	75.02	75.86	76.66	77.45	78.22	78.98	79.76	80.53	81.29	82.03	82.75	83.47	1.2%
Distillate	7.84	7.82	7.80	7.78	7.76	7.74	7.71	7.69	7.66	7.64	7.61	7.59	7.57	7.55	-0.2%
Liquefied Petroleum Gas	5.73	5.77	5.81	5.83	5.86	5.88	5.90	5.91	5.93	5.95	5.97	5.98	5.99	6.00	0.6%
Kerosene	0.76	0.75	0.75	0.75	0.74	0.74	0.74	0.73	0.73	0.72	0.72	0.72	0.71	0.71	-0.5%
Wood Stoves	1.87	1.86	1.85	1.84	1.83	1.81	1.80	1.79	1.78	1.76	1.75	1.74	1.73	1.72	-0.6%
Geothermal Heat Pumps	0.44	0.46	0.48	0.51	0.53	0.56	0.58	0.60	0.63	0.65	0.67	0.70	0.72	0.74	7.5%
Total	129.79	131.23	132.63	133.99	135.30	136.58	137.83	139.08	140.35	141.64	142.91	144.15	145.38	146.62	1.1%
Space Cooling (million units)															
Electric Heat Pumps	16.29	16.66	17.01	17.35	17.68	18.00	18.32	18.65	18.98	19.31	19.64	19.97	20.30	20.63	2.3%
Natural Gas Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.1%
Geothermal Heat Pumps	0.44	0.46	0.48	0.51	0.53	0.56	0.58	0.60	0.63	0.65	0.67	0.70	0.72	0.74	7.5%
Central Air Conditioners	69.23	70.55	71.84	73.12	74.35	75.56	76.75	77.93	79.12	80.32	81.50	82.66	83.81	84.96	2.0%
Room Air Conditioners	33.82	33.78	33.73	33.69	33.64	33.59	33.54	33.49	33.44	33.40	33.35	33.30	33.25	33.21	-0.1%
Total	119.78	121.44	123.07	124.66	126.21	127.72	129.20	130.68	132.17	133.68	135.17	136.63	138.08	139.54	1.4%
Water Heaters (million units)															
Electric	48.22	48.68	49.13	49.55	49.95	50.35	50.74	51.14	51.56	51.98	52.41	52.83	53.26	53.70	0.9%
Natural Gas	74.08	75.03	75.95	76.88	77.78	78.65	79.51	80.35	81.21	82.07	82.91	83.72	84.52	85.32	1.3%
Distillate	4.08	4.05	4.02	3.98	3.95	3.92	3.88	3.85	3.82	3.79	3.76	3.73	3.70	3.67	-0.8%
Liquefied Petroleum Gas	3.74	3.79	3.83	3.87	3.90	3.92	3.95	3.98	4.00	4.03	4.05	4.07	4.09	4.11	1.1%
Solar Thermal	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	2.2%
Total	130.60	132.04	133.44	134.80	136.10	137.38	138.63	139.88	141.15	142.44	143.71	144.94	146.17	147.42	1.1%
Cooking Equipment (million units) 1/															
Electric	81.16	82.09	83.01	83.90	84.78	85.64	86.50	87.36	88.23	89.12	90.00	90.87	91.73	92.59	1.2%
Natural Gas	44.41	44.88	45.33	45.77	46.18	46.57	46.94	47.31	47.68	48.06	48.43	48.79	49.14	49.51	1.0%
Liquefied Petroleum Gas	5.32	5.35	5.38	5.40	5.42	5.44	5.47	5.49	5.51	5.52	5.54	5.55	5.57	5.58	0.6%
Total	130.89	132.32	133.72	135.07	136.38	137.66	138.90	140.15	141.42	142.70	143.97	145.21	146.44	147.68	1.1%
Clothes Dryers (million units)															
Electric	78.95	80.00	81.04	82.05	83.04	84.01	84.96	85.91	86.86	87.82	88.75	89.66	90.55	91.44	1.4%
Natural Gas	24.73	25.20	25.65	26.09	26.51	26.92	27.32	27.72	28.12	28.53	28.94	29.35	29.75	30.16	1.9%
Total	103.68	105.20	106.69	108.14	109.55	110.93	112.28	113.62	114.98	116.35	117.70	119.00	120.30	121.60	1.5%
Other Appliances (million units)															
Refrigerators	151.13	152.63	154.09	155.51	156.88	158.22	159.52	160.82	162.15	163.49	164.82	166.11	167.39	168.68	1.0%
Freezers	40.97	41.35	41.73	42.10	42.46	42.80	43.13	43.46	43.80	44.14	44.47	44.78	45.10	45.41	0.9%

Table 21. Residential Sector Equipment Stock and Efficiency

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Stock Average Equipment Efficiency															
Main Space Heaters															
Electric Heat Pumps (HSPF)	7.95	7.97	8.00	8.02	8.05	8.07	8.09	8.10	8.11	8.12	8.12	8.13	8.13	8.13	0.4%
Natural Gas Heat Pumps (GCOP)	1.37	1.38	1.38	1.40	1.41	1.42	1.44	1.44	1.45	1.46	1.47	1.47	1.48	1.48	0.5%
Geothermal Heat Pumps (COP)	3.50	3.50	3.50	3.53	3.55	3.57	3.59	3.60	3.62	3.64	3.65	3.67	3.68	3.70	0.3%
Natural Gas Furnace (AFUE)	0.85	0.85	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.2%
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)	12.80	12.90	12.99	13.07	13.14	13.20	13.25	13.29	13.32	13.34	13.34	13.35	13.35	13.35	0.8%
Natural Gas Heat Pumps (GCOP)	0.62	0.62	0.62	0.63	0.64	0.65	0.65	0.66	0.66	0.67	0.67	0.68	0.68	0.69	0.4%
Geothermal Heat Pumps (EER)	15.81	15.85	15.88	16.02	16.14	16.26	16.37	16.47	16.56	16.65	16.74	16.83	16.91	16.98	0.7%
Cent. Air Conditioners (SEER)	12.64	12.73	12.81	12.92	13.01	13.10	13.17	13.23	13.29	13.33	13.36	13.39	13.42	13.45	0.9%
Room Air Conditioners (EER)	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	9.81	0.2%
Water Heaters															
Electric (EF)	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.2%
Natural Gas (EF)	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.3%
Distillate (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 Gas (EF)	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.3%
Other Appliances (kilowatthours per year) 2/															
Refrigerators	540.18	534.73	530.08	525.91	522.22	519.02	516.33	514.13	512.45	511.30	510.71	510.28	509.93	509.65	-1.3%
Freezers	432.74	432.21	431.98	432.04	432.27	432.65	433.18	433.86	434.47	435.04	435.54	435.96	436.31	436.58	-0.6%
Building Shell Efficiency Index															
Space Heating															
Pre-1998 Homes	0.94	0.93	0.93	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.89	0.89	0.89	0.88	-0.4%
New Construction	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	-0.2%
All Homes	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	-0.7%
Space Cooling															
Pre-1998 Homes	0.98	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.96	0.96	0.95	-0.2%
New Construction	0.82	0.82	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	0.94	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.90	-0.3%

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.

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.

Btu = British thermal unit.

N/A = Not applicable.

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

Source: Energy Information Administration, AEO2006 National Energy Modeling System run aeo2006.d111905a.

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

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Commercial Building Delivered														
Energy Consumption (quadrillion Btu) 1/														
Assembly	0.50	0.49	0.49	0.49	0.50	0.51	0.52	0.52	0.53	0.54	0.55	0.55	0.56	0.57
Education	0.71	0.70	0.71	0.72	0.73	0.75	0.76	0.77	0.79	0.80	0.81	0.82	0.84	0.85
Food Sales	0.21	0.21	0.22	0.22	0.22	0.23	0.23	0.24	0.24	0.24	0.25	0.25	0.26	0.26
Food Service	0.45	0.45	0.46	0.46	0.47	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55
Health Care	0.42	0.42	0.43	0.44	0.45	0.47	0.48	0.49	0.50	0.52	0.53	0.54	0.56	0.57
Lodging	0.45	0.45	0.45	0.44	0.45	0.46	0.46	0.47	0.48	0.49	0.51	0.52	0.53	0.54
Office - Large	0.72	0.73	0.75	0.76	0.79	0.81	0.83	0.85	0.87	0.89	0.90	0.92	0.94	0.95
Office - Small	0.41	0.41	0.42	0.43	0.44	0.46	0.47	0.48	0.48	0.49	0.50	0.51	0.52	0.53
Mercantile/Service	1.24	1.24	1.26	1.28	1.31	1.35	1.38	1.42	1.45	1.48	1.51	1.54	1.57	1.60
Warehouse	0.50	0.49	0.49	0.51	0.52	0.53	0.54	0.55	0.56	0.58	0.59	0.60	0.61	0.62
Other	0.38	0.38	0.39	0.40	0.41	0.42	0.44	0.45	0.46	0.48	0.49	0.50	0.51	0.52
Total	5.99	5.97	6.07	6.14	6.30	6.44	6.59	6.72	6.87	7.02	7.15	7.28	7.42	7.57
Commercial Building Floorspace														
(billion square feet)														
Assembly	8.36	8.48	8.57	8.66	8.74	8.84	8.93	9.02	9.12	9.21	9.31	9.41	9.51	9.61
Education	9.59	9.84	9.99	10.14	10.30	10.45	10.61	10.77	10.93	11.10	11.27	11.44	11.61	11.78
Food Sales	1.08	1.10	1.12	1.14	1.16	1.18	1.19	1.21	1.23	1.25	1.27	1.29	1.30	1.32
Food Service	2.01	2.05	2.08	2.11	2.14	2.18	2.21	2.25	2.28	2.31	2.34	2.38	2.41	2.45
Health Care	2.01	2.06	2.11	2.15	2.20	2.24	2.29	2.33	2.37	2.42	2.46	2.51	2.56	2.61
Lodging	4.95	5.04	5.13	5.22	5.32	5.43	5.53	5.64	5.75	5.86	5.97	6.08	6.19	6.31
Office - Large	7.87	7.94	8.02	8.11	8.19	8.28	8.38	8.47	8.57	8.67	8.76	8.85	8.94	9.04
Office - Small	6.14	6.21	6.28	6.36	6.43	6.51	6.59	6.67	6.75	6.83	6.91	6.99	7.07	7.15
Mercantile/Service	15.24	15.58	15.85	16.11	16.38	16.66	16.93	17.21	17.49	17.77	18.05	18.34	18.63	18.92
Warehouse	11.62	11.85	12.03	12.21	12.40	12.61	12.84	13.08	13.32	13.58	13.83	14.09	14.35	14.61
Other	4.78	4.88	5.02	5.15	5.28	5.42	5.55	5.67	5.80	5.93	6.06	6.19	6.33	6.46
Total	73.67	75.04	76.20	77.37	78.56	79.79	81.05	82.33	83.63	84.93	86.24	87.57	88.90	90.26
Stock Average Equipment Efficiency 2/														
Space Heating														
Electricity	1.09	1.10	1.12	1.13	1.14	1.15	1.15	1.16	1.17	1.18	1.18	1.19	1.19	1.20
Natural Gas	0.75	0.75	0.76	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.79	0.79	0.79
Distillate	0.76	0.76	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Space Cooling														
Electricity	2.75	2.77	2.80	2.82	2.84	2.86	2.88	2.93	2.98	3.02	3.06	3.10	3.13	3.17
Natural Gas	0.87	0.90	0.92	0.95	0.97	1.00	1.01	1.03	1.04	1.06	1.07	1.08	1.09	1.10
Water Heating														
Electricity	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Natural Gas	0.84	0.86	0.87	0.88	0.89	0.89	0.89	0.90	0.90	0.91	0.91	0.91	0.91	0.91
Distillate	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.77	0.77	0.77	0.77	0.77	0.77

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

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ventilation (cubic feet per minute per Btu) 3/ Electricity	0.35	0.36	0.36	0.37	0.37	0.38	0.38	0.39	0.39	0.40	0.40	0.40	0.41	0.41
Cooking														
Electricity	0.72	0.73	0.73	0.73	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.75	0.75	0.75
Natural Gas	0.51	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
Lighting Efficacy 4/ (efficacy in lumens per watt)														
Electricity	49.74	50.12	50.89	51.56	51.89	52.19	52.31	52.36	52.42	52.49	52.55	52.63	52.69	52.75
Refrigeration														
Electricity	1.40	1.40	1.41	1.41	1.42	1.42	1.43	1.43	1.44	1.45	1.45	1.45	1.46	1.46

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Commercial Building Delivered															
Energy Consumption (quadrillion Btu) 1/															
Assembly	0.57	0.58	0.58	0.59	0.60	0.60	0.61	0.62	0.63	0.63	0.64	0.65	0.66	0.66	1.2%
Education	0.86	0.87	0.88	0.89	0.90	0.92	0.93	0.94	0.95	0.96	0.97	0.99	1.00	1.01	1.4%
Food Sales	0.27	0.27	0.27	0.28	0.28	0.29	0.29	0.30	0.30	0.31	0.31	0.32	0.32	0.33	1.7%
Food Service	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	1.6%
Health Care	0.59	0.60	0.61	0.63	0.64	0.65	0.67	0.68	0.70	0.71	0.72	0.74	0.76	0.77	2.3%
Lodging	0.55	0.56	0.57	0.59	0.60	0.61	0.62	0.63	0.65	0.66	0.67	0.69	0.70	0.72	1.8%
Office - Large	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.16	1.18	1.21	1.24	1.27	2.2%
Office - Small	0.54	0.54	0.55	0.56	0.57	0.57	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.65	1.8%
Mercantile/Service	1.63	1.66	1.68	1.71	1.73	1.76	1.79	1.81	1.84	1.87	1.90	1.93	1.96	1.99	1.8%
Warehouse	0.63	0.64	0.65	0.66	0.67	0.68	0.70	0.71	0.72	0.73	0.74	0.75	0.77	0.78	1.8%
Other	0.54	0.55	0.56	0.57	0.59	0.60	0.61	0.63	0.64	0.65	0.67	0.68	0.70	0.71	2.5%
Total	7.71	7.84	7.96	8.10	8.23	8.36	8.51	8.65	8.79	8.94	9.09	9.25	9.41	9.57	1.8%
Commercial Building Floorspace															
(billion square feet)															
Assembly	9.72	9.82	9.94	10.05	10.17	10.29	10.41	10.54	10.66	10.79	10.92	11.06	11.19	11.33	1.1%
Education	11.95	12.13	12.31	12.49	12.68	12.87	13.06	13.25	13.45	13.65	13.86	14.07	14.28	14.50	1.5%
Food Sales	1.34	1.36	1.38	1.40	1.42	1.44	1.46	1.48	1.51	1.53	1.55	1.57	1.60	1.62	1.5%
Food Service	2.48	2.51	2.55	2.59	2.62	2.66	2.70	2.74	2.78	2.82	2.86	2.90	2.94	2.98	1.5%
Health Care	2.66	2.70	2.75	2.80	2.85	2.91	2.96	3.01	3.06	3.12	3.18	3.23	3.29	3.35	1.9%
Lodging	6.42	6.54	6.66	6.79	6.91	7.04	7.17	7.31	7.45	7.59	7.74	7.89	8.04	8.19	1.9%
Office - Large	9.13	9.23	9.33	9.43	9.53	9.64	9.75	9.86	9.97	10.08	10.20	10.31	10.43	10.55	1.1%
Office - Small	7.23	7.32	7.40	7.49	7.58	7.67	7.76	7.85	7.95	8.04	8.14	8.24	8.34	8.44	1.2%
Mercantile/Service	19.22	19.52	19.83	20.15	20.47	20.80	21.13	21.47	21.82	22.18	22.54	22.91	23.29	23.67	1.6%
Warehouse	14.88	15.16	15.45	15.74	16.03	16.32	16.62	16.92	17.22	17.53	17.84	18.16	18.49	18.82	1.8%
Other	6.60	6.74	6.89	7.04	7.18	7.33	7.48	7.63	7.79	7.94	8.10	8.26	8.42	8.58	2.2%
Total	91.64	93.05	94.50	95.96	97.45	98.97	100.50	102.07	103.65	105.27	106.92	108.60	110.31	112.04	1.6%
Stock Average Equipment Efficiency 2/															
Space Heating															
Electricity	1.20	1.21	1.21	1.22	1.23	1.23	1.24	1.25	1.25	1.26	1.27	1.27	1.28	1.29	0.6%
Natural Gas	0.79	0.79	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.2%
Distillate	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.1%
Space Cooling															
Electricity	3.20	3.22	3.25	3.28	3.30	3.33	3.35	3.37	3.39	3.41	3.43	3.45	3.47	3.48	0.9%
Natural Gas	1.11	1.12	1.13	1.13	1.14	1.15	1.15	1.16	1.16	1.17	1.17	1.17	1.18	1.18	1.0%
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	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.3%
Distillate	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78	0.1%

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

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Ventilation (cubic feet per minute per Btu) 3/ Electricity	0.42	0.42	0.42	0.43	0.43	0.43	0.43	0.44	0.44	0.44	0.44	0.45	0.45	0.45	0.9%
Cooking															
Electricity	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.1%
Natural Gas	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.53	0.53	0.53	0.1%
Lighting Efficacy 4/ (efficacy in lumens per watt)															
Electricity	52.83	52.92	53.03	53.14	53.35	53.55	53.71	53.94	54.15	54.32	54.48	54.64	54.77	55.17	0.4%
Refrigeration															
Electricity	1.46	1.47	1.47	1.47	1.47	1.47	1.47	1.48	1.48	1.48	1.48	1.48	1.48	1.48	0.2%

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, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 23. Industrial Sector Macroeconomic Indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
GDP (billion 2000 dollars)	10320.6	10755.7	11146.7	11512.9	11875.1	12288.4	12670.9	13042.7	13416.6	13793.4	14191.1	14622.1	15081.5	15575.3
Nonfarm Employment (millions)	129.9	131.4	133.6	135.8	137.6	139.5	141.0	142.1	143.0	143.9	145.0	146.2	147.6	149.1
Value of Shipments (billion 2000 dollars)														
Nonmanufacturing Sector														
Agriculture/Forestry/Fishing/Hunting	248.0	240.8	245.1	246.3	248.1	251.0	254.7	258.2	260.1	261.1	262.4	264.3	266.5	269.3
Mining	193.8	197.4	199.8	204.0	204.5	208.0	211.0	212.2	214.0	215.6	218.1	219.4	221.9	226.3
Construction	950.7	1000.5	1040.8	1058.3	1066.7	1082.8	1086.6	1101.9	1119.3	1133.0	1149.5	1173.3	1200.6	1228.1
Manufacturing Sector														
Food Products	428.6	429.0	439.1	447.7	457.6	466.5	475.8	484.8	494.1	503.9	513.2	522.8	533.0	543.8
Beverages and Tobacco Products	102.8	104.4	106.1	106.6	107.7	108.8	109.7	110.7	111.8	113.2	114.4	115.6	116.9	118.0
Textile Mills and Products	76.1	79.3	78.1	73.9	71.0	68.9	67.9	67.5	67.3	67.1	66.6	66.1	65.6	65.1
Apparel	53.6	57.6	53.5	49.8	47.2	45.1	43.3	41.8	40.4	39.0	37.6	36.3	35.0	34.0
Wood Products	90.1	101.0	95.5	93.1	92.5	93.0	93.2	94.7	96.3	96.8	97.6	99.5	101.9	104.7
Furniture and Related Products	69.2	73.2	73.0	73.2	74.0	74.9	75.9	77.2	79.0	80.7	82.2	83.6	85.1	85.9
Paper Products	161.7	168.8	166.8	170.7	174.5	177.2	179.7	182.3	184.8	186.9	188.5	190.0	191.7	193.5
Printing	88.3	86.7	86.2	87.5	88.9	90.0	91.3	92.5	93.9	95.1	96.4	97.7	99.0	100.2
Chemical Manufacturing	436.4	444.8	433.6	445.0	456.7	463.7	470.9	479.6	490.0	499.9	509.0	518.3	528.9	537.8
Bulk Chemicals	191.0	201.4	197.8	203.0	206.8	207.5	207.9	208.7	210.7	212.1	212.7	213.2	214.4	215.3
Inorganic	29.0	29.0	28.9	29.3	29.8	29.9	29.8	29.5	29.3	29.1	28.8	28.5	28.3	28.1
Organic	77.6	83.5	82.4	83.9	85.6	86.2	86.9	87.5	88.5	89.1	89.5	89.9	90.5	91.0
Resin, Synthetic Rubber, and Fibers	67.0	70.9	68.3	71.2	72.9	72.8	72.5	72.9	74.1	75.1	75.6	76.0	76.8	77.4
Agricultural Chemicals	17.5	18.1	18.2	18.6	18.6	18.6	18.7	18.8	18.9	18.8	18.7	18.7	18.7	18.7
Other Chemical Products	245.4	243.4	235.8	242.0	249.9	256.2	263.0	270.9	279.3	287.9	296.4	305.2	314.5	322.5
Petroleum and Coal Products	230.5	254.6	256.3	260.7	264.4	267.0	270.8	274.7	277.8	281.9	284.8	286.9	289.0	292.8
Petroleum Refineries	211.6	230.6	231.9	236.2	239.0	241.6	244.9	248.1	250.6	254.1	256.4	258.0	259.6	263.0
Other Petroleum and Coal Products	18.9	23.9	24.4	24.5	25.4	25.4	26.0	26.5	27.2	27.8	28.4	28.9	29.4	29.8
Plastics and Rubber Products	179.7	191.3	192.4	196.9	201.3	204.1	207.5	211.4	217.0	222.5	227.0	231.4	236.4	241.1
Leather and Leather Products	10.2	9.6	9.1	8.6	8.3	8.0	7.8	7.7	7.5	7.4	7.2	7.1	6.9	6.8
Stone, Clay, and Glass Products	83.7	84.2	86.6	91.7	95.6	96.6	97.7	99.9	102.7	104.9	106.5	108.1	109.9	111.7
Glass and Glass Products	22.2	22.2	22.4	23.6	24.4	24.6	24.8	25.7	26.8	28.0	28.8	29.3	29.7	30.4
Cement Manufacturing	7.6	7.8	7.9	8.3	8.7	8.7	8.8	8.8	9.0	9.0	9.0	9.1	9.1	9.2
Other Nonmetallic Mineral Products	53.9	54.2	56.4	59.8	62.4	63.2	64.1	65.3	67.0	67.9	68.6	69.7	71.0	72.1
Primary Metals Industry	136.8	144.8	140.8	146.8	152.8	154.5	155.5	157.9	161.5	163.9	164.5	165.6	167.1	169.0
Iron and Steel Mills and Products	65.8	70.9	65.0	68.5	71.5	72.2	73.0	74.3	75.9	76.7	77.0	77.9	79.0	79.8
Alumina and Aluminum Products	28.7	29.8	29.9	30.4	31.3	31.9	32.1	32.5	33.1	33.5	33.3	33.3	33.6	34.1
Other Primary Metal Products	42.2	44.1	45.8	47.9	50.1	50.4	50.5	51.1	52.5	53.7	54.3	54.5	54.5	55.1
Fabricated Metal Products	240.8	250.9	251.7	259.7	267.6	272.9	276.1	279.2	286.1	292.2	296.3	301.0	305.9	309.9
Machinery	249.6	283.4	301.6	312.8	323.1	326.7	329.7	334.3	341.6	349.4	356.4	363.9	371.6	380.0
Other Electronic/Electric Products	490.0	550.9	612.1	646.4	674.8	711.5	743.6	775.7	815.7	861.2	903.8	946.0	990.3	1035.1
Transportation Equipment	615.6	636.5	632.0	641.8	654.8	671.4	692.1	705.2	712.5	718.9	726.5	741.4	752.7	764.0
Instruments and Related Products	108.9	119.5	128.1	131.5	133.4	134.1	135.3	137.2	138.9	140.9	143.5	146.7	150.0	153.3
Miscellaneous Manufacturing	132.6	133.9	136.4	142.6	149.3	155.3	161.9	169.0	176.6	184.3	192.5	201.0	209.9	219.2
Total Industrial Value of Shipments	5377.7	5643.0	5764.8	5895.9	6014.6	6131.8	6238.4	6355.5	6489.0	6619.6	6744.7	6886.0	7036.0	7189.6

Table 23. Industrial Sector Macroeconomic Indicators

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
GDP (billion 2000 dollars)	16091.6	16599.3	17064.3	17540.6	18021.4	18514.8	19026.4	19562.1	20123.0	20701.0	21286.1	21871.0	22481.6	23112.2	3.0%
Nonfarm Employment (millions)	151.0	153.0	154.7	156.2	157.7	159.2	160.8	162.5	164.2	166.0	167.9	169.8	171.6	173.6	1.1%
Value of Shipments (billion 2000 dollars)															
Nonmanufacturing Sector															
Agriculture/Forestry/Fishing/Hunting	271.9	274.5	276.8	279.0	281.1	283.3	285.7	288.2	290.8	293.4	295.9	298.2	300.4	302.6	0.9%
Mining	227.6	228.4	228.8	228.8	228.4	228.0	228.3	228.0	227.4	227.9	227.3	227.3	227.1	227.0	0.5%
Construction	1247.6	1266.1	1282.1	1300.7	1315.2	1332.0	1349.8	1374.9	1407.4	1440.8	1466.7	1484.1	1507.8	1539.3	1.7%
Manufacturing Sector															
Food Products	554.9	565.8	576.5	586.9	597.0	607.4	618.0	628.7	639.4	650.7	662.2	673.4	684.3	695.4	1.9%
Beverages and Tobacco Products	119.1	120.1	120.9	121.7	122.5	123.3	124.2	125.0	126.0	127.1	128.2	129.4	130.6	131.8	0.9%
Textile Mills and Products	64.7	64.2	63.6	62.9	62.3	61.7	61.2	60.9	60.8	60.7	60.5	60.1	59.7	59.5	-1.1%
Apparel	33.0	32.1	31.2	30.4	29.6	28.8	28.1	27.4	26.8	26.2	25.6	25.0	24.4	23.9	-3.3%
Wood Products	106.3	107.3	107.9	108.4	108.9	109.6	110.4	112.3	115.3	118.6	120.3	121.0	122.3	123.5	0.8%
Furniture and Related Products	87.6	90.0	92.0	94.1	96.6	99.2	101.6	103.8	106.3	108.8	111.6	114.4	117.2	120.7	1.9%
Paper Products	195.8	198.3	200.3	202.2	204.1	206.1	208.2	210.2	212.4	214.7	217.2	219.5	221.9	224.3	1.1%
Printing	101.7	103.3	104.8	106.2	107.7	109.2	110.6	112.0	113.5	115.0	116.5	118.1	119.6	121.2	1.3%
Chemical Manufacturing	546.5	555.7	564.4	572.8	581.7	591.0	600.6	610.5	620.6	631.5	642.6	653.6	664.9	676.0	1.6%
Bulk Chemicals	216.9	218.6	219.4	220.0	220.9	221.8	223.0	224.1	225.2	226.7	228.3	229.5	230.9	231.9	0.5%
Inorganic	28.0	27.9	27.7	27.4	27.1	26.9	26.7	26.6	26.4	26.3	26.1	26.0	25.9	25.7	-0.5%
Organic	91.7	92.4	92.9	93.2	93.6	94.1	94.7	95.2	95.7	96.4	97.1	97.6	98.3	98.7	0.6%
Resin, Synthetic Rubber, and Fibers	78.4	79.5	80.2	80.8	81.5	82.3	83.0	83.8	84.6	85.6	86.6	87.4	88.4	89.2	0.9%
Agricultural Chemicals	18.7	18.8	18.7	18.6	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.4	18.4	0.1%
Other Chemical Products	329.6	337.2	345.0	352.8	360.9	369.2	377.7	386.4	395.4	404.8	414.3	424.0	434.0	444.1	2.3%
Petroleum and Coal Products	295.7	297.8	301.3	304.3	307.3	309.5	312.9	317.8	321.1	324.5	327.8	333.3	336.5	339.5	1.1%
Petroleum Refineries	265.3	266.6	269.6	272.2	274.5	276.2	279.0	283.3	286.1	288.8	291.4	296.2	298.8	301.0	1.0%
Other Petroleum and Coal Products	30.4	31.2	31.7	32.2	32.8	33.4	33.9	34.4	35.1	35.7	36.4	37.1	37.7	38.5	1.8%
Plastics and Rubber Products	247.1	253.7	259.5	265.2	271.3	277.6	283.9	290.2	297.0	304.2	311.7	318.9	326.3	333.4	2.2%
Leather and Leather Products	6.6	6.5	6.3	6.2	6.1	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	-2.4%
Stone, Clay, and Glass Products	114.2	116.9	118.9	120.5	122.2	124.1	125.9	127.7	129.7	132.0	134.5	137.0	139.4	141.4	2.0%
Glass and Glass Products	31.1	31.9	32.5	33.0	33.4	33.9	34.4	35.0	35.5	36.2	36.8	37.5	38.1	38.7	2.1%
Cement Manufacturing	9.4	9.4	9.5	9.6	9.6	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.4	1.1%
Other Nonmetallic Mineral Products	73.7	75.6	76.9	78.0	79.2	80.5	81.7	82.9	84.3	85.9	87.6	89.3	91.0	92.4	2.1%
Primary Metals Industry	171.7	173.8	175.1	176.3	177.6	179.3	181.2	183.1	185.2	188.0	190.6	193.2	195.9	197.9	1.2%
Iron and Steel Mills and Products	80.8	81.6	82.1	82.4	82.7	83.1	83.7	84.3	84.9	85.8	86.6	87.3	88.0	88.5	0.9%
Alumina and Aluminum Products	34.6	34.9	34.8	34.8	34.8	34.9	35.1	35.2	35.3	35.8	36.1	36.4	36.8	36.9	0.8%
Other Primary Metal Products	56.2	57.3	58.2	59.1	60.1	61.2	62.4	63.6	64.9	66.5	68.0	69.5	71.0	72.5	1.9%
Fabricated Metal Products	315.0	321.3	326.4	330.9	336.7	343.0	349.2	355.1	362.1	369.9	377.8	385.8	394.0	403.4	1.8%
Machinery	389.0	397.8	406.0	414.2	424.3	434.8	445.4	455.5	467.4	480.6	493.4	506.3	520.6	536.2	2.5%
Other Electronic/Electric Products	1091.3	1146.4	1191.2	1237.4	1287.8	1339.3	1392.1	1446.5	1504.8	1566.9	1631.5	1696.6	1765.9	1840.8	4.7%
Transportation Equipment	774.5	784.6	794.0	802.8	812.3	823.9	837.3	852.8	869.7	887.0	904.6	920.8	935.2	950.4	1.6%
Instruments and Related Products	156.6	159.9	163.2	166.6	170.1	173.5	177.1	180.7	184.3	188.1	192.0	196.0	200.1	204.2	2.1%
Miscellaneous Manufacturing	228.5	238.3	248.5	259.0	269.8	280.8	292.2	303.6	315.4	327.8	340.6	353.6	366.8	380.5	4.1%
Total Industrial Value of Shipments	7346.9	7502.9	7639.6	7777.6	7920.6	8071.4	8229.6	8400.7	8589.1	8789.7	8984.5	9170.6	9366.1	9577.7	2.1%

Table 23. Industrial Sector Macroeconomic Indicators

GDP = Gross domestic product.

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

Source: 2004: Global Insight macroeconomic model CTL0805. Projections: Energy Information Administration, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 24. Refining Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	211.65	230.65	231.87	236.19	239.02	241.56	244.87	248.13	250.64	254.09	256.40	257.98	259.60	262.97
Energy Consumption (trillion Btu) 1/														
Residual Oil	20.4	13.8	13.8	13.8	11.2	26.2	16.7	32.7	32.8	32.9	33.0	33.2	29.3	33.6
Distillate Oil	5.5	4.8	4.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gas	19.6	12.8	12.8	12.8	30.7	33.7	37.1	40.8	44.9	49.4	52.5	55.9	61.2	70.6
Petroleum Coke	564.9	569.9	569.9	569.9	756.6	756.0	758.9	754.1	780.1	807.5	785.5	826.9	831.1	881.1
Still Gas	1548.0	1554.2	1554.2	1554.2	1654.3	1672.5	1720.8	1777.1	1826.3	1859.6	1905.8	1920.8	1939.7	1956.7
Other Petroleum 2/	33.8	33.8	33.8	33.8	118.1	105.7	102.5	101.8	120.1	114.5	128.1	130.9	125.7	129.3
Petroleum Subtotal	2192.3	2189.3	2189.3	2189.3	2570.8	2594.1	2636.0	2706.5	2804.2	2864.0	2905.0	2967.6	2987.0	3071.4
Natural Gas	768.2	746.5	752.2	756.4	826.5	873.6	905.4	926.3	905.3	894.8	891.5	863.4	865.4	815.2
Steam Coal 3/	85.1	101.9	113.5	122.2	126.8	126.5	126.5	125.8	166.6	206.1	246.9	266.3	286.0	304.8
Purchased Electricity	121.3	130.4	131.3	131.8	126.2	135.8	135.8	139.1	144.9	143.9	151.9	153.3	155.0	160.5
Total	3166.8	3168.2	3186.3	3199.7	3650.3	3729.9	3803.7	3897.7	4021.0	4108.8	4195.3	4250.6	4293.5	4351.8
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Oil	0.10	0.06	0.06	0.06	0.05	0.11	0.07	0.13	0.13	0.13	0.13	0.13	0.11	0.13
Distillate Oil	0.03	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 Gas	0.09	0.06	0.06	0.05	0.13	0.14	0.15	0.16	0.18	0.19	0.20	0.22	0.24	0.27
Petroleum Coke	2.67	2.47	2.46	2.41	3.17	3.13	3.10	3.04	3.11	3.18	3.06	3.21	3.20	3.35
Still Gas	7.31	6.74	6.70	6.58	6.92	6.92	7.03	7.16	7.29	7.32	7.43	7.45	7.47	7.44
Other Petroleum 2/	0.16	0.15	0.15	0.14	0.49	0.44	0.42	0.41	0.48	0.45	0.50	0.51	0.48	0.49
Petroleum Subtotal	10.36	9.49	9.44	9.27	10.76	10.74	10.77	10.91	11.19	11.27	11.33	11.50	11.51	11.68
Natural Gas	3.63	3.24	3.24	3.20	3.46	3.62	3.70	3.73	3.61	3.52	3.48	3.35	3.33	3.10
Steam Coal 3/	0.40	0.44	0.49	0.52	0.53	0.52	0.52	0.51	0.66	0.81	0.96	1.03	1.10	1.16
Purchased Electricity	0.57	0.57	0.57	0.56	0.53	0.56	0.55	0.56	0.58	0.57	0.59	0.59	0.60	0.61
Total	14.96	13.74	13.74	13.55	15.27	15.44	15.53	15.71	16.04	16.17	16.36	16.48	16.54	16.55
Carbon Dioxide Emissions 4/ (million metric tons)	205.1	206.7	208.3	209.2	234.8	240.7	244.9	251.3	260.9	267.3	275.3	279.2	282.3	287.0
Combined Heat and Power Generating Capacity (gigawatts)														
Petroleum	0.09	0.86	0.86	0.86	0.95	0.93	0.99	1.06	1.10	1.24	1.07	1.15	1.14	1.18
Natural Gas	3.19	3.25	3.25	3.25	3.28	3.31	3.35	3.39	3.43	3.47	3.47	3.51	3.53	3.56
Coal	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.50	0.99	1.49	1.73	1.96	2.20
Other 5/	0.95	0.95	0.95	0.95	0.62	0.63	0.64	0.65	0.65	0.66	0.66	0.67	0.67	0.68
Total	4.25	5.07	5.07	5.07	4.85	4.87	4.98	5.10	5.67	6.35	6.69	7.05	7.30	7.62
Net Generation (billion kilowatthours)														
Petroleum	1.05	0.73	1.71	1.71	6.76	6.49	7.45	8.03	8.40	9.54	8.14	8.83	8.78	9.25
Natural Gas	14.85	17.28	17.28	17.28	21.51	21.76	22.15	22.50	22.74	23.07	23.11	23.39	23.58	23.84
Coal	0.50	0.23	0.06	0.06	0.00	0.00	0.00	0.00	3.91	7.81	11.72	13.59	15.46	17.27
Other 5/	6.52	4.54	4.84	4.84	4.09	4.15	4.20	4.26	4.30	4.34	4.38	4.42	4.46	4.49
Total	22.92	22.78	23.89	23.89	32.36	32.40	33.80	34.78	39.34	44.76	47.35	50.22	52.28	54.85
Disposition														
Sales to the Grid	3.03	4.83	5.58	5.58	11.88	11.29	12.38	13.01	15.82	19.47	20.36	22.25	23.31	24.90
Generation for Own Use	19.89	17.94	18.31	18.31	20.49	21.11	21.42	21.77	23.52	25.29	26.99	27.97	28.97	29.95

Table 24. Refining Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Energy Consumed at Ethanol Plants (trillion Btu)														
Natural Gas	41.3	49.3	54.9	59.1	85.6	116.3	147.7	171.1	200.8	215.4	230.5	235.8	241.4	246.1
Coal	84.2	101.1	113.5	122.2	126.8	126.5	126.5	125.8	125.5	123.8	123.5	123.1	123.1	122.8
Electricity	5.2	6.3	7.1	7.6	13.5	16.7	19.9	22.3	25.4	26.8	28.4	29.0	29.7	30.3
Total	130.7	156.6	175.5	189.0	226.0	259.4	294.0	319.3	351.7	366.0	382.4	388.0	394.2	399.2

Table 24. Refining Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	265.33	266.61	269.60	272.17	274.51	276.17	279.00	283.33	286.09	288.80	291.39	296.23	298.77	301.05	1.0%
Energy Consumption (trillion Btu) 1/															
Residual Oil	33.6	33.6	33.6	33.7	33.8	32.9	34.0	34.2	34.4	34.7	33.9	33.2	32.6	32.2	3.3%
Distillate 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 Gas	79.5	87.5	86.7	84.5	91.3	101.0	103.2	101.6	97.7	97.9	101.9	105.7	96.5	113.5	8.7%
Petroleum Coke	870.6	866.8	870.1	889.4	886.2	878.6	869.9	897.3	904.1	919.8	942.2	961.1	976.4	973.5	2.1%
Still Gas	1995.0	2028.1	2040.2	2069.5	2098.5	2118.7	2128.6	2227.2	2270.5	2302.6	2366.6	2425.5	2446.1	2441.5	1.8%
Other Petroleum 2/	131.4	135.0	134.3	134.7	135.5	136.1	138.1	139.3	140.4	142.2	145.2	154.7	166.4	147.5	5.8%
Petroleum Subtotal	3110.0	3150.9	3165.0	3211.9	3245.4	3267.3	3273.8	3399.5	3447.1	3497.2	3589.7	3680.1	3717.9	3708.3	2.0%
Natural Gas	774.0	750.0	774.9	768.0	745.5	737.6	754.7	708.7	707.0	688.3	641.0	600.3	595.5	624.2	-0.7%
Steam Coal 3/	339.8	376.1	410.8	616.6	818.2	1002.6	1123.8	1249.6	1344.5	1472.6	1554.3	1635.2	1729.0	1730.0	11.5%
Purchased Electricity	159.0	164.1	165.9	160.3	167.7	167.9	164.5	171.7	172.7	175.0	179.0	182.7	184.2	178.9	1.2%
Total	4382.8	4441.0	4516.5	4756.9	4976.8	5175.4	5316.8	5529.5	5671.3	5833.0	5964.0	6098.2	6226.6	6241.3	2.6%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Oil	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	2.3%
Distillate 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 Gas	0.30	0.33	0.32	0.31	0.33	0.37	0.37	0.36	0.34	0.34	0.35	0.36	0.32	0.38	7.6%
Petroleum Coke	3.28	3.25	3.23	3.27	3.23	3.18	3.12	3.17	3.16	3.18	3.23	3.24	3.27	3.23	1.0%
Still Gas	7.52	7.61	7.57	7.60	7.64	7.67	7.63	7.86	7.94	7.97	8.12	8.19	8.19	8.11	0.7%
Other Petroleum 2/	0.50	0.51	0.50	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.50	0.52	0.56	0.49	4.8%
Petroleum Subtotal	11.72	11.82	11.74	11.80	11.82	11.83	11.73	12.00	12.05	12.11	12.32	12.42	12.44	12.32	1.0%
Natural Gas	2.92	2.81	2.87	2.82	2.72	2.67	2.71	2.50	2.47	2.38	2.20	2.03	1.99	2.07	-1.7%
Steam Coal 3/	1.28	1.41	1.52	2.27	2.98	3.63	4.03	4.41	4.70	5.10	5.33	5.52	5.79	5.75	10.4%
Purchased Electricity	0.60	0.62	0.62	0.59	0.61	0.61	0.59	0.61	0.60	0.61	0.61	0.62	0.62	0.59	0.2%
Total	16.52	16.66	16.75	17.48	18.13	18.74	19.06	19.52	19.82	20.20	20.47	20.59	20.84	20.73	1.6%
Carbon Dioxide Emissions 4/ (million metric tons)	290.4	296.1	301.8	322.4	343.6	361.9	374.1	392.5	404.5	418.9	430.5	442.2	453.4	453.3	3.1%
Combined Heat and Power Generating Capacity (gigawatts)															
Petroleum	1.14	1.08	1.09	1.27	1.10	1.10	1.12	1.13	1.15	1.15	1.15	1.15	1.16	1.17	1.2%
Natural Gas	3.58	3.60	3.63	3.67	3.68	3.70	3.73	3.76	3.79	3.79	3.79	3.79	3.82	3.86	0.7%
Coal	2.62	3.04	3.46	5.94	8.42	10.91	12.27	13.63	14.99	16.44	17.88	19.33	19.34	19.35	29.4%
Other 5/	0.68	0.69	0.69	0.70	0.70	0.71	0.71	0.72	0.72	0.72	0.72	0.72	0.73	0.74	-1.0%
Total	8.02	8.41	8.86	11.57	13.90	16.42	17.83	19.24	20.65	22.09	23.54	24.99	25.05	25.11	6.3%
Net Generation (billion kilowatthours)															
Petroleum	8.95	8.45	8.50	10.01	8.58	8.60	8.63	8.76	8.89	9.00	9.01	9.01	9.02	9.12	10.2%
Natural Gas	24.00	24.15	24.35	24.72	24.76	24.96	25.17	25.38	25.60	25.61	25.61	25.61	25.61	26.19	1.6%
Coal	20.62	23.92	27.21	46.78	65.91	83.40	94.90	106.85	115.85	128.01	135.76	143.44	152.34	152.44	28.5%
Other 5/	4.53	4.57	4.61	4.65	4.69	4.73	4.77	4.81	4.85	4.85	4.85	4.85	4.85	4.96	0.3%
Total	58.10	61.09	64.68	86.16	103.94	121.70	133.47	145.80	155.19	167.46	175.22	182.91	191.82	192.70	8.6%
Disposition															
Sales to the Grid	26.59	28.08	30.16	43.83	54.03	64.81	71.92	79.41	85.09	92.67	97.45	102.17	107.65	107.83	12.7%
Generation for Own Use	31.52	33.01	34.52	42.33	49.91	56.88	61.55	66.39	70.10	74.79	77.78	80.74	84.17	84.88	6.2%

Table 24. Refining Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Energy Consumed at Ethanol Plants (trillion Btu)															
Natural Gas	213.5	228.4	239.9	239.5	239.9	240.3	240.4	240.4	240.6	240.8	240.7	240.8	240.8	240.8	6.3%
Coal	122.5	124.1	124.0	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	123.7	0.8%
Electricity	27.0	28.7	30.1	30.2	30.2	30.2	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	6.3%
Total	362.9	381.2	394.0	393.3	393.8	394.2	394.3	394.3	394.5	394.7	394.7	394.8	394.8	394.7	3.6%

Table 24. Refining Industry Energy Consumption

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

2/ Includes lubricants and miscellaneous petroleum products.

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

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

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

Btu = British thermal unit.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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). 2003 and 2004 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. 2003 and 2004 electricity consumption at ethanol plants: U.S. Department of Agriculture, 1998 Ethanol Cost-of-Production Survey, Agricultural Economic Report Number 808. Other 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 25. Food Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	428.56	429.05	439.14	447.74	457.55	466.49	475.81	484.83	494.11	503.88	513.22	522.80	532.96	543.77
Energy Consumption (trillion Btu) 1/														
Residual Oil	8.0	7.9	7.0	6.2	7.2	7.1	7.0	7.2	6.8	6.7	7.0	6.8	6.5	6.5
Distillate Oil	22.6	18.6	21.4	18.2	18.3	17.7	17.4	17.4	16.2	16.2	16.8	16.6	15.8	15.9
Liquefied Petroleum Gas	5.4	5.2	5.4	4.5	5.8	5.8	5.6	5.5	5.3	5.4	5.5	5.5	5.4	5.6
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
Petroleum Subtotal	36.0	31.7	33.8	28.9	31.3	30.6	30.0	30.1	28.4	28.3	29.3	28.9	27.8	27.9
Natural Gas	541.2	531.3	527.0	540.4	548.5	558.0	568.3	577.5	588.4	598.3	606.3	616.8	629.4	641.3
Steam Coal	195.0	199.9	213.6	213.7	214.0	214.2	214.4	214.6	214.7	214.9	215.1	215.3	215.5	215.6
Renewables	41.5	41.6	42.7	43.6	44.7	45.7	46.8	47.8	48.9	50.0	51.0	52.1	53.3	54.5
Purchased Electricity	227.0	227.9	231.4	233.5	236.6	239.9	243.4	246.4	249.8	253.4	256.7	260.0	263.4	267.2
Total	1040.8	1032.4	1048.4	1060.2	1075.1	1088.4	1102.8	1116.4	1130.2	1144.8	1158.4	1173.0	1189.3	1206.6
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Oil	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Distillate Oil	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
Liquefied Petroleum Gas	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
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
Petroleum Subtotal	0.08	0.07	0.08	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05
Natural Gas	1.26	1.24	1.20	1.21	1.20	1.20	1.19	1.19	1.19	1.19	1.18	1.18	1.18	1.18
Steam Coal	0.46	0.47	0.49	0.48	0.47	0.46	0.45	0.44	0.43	0.43	0.42	0.41	0.40	0.40
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	0.10
Purchased Electricity	0.53	0.53	0.53	0.52	0.52	0.51	0.51	0.51	0.51	0.50	0.50	0.50	0.49	0.49
Total	2.43	2.41	2.39	2.37	2.35	2.33	2.32	2.30	2.29	2.27	2.26	2.24	2.23	2.22
Carbon Dioxide Emissions 3/ (million metric tons)	92.7	92.1	94.0	94.4	95.3	96.5	97.8	98.7	99.4	100.7	101.5	102.3	103.1	104.2
Combined Heat and Power 4/ Generating Capacity (gigawatts)														
Petroleum	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Natural Gas	0.46	0.45	0.47	0.49	0.51	0.53	0.56	0.59	0.62	0.65	0.68	0.71	0.76	0.81
Coal	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
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
Total	1.42	1.41	1.53	1.55	1.57	1.59	1.62	1.65	1.68	1.71	1.74	1.77	1.82	1.87
Net Generation (billion kilowatthours)														
Petroleum	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Natural Gas	2.01	1.55	1.65	1.81	1.97	2.15	2.36	2.58	2.79	3.00	3.23	3.49	3.82	4.18
Coal	3.96	4.06	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
Other 5/	0.11	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
Total	6.15	5.77	6.28	6.44	6.60	6.78	6.99	7.21	7.42	7.63	7.86	8.12	8.45	8.81
Disposition														
Sales to the Grid	0.21	0.15	0.22	0.31	0.40	0.51	0.64	0.77	0.90	1.02	1.16	1.32	1.51	1.73
Generation for Own Use	5.94	5.62	6.07	6.13	6.19	6.27	6.35	6.44	6.52	6.61	6.70	6.80	6.93	7.08

Table 25. Food Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	554.88	565.78	576.50	586.93	597.04	607.38	617.97	628.74	639.44	650.70	662.18	673.38	684.33	695.42	1.9%
Energy Consumption (trillion Btu) 1/															
Residual Oil	6.5	6.7	6.9	6.7	6.8	7.0	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	-0.1%
Distillate Oil	16.2	16.7	17.4	17.1	17.7	18.2	18.4	18.7	19.2	19.4	19.8	20.3	21.0	21.5	0.6%
Liquefied Petroleum Gas	5.8	5.9	6.0	6.0	6.0	6.1	6.2	6.2	6.3	6.5	6.6	6.6	6.7	7.0	1.1%
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	28.4	29.3	30.3	29.7	30.6	31.2	31.6	31.9	32.7	33.2	33.7	34.4	35.4	36.1	0.5%
Natural Gas	653.1	663.9	674.7	688.3	700.2	712.8	725.8	738.8	751.2	764.7	778.2	791.3	803.3	815.2	1.7%
Steam Coal	215.8	216.0	216.1	216.3	216.5	216.6	216.8	217.0	217.1	217.3	217.5	217.7	217.8	218.0	0.3%
Renewables	55.8	57.1	58.3	59.5	60.7	61.9	63.2	64.4	65.7	67.0	68.4	69.7	71.1	72.4	2.2%
Purchased Electricity	271.1	275.1	278.8	282.2	285.5	288.8	292.2	295.8	299.2	303.1	307.0	310.9	314.6	317.9	1.3%
Total	1224.3	1241.2	1258.3	1276.0	1293.4	1311.4	1329.6	1347.9	1366.0	1385.2	1404.8	1424.0	1442.2	1459.6	1.3%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual 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	-2.0%
Distillate 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	0.03	-1.3%
Liquefied Petroleum Gas	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	-0.7%
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	0.05	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	-1.3%
Natural Gas	1.18	1.17	1.17	1.17	1.17	1.17	1.17	1.18	1.17	1.18	1.18	1.18	1.17	1.17	-0.2%
Steam Coal	0.39	0.38	0.37	0.37	0.36	0.36	0.35	0.35	0.34	0.33	0.33	0.32	0.32	0.31	-1.5%
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	0.10	0.3%
Purchased Electricity	0.49	0.49	0.48	0.48	0.48	0.48	0.47	0.47	0.47	0.47	0.46	0.46	0.46	0.46	-0.6%
Total	2.21	2.19	2.18	2.17	2.17	2.16	2.15	2.14	2.14	2.13	2.12	2.11	2.11	2.10	-0.5%
Carbon Dioxide Emissions 3/ (million metric tons)	105.5	106.8	108.1	109.3	110.6	112.0	113.4	114.8	116.3	117.8	119.4	121.0	122.5	123.9	1.1%
Combined Heat and Power 4/ Generating Capacity (gigawatts)															
Petroleum	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	N/A
Natural Gas	0.86	0.91	0.96	1.02	1.08	1.14	1.19	1.24	1.30	1.35	1.40	1.45	1.49	1.54	4.8%
Coal	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.4%
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	1.92	1.97	2.02	2.08	2.14	2.20	2.25	2.30	2.36	2.41	2.46	2.50	2.55	2.59	2.4%
Net Generation (billion kilowatthours)															
Petroleum	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	N/A
Natural Gas	4.56	4.94	5.33	5.75	6.18	6.60	6.99	7.38	7.76	8.13	8.48	8.84	9.17	9.48	7.2%
Coal	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	0.4%
Other 5/	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
Total	9.19	9.57	9.96	10.38	10.81	11.23	11.62	12.01	12.39	12.76	13.12	13.47	13.80	14.11	3.5%
Disposition															
Sales to the Grid	1.96	2.19	2.42	2.68	2.93	3.18	3.42	3.65	3.88	4.10	4.31	4.53	4.73	4.91	14.2%
Generation for Own Use	7.23	7.38	7.54	7.71	7.88	8.05	8.20	8.36	8.51	8.66	8.80	8.94	9.07	9.20	1.9%

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 26. Paper Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	161.67	168.85	166.80	170.69	174.51	177.19	179.73	182.29	184.81	186.86	188.48	189.96	191.68	193.48
Energy Consumption (trillion Btu) 1/														
Residual Oil	112.5	112.7	106.0	102.5	105.2	104.7	104.4	105.7	104.1	103.7	104.8	103.7	103.2	102.9
Distillate Oil	15.2	15.1	16.0	15.2	15.0	14.9	14.8	14.8	14.5	14.5	14.5	14.5	14.4	14.4
Liquefied Petroleum Gas	5.0	5.2	5.2	4.7	5.8	5.8	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Petroleum Subtotal	132.7	133.0	127.1	122.4	126.0	125.3	125.0	126.1	124.2	123.8	124.9	123.8	123.2	122.9
Natural Gas	545.1	542.3	536.9	545.8	546.8	549.7	552.8	554.6	558.8	560.7	560.6	562.7	565.3	567.4
Steam Coal	256.2	284.2	288.5	288.1	287.8	287.4	287.1	286.7	286.4	286.1	285.7	285.4	285.1	284.8
Renewables	1213.1	1265.3	1251.4	1277.7	1304.2	1323.3	1341.7	1360.8	1379.9	1396.0	1409.3	1421.8	1436.1	1451.1
Purchased Electricity	241.3	252.7	246.2	248.2	251.0	252.7	254.0	255.4	257.3	258.5	258.9	259.1	259.7	260.7
Total	2388.3	2477.3	2450.1	2482.2	2515.8	2538.5	2560.6	2583.6	2606.6	2625.1	2639.4	2652.8	2669.3	2686.9
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Oil	0.70	0.67	0.64	0.60	0.60	0.59	0.58	0.58	0.56	0.56	0.56	0.55	0.54	0.53
Distillate Oil	0.09	0.09	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07
Liquefied Petroleum Gas	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
Petroleum Subtotal	0.82	0.79	0.76	0.72	0.72	0.71	0.70	0.69	0.67	0.66	0.66	0.65	0.64	0.64
Natural Gas	3.37	3.21	3.22	3.20	3.13	3.10	3.08	3.04	3.02	3.00	2.97	2.96	2.95	2.93
Steam Coal	1.58	1.68	1.73	1.69	1.65	1.62	1.60	1.57	1.55	1.53	1.52	1.50	1.49	1.47
Renewables	7.50	7.49	7.50	7.49	7.47	7.47	7.47	7.46	7.47	7.47	7.48	7.48	7.49	7.50
Purchased Electricity	1.49	1.50	1.48	1.45	1.44	1.43	1.41	1.40	1.39	1.38	1.37	1.36	1.36	1.35
Total	14.77	14.67	14.69	14.54	14.42	14.33	14.25	14.17	14.10	14.05	14.00	13.97	13.93	13.89
Carbon Dioxide Emissions 2/ (million metric tons)	108.9	113.1	111.7	111.7	112.2	112.7	113.2	113.4	113.4	113.8	113.6	113.3	113.0	113.0
Combined Heat and Power 3/ Generating Capacity (gigawatts)														
Petroleum	0.31	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Natural Gas	2.07	2.07	2.10	2.14	2.18	2.23	2.28	2.33	2.37	2.41	2.45	2.49	2.53	2.58
Coal	1.40	1.40	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Other 4/	4.21	4.23	4.23	4.40	4.57	4.69	4.80	4.92	5.04	5.13	5.22	5.29	5.38	5.47
Total	7.99	8.04	8.09	8.31	8.52	8.68	8.84	9.01	9.17	9.31	9.43	9.55	9.68	9.82
Net Generation (billion kilowatthours)														
Petroleum	3.21	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36
Natural Gas	8.97	8.34	8.57	8.90	9.24	9.59	9.97	10.35	10.68	10.99	11.28	11.58	11.92	12.25
Coal	6.77	7.51	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65
Other 4/	29.02	29.08	29.08	30.09	31.05	31.74	32.40	33.08	33.77	34.35	34.83	35.28	35.80	36.34
Total	47.98	48.28	48.65	49.99	51.29	52.33	53.38	54.44	55.46	56.34	57.12	57.86	58.72	59.59
Disposition														
Sales to the Grid	2.00	1.98	2.12	2.89	3.67	4.29	4.92	5.55	6.17	6.70	7.16	7.61	8.12	8.65
Generation for Own Use	45.97	46.30	46.53	47.10	47.63	48.04	48.46	48.88	49.29	49.64	49.96	50.25	50.59	50.94

Table 26. Paper Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	195.85	198.33	200.29	202.15	204.14	206.14	208.16	210.18	212.36	214.72	217.18	219.49	221.86	224.27	1.1%
Energy Consumption (trillion Btu) 1/															
Residual Oil	103.1	103.7	104.1	103.1	103.8	104.3	104.4	104.1	104.4	104.7	104.9	105.5	106.0	105.8	-0.2%
Distillate Oil	14.4	14.4	14.5	14.5	14.5	14.5	14.5	14.5	14.6	14.6	14.6	14.6	14.7	14.7	-0.1%
Liquefied Petroleum Gas	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.7	5.7	5.9	0.5%
Petroleum Subtotal	123.2	123.8	124.3	123.2	123.9	124.4	124.5	124.3	124.7	125.1	125.3	125.8	126.4	126.4	-0.2%
Natural Gas	569.8	571.7	573.5	577.7	580.6	584.0	587.7	591.7	595.3	599.2	603.4	607.2	610.9	615.0	0.5%
Steam Coal	284.6	284.3	284.1	284.0	283.9	283.9	283.8	283.8	283.8	283.8	283.8	283.8	283.8	283.9	0.0%
Renewables	1470.2	1490.5	1507.4	1524.0	1541.8	1559.9	1578.4	1597.2	1617.5	1639.2	1661.9	1683.8	1706.4	1729.6	1.2%
Purchased Electricity	262.8	265.3	266.9	268.3	270.1	271.9	273.8	276.0	278.9	282.2	285.8	289.3	292.9	296.4	0.6%
Total	2710.6	2735.6	2756.2	2777.3	2800.3	2824.1	2848.3	2872.9	2900.0	2929.4	2960.1	2989.9	3020.4	3051.3	0.8%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Oil	0.53	0.52	0.52	0.51	0.51	0.51	0.50	0.50	0.49	0.49	0.48	0.48	0.48	0.47	-1.3%
Distillate Oil	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	-1.2%
Liquefied Petroleum Gas	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	-0.6%
Petroleum Subtotal	0.63	0.62	0.62	0.61	0.61	0.60	0.60	0.59	0.59	0.58	0.57	0.57	0.56	0.56	-1.3%
Natural Gas	2.91	2.88	2.86	2.86	2.84	2.83	2.82	2.82	2.80	2.79	2.78	2.77	2.75	2.74	-0.6%
Steam Coal	1.45	1.43	1.42	1.40	1.39	1.38	1.36	1.35	1.34	1.32	1.31	1.29	1.28	1.27	-1.1%
Renewables	7.51	7.52	7.53	7.54	7.55	7.57	7.58	7.60	7.62	7.63	7.65	7.67	7.69	7.71	0.1%
Purchased Electricity	1.34	1.34	1.33	1.33	1.32	1.32	1.32	1.31	1.31	1.31	1.32	1.32	1.32	1.32	-0.5%
Total	13.84	13.79	13.76	13.74	13.72	13.70	13.68	13.67	13.66	13.64	13.63	13.62	13.61	13.61	-0.3%
Carbon Dioxide Emissions 2/ (million metric tons)	113.4	113.9	114.3	114.7	115.2	115.7	116.3	117.0	117.8	118.7	119.7	120.7	121.7	122.6	0.3%
Combined Heat and Power 3/ Generating Capacity (gigawatts)															
Petroleum	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	N/A
Natural Gas	2.62	2.66	2.70	2.74	2.79	2.83	2.87	2.91	2.95	2.99	3.02	3.06	3.10	3.13	1.6%
Coal	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	0.1%
Other 4/	5.59	5.72	5.82	5.92	6.03	6.15	6.26	6.38	6.50	6.63	6.77	6.91	7.05	7.19	2.1%
Total	9.98	10.14	10.29	10.43	10.58	10.74	10.89	11.05	11.21	11.38	11.56	11.74	11.91	12.09	1.6%
Net Generation (billion kilowatthours)															
Petroleum	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	N/A
Natural Gas	12.58	12.88	13.18	13.51	13.83	14.16	14.46	14.75	15.05	15.34	15.63	15.92	16.19	16.43	2.6%
Coal	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	0.1%
Other 4/	37.03	37.76	38.36	38.96	39.60	40.25	40.92	41.60	42.33	43.11	43.92	44.71	45.53	46.36	1.8%
Total	60.61	61.64	62.55	63.47	64.44	65.41	66.38	67.36	68.38	69.45	70.56	71.63	72.72	73.80	1.6%
Disposition															
Sales to the Grid	9.26	9.88	10.42	10.98	11.55	12.14	12.72	13.31	13.92	14.56	15.23	15.87	16.52	17.17	8.7%
Generation for Own Use	51.35	51.76	52.13	52.50	52.88	53.27	53.66	54.05	54.46	54.89	55.33	55.76	56.19	56.63	0.8%

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.

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 27. Bulk Chemical Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	191.04	201.40	197.79	203.00	206.81	207.51	207.92	208.74	210.66	212.09	212.66	213.19	214.40	215.26
Energy Consumption (trillion Btu) 1/														
Heat and Power														
Residual Oil	28.2	26.1	21.4	19.4	21.9	21.4	21.1	21.7	20.4	20.0	20.5	19.6	18.9	18.6
Distillate Oil	5.8	5.1	5.4	4.8	4.9	4.7	4.7	4.6	4.4	4.3	4.3	4.2	4.0	4.0
Liquefied Petroleum Gas	31.3	31.2	32.3	22.0	37.0	36.2	35.0	34.4	32.8	32.7	33.4	33.3	32.8	31.5
Petroleum Coke	108.2	113.2	113.2	109.3	109.5	106.9	104.3	104.7	100.7	99.6	101.3	98.2	97.2	96.0
Other Petroleum 2/	257.3	269.2	269.4	260.0	260.5	254.3	248.1	249.0	239.4	236.8	241.0	233.7	231.2	228.5
Petroleum Subtotal	430.8	444.7	441.7	415.5	433.8	423.6	413.2	414.4	397.7	393.4	400.6	389.0	384.1	378.5
Natural Gas	1463.5	1496.0	1470.6	1521.4	1521.8	1531.8	1544.4	1545.6	1570.3	1578.7	1571.2	1583.9	1594.7	1604.0
Steam Coal	238.0	251.4	250.5	250.9	251.1	250.8	250.5	250.1	249.9	249.6	249.2	248.8	248.4	248.0
Purchased Electricity	428.3	460.3	451.7	459.0	462.4	459.1	454.0	449.8	448.8	446.9	442.5	437.7	434.4	430.9
Total Heat and Power	2560.6	2652.5	2614.6	2646.8	2669.1	2665.3	2662.1	2659.8	2666.7	2668.5	2663.5	2659.4	2661.6	2661.4
Feedstock														
Liquefied Petroleum Gas	1996.5	2109.6	2062.3	2098.4	2120.6	2111.9	2100.1	2098.6	2111.1	2121.9	2125.5	2127.8	2133.3	2137.0
Petrochemical Feedstocks	1229.3	1294.3	1252.7	1279.1	1296.2	1291.0	1284.7	1283.9	1290.8	1294.9	1293.3	1291.5	1294.4	1294.1
Natural Gas	584.1	606.9	599.7	607.5	610.0	607.9	607.6	606.4	607.8	606.7	604.1	602.0	602.0	600.7
Total Feedstocks	3809.9	4010.8	3914.7	3985.0	4026.8	4010.8	3992.4	3988.9	4009.7	4023.5	4022.9	4021.2	4029.8	4031.8
Total	6370.5	6663.3	6529.3	6631.8	6695.9	6676.1	6654.5	6648.7	6676.4	6692.1	6686.4	6680.6	6691.4	6693.2
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Heat and Power														
Residual 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
Distillate 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
Liquefied Petroleum Gas	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Petroleum Coke	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Other Petroleum	1.3	1.3	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
Petroleum Subtotal	2.3	2.2	2.2	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8
Natural Gas	7.7	7.4	7.4	7.5	7.4	7.4	7.4	7.4	7.5	7.4	7.4	7.4	7.4	7.5
Steam Coal	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Purchased Electricity	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0
Total Heat and Power	13.4	13.2	13.2	13.0	12.9	12.8	12.8	12.7	12.7	12.6	12.5	12.5	12.4	12.4
Feedstock														
Liquefied Petroleum Gas	10.5	10.5	10.4	10.3	10.3	10.2	10.1	10.1	10.0	10.0	10.0	10.0	10.0	9.9
Petrochemical Feedstocks	6.4	6.4	6.3	6.3	6.3	6.2	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
Natural Gas	3.1	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.8
Total Feedstocks	19.9	19.9	19.8	19.6	19.5	19.3	19.2	19.1	19.0	19.0	18.9	18.9	18.8	18.7
Total	33.3	33.1	33.0	32.7	32.4	32.2	32.0	31.9	31.7	31.6	31.4	31.3	31.2	31.1
Carbon Dioxide Emissions 3/ (million metric tons)	328.1	343.4	337.4	341.2	343.7	342.5	341.3	340.2	340.0	340.4	339.1	337.4	336.6	335.7

Table 27. Bulk Chemical Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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
Natural Gas	7.73	7.79	7.86	7.91	8.00	8.09	8.21	8.35	8.48	8.61	8.75	8.90	9.05	9.21
Coal	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Other 5/ Total	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Total	8.75	8.81	8.89	8.94	9.02	9.11	9.23	9.37	9.50	9.63	9.77	9.92	10.08	10.24
Net Generation (billion kilowatthours)														
Petroleum	0.11	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
Natural Gas	45.99	43.78	44.31	44.70	45.33	46.04	46.98	48.01	49.02	50.01	51.05	52.19	53.39	54.59
Coal	2.85	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Other 5/ Total	7.04	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40
Total	56.00	53.38	53.91	54.30	54.93	55.64	56.58	57.61	58.62	59.61	60.65	61.79	62.99	64.19
Disposition														
Sales to the Grid	9.43	8.94	9.07	9.30	9.68	10.11	10.67	11.29	11.89	12.49	13.11	13.79	14.52	15.24
Generation for Own Use	46.57	44.43	44.84	45.00	45.25	45.54	45.91	46.32	46.73	47.12	47.54	47.99	48.47	48.96

Table 27. Bulk Chemical Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	216.90	218.55	219.44	220.03	220.86	221.83	222.96	224.09	225.25	226.73	228.26	229.52	230.94	231.93	0.5%
Energy Consumption (trillion Btu) 1/															
Heat and Power															
Residual Oil	18.5	18.8	19.0	18.1	18.3	18.5	18.4	18.2	18.3	18.2	18.2	18.5	18.6	18.4	-1.3%
Distillate Oil	3.9	3.9	3.9	3.8	3.7	3.7	3.6	3.6	3.6	3.5	3.5	3.5	3.5	3.4	-1.5%
Liquefied Petroleum Gas	31.6	31.4	31.4	31.0	31.1	31.0	31.1	31.1	31.7	32.0	31.6	29.4	29.9	30.9	0.0%
Petroleum Coke	96.7	98.6	99.9	98.5	100.3	101.7	102.5	102.6	104.0	105.2	106.1	107.0	108.0	108.3	-0.2%
Other Petroleum 2/	230.1	234.5	237.5	234.2	238.5	242.0	243.9	244.1	247.3	250.2	252.3	254.6	256.8	257.5	-0.2%
Petroleum Subtotal	380.8	387.2	391.6	385.5	392.0	397.0	399.6	399.6	404.9	409.2	411.7	413.1	416.8	418.5	-0.2%
Natural Gas	1610.1	1611.1	1612.0	1622.1	1622.2	1626.1	1633.3	1642.6	1646.5	1653.5	1661.9	1669.4	1673.7	1676.9	0.4%
Steam Coal	247.8	247.5	247.3	247.0	246.8	246.6	246.4	246.3	246.2	246.2	246.2	246.1	246.0	245.8	-0.1%
Purchased Electricity	429.3	427.9	424.4	420.1	416.4	413.2	410.5	408.1	405.8	404.3	403.2	401.5	400.2	397.6	-0.6%
Total Heat and Power	2668.0	2673.7	2675.3	2674.6	2677.4	2682.8	2689.9	2696.7	2703.4	2713.3	2722.9	2730.1	2736.7	2738.9	0.1%
Feedstock															
Liquefied Petroleum Gas	2151.6	2168.5	2179.5	2191.1	2206.2	2221.8	2238.2	2255.4	2273.1	2293.5	2314.8	2328.0	2343.4	2356.1	0.4%
Petrochemical Feedstocks	1298.9	1305.1	1309.6	1310.4	1312.6	1315.4	1318.8	1321.5	1324.7	1329.6	1335.2	1339.2	1345.8	1350.7	0.2%
Natural Gas	601.1	601.6	600.3	597.7	597.2	598.2	599.8	601.0	602.1	604.3	606.0	607.4	609.2	609.6	0.0%
Total Feedstocks	4051.6	4075.2	4089.3	4099.2	4116.0	4135.3	4156.8	4178.0	4199.9	4227.5	4256.0	4274.6	4298.4	4316.4	0.3%
Total	6719.6	6748.9	6764.7	6773.8	6793.4	6818.2	6846.7	6874.6	6903.3	6940.8	6978.9	7004.7	7035.2	7055.2	0.2%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Heat and Power															
Residual 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	-1.9%
Distillate 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	-2.1%
Liquefied Petroleum Gas	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	-0.6%
Petroleum Coke	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-0.7%
Other Petroleum	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	1.1	-0.7%
Petroleum Subtotal	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	-0.8%
Natural Gas	7.4	7.4	7.3	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.2	-0.1%
Steam Coal	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	1.1	-0.6%
Purchased Electricity	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	-1.1%
Total Heat and Power	12.3	12.2	12.2	12.2	12.1	12.1	12.1	12.0	12.0	12.0	11.9	11.9	11.9	11.8	-0.4%
Feedstock															
Liquefied Petroleum Gas	9.9	9.9	9.9	10.0	10.0	10.0	10.0	10.1	10.1	10.1	10.1	10.1	10.1	10.2	-0.1%
Petrochemical Feedstocks	6.0	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	-0.4%
Natural Gas	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	-0.5%
Total Feedstocks	18.7	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	-0.3%
Total	31.0	30.9	30.8	30.8	30.8	30.7	30.7	30.7	30.6	30.6	30.6	30.5	30.5	30.4	-0.3%
Carbon Dioxide Emissions 3/ (million metric tons)	336.2	337.0	337.1	336.6	336.9	337.5	338.2	339.1	340.0	341.3	342.8	343.7	344.8	345.2	0.0%

Table 27. Bulk Chemical Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
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	9.37	9.52	9.67	9.82	9.96	10.09	10.22	10.34	10.46	10.58	10.69	10.79	10.89	10.98	1.3%
Coal	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	N/A
Other 5/	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	N/A
Total	10.40	10.54	10.69	10.84	10.98	11.12	11.24	11.37	11.49	11.60	11.71	11.82	11.91	12.01	1.2%
Net Generation (billion kilowatthours)															
Petroleum	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	N/A
Natural Gas	55.79	56.91	58.03	59.14	60.19	61.21	62.18	63.09	63.97	64.82	65.65	66.43	67.15	67.86	1.7%
Coal	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	N/A
Other 5/	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	6.40	N/A
Total	65.39	66.51	67.63	68.74	69.79	70.81	71.77	72.69	73.57	74.42	75.25	76.03	76.74	77.46	1.4%
Disposition															
Sales to the Grid	15.96	16.63	17.30	17.97	18.60	19.21	19.79	20.33	20.87	21.37	21.87	22.34	22.77	23.20	3.7%
Generation for Own Use	49.43	49.88	50.33	50.77	51.19	51.60	51.99	52.35	52.71	53.05	53.38	53.69	53.98	54.26	0.8%

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 28. Glass Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	22.25	22.25	22.36	23.56	24.43	24.60	24.79	25.71	26.80	27.99	28.85	29.34	29.71	30.38
Energy Consumption (trillion Btu) 1/														
Residual Oil	1.8	1.7	1.2	1.0	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Distillate Oil	9.1	7.3	9.3	7.7	7.4	7.1	7.1	7.1	6.8	6.9	7.1	7.2	7.0	7.1
Liquefied Petroleum Gas	0.0	0.0	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	10.9	9.0	10.5	8.7	8.9	8.6	8.6	8.7	8.3	8.5	8.8	8.8	8.5	8.6
Natural Gas	144.2	145.1	142.6	152.1	157.4	158.1	159.0	164.3	171.1	177.9	182.4	185.0	187.2	190.8
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
Purchased Electricity	42.0	42.2	42.6	44.5	45.8	45.9	46.0	47.5	49.3	51.2	52.5	53.2	53.7	54.8
Total	197.1	196.2	195.8	205.3	212.0	212.6	213.6	220.5	228.7	237.6	243.7	247.0	249.5	254.2
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Oil	0.08	0.07	0.05	0.04	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05
Distillate Oil	0.41	0.33	0.42	0.33	0.30	0.29	0.29	0.28	0.25	0.25	0.25	0.25	0.24	0.23
Liquefied Petroleum Gas	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
Petroleum Subtotal	0.49	0.40	0.47	0.37	0.36	0.35	0.35	0.34	0.31	0.30	0.30	0.30	0.29	0.28
Natural Gas	6.48	6.52	6.38	6.45	6.44	6.43	6.41	6.39	6.38	6.35	6.32	6.31	6.30	6.28
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
Purchased Electricity	1.89	1.90	1.91	1.89	1.87	1.86	1.86	1.85	1.84	1.83	1.82	1.81	1.81	1.80
Total	8.86	8.82	8.75	8.71	8.68	8.64	8.62	8.57	8.53	8.49	8.45	8.42	8.40	8.37
Carbon Dioxide Emissions 2/ (million metric tons)	16.4	16.3	16.4	17.0	17.5	17.5	17.6	18.2	18.8	19.5	20.0	20.2	20.3	20.6
Combined Heat and Power 3/ 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
Natural Gas	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
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
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
Total	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
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
Natural Gas	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
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
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
Total	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
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
Generation for own use	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

Table 28. Glass Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	31.11	31.87	32.49	33.00	33.42	33.93	34.43	34.99	35.54	36.16	36.82	37.47	38.12	38.67	2.1%
Energy Consumption (trillion Btu) 1/															
Residual Oil	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	0.1%
Distillate Oil	7.3	7.5	7.6	7.6	7.8	7.9	7.9	8.1	8.3	8.3	8.4	8.4	8.8	8.9	0.7%
Liquefied Petroleum Gas	0.0	0.0	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	8.8	9.1	9.2	9.2	9.4	9.6	9.5	9.7	9.9	9.9	10.1	10.1	10.5	10.6	0.6%
Natural Gas	194.7	198.7	201.8	204.6	206.7	209.4	212.3	215.3	218.2	221.7	225.4	229.1	232.4	235.4	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	55.9	57.2	58.2	59.0	59.6	60.4	61.2	62.1	62.9	63.9	65.0	66.1	67.2	68.1	1.9%
Total	259.5	264.9	269.2	272.8	275.7	279.4	283.0	287.1	291.0	295.5	300.5	305.3	310.1	314.1	1.8%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Oil	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	0.04	-2.0%
Distillate Oil	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22	0.23	0.23	-1.4%
Liquefied Petroleum Gas	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	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.27	0.27	0.28	0.27	-1.5%
Natural Gas	6.26	6.23	6.21	6.20	6.18	6.17	6.17	6.15	6.14	6.13	6.12	6.11	6.10	6.09	-0.3%
Steam Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Purchased Electricity	1.80	1.79	1.79	1.79	1.78	1.78	1.78	1.77	1.77	1.77	1.77	1.76	1.76	1.76	-0.3%
Total	8.34	8.31	8.29	8.27	8.25	8.23	8.22	8.20	8.19	8.17	8.16	8.15	8.14	8.12	-0.3%
Carbon Dioxide Emissions 2/ (million metric tons)	21.0	21.4	21.8	22.1	22.3	22.6	22.9	23.3	23.6	24.0	24.4	24.8	25.3	25.6	1.8%
Combined Heat and Power 3/															
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	0.00	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
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 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	0.00	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
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	0.00	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
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 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	0.00	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
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	0.00	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

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.

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 29. Cement Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	7.55	7.75	7.92	8.31	8.70	8.73	8.76	8.84	8.98	9.02	9.03	9.07	9.14	9.24
Energy Consumption (trillion Btu) 1/														
Residual Oil	1.1	1.1	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Distillate Oil	15.1	8.0	8.6	8.4	8.4	8.3	8.3	8.3	8.1	8.1	8.1	8.1	8.0	8.0
Petroleum Coke	55.4	56.2	56.7	58.5	60.4	60.1	59.9	59.9	60.3	60.1	59.8	59.6	59.7	59.8
Other Petroleum 2/	35.3	35.8	36.1	37.3	38.5	38.4	38.2	38.2	38.5	38.4	38.1	38.0	38.1	38.2
Petroleum Subtotal	106.8	101.0	102.3	105.1	108.4	107.9	107.5	107.6	108.0	107.8	107.2	106.9	106.9	107.2
Natural Gas	22.4	22.4	22.0	23.4	24.4	24.5	24.6	24.8	25.2	25.3	25.3	25.4	25.6	25.9
Steam Coal	239.7	250.6	253.7	261.8	270.0	269.4	268.8	269.4	271.4	271.3	270.4	270.3	270.9	272.2
Metallurgical Coal	7.9	8.1	8.2	8.4	8.7	8.7	8.7	8.7	8.8	8.8	8.7	8.7	8.7	8.8
Coal Subtotal	247.7	258.6	261.8	270.2	278.7	278.1	277.5	278.1	280.1	280.1	279.1	279.0	279.6	280.9
Purchased Electricity	44.0	45.2	46.2	48.1	50.0	50.0	49.9	50.2	50.8	50.9	50.8	50.8	51.0	51.4
Total	420.9	427.4	432.3	446.8	461.5	460.5	459.5	460.7	464.2	464.0	462.4	462.2	463.1	465.4
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Residual Oil	0.15	0.14	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12
Distillate Oil	2.00	1.03	1.08	1.01	0.97	0.95	0.94	0.94	0.91	0.90	0.90	0.89	0.88	0.87
Petroleum Coke	7.33	7.24	7.15	7.04	6.94	6.88	6.83	6.78	6.72	6.67	6.62	6.57	6.52	6.47
Other Petroleum 2/	4.68	4.62	4.56	4.49	4.43	4.39	4.36	4.32	4.28	4.25	4.22	4.19	4.16	4.13
Petroleum Subtotal	14.15	13.03	12.92	12.65	12.46	12.35	12.26	12.16	12.04	11.95	11.87	11.79	11.69	11.59
Natural Gas	2.97	2.89	2.78	2.81	2.80	2.81	2.81	2.81	2.81	2.81	2.80	2.79	2.80	2.80
Steam Coal	31.75	32.31	32.03	31.51	31.03	30.85	30.67	30.46	30.23	30.07	29.94	29.79	29.62	29.44
Metallurgical Coal	1.05	1.04	1.03	1.02	1.00	1.00	0.99	0.98	0.98	0.97	0.97	0.96	0.95	0.95
Coal Subtotal	32.80	33.35	33.06	32.53	32.04	31.84	31.66	31.45	31.21	31.04	30.90	30.75	30.57	30.39
Purchased Electricity	5.83	5.83	5.84	5.79	5.75	5.72	5.70	5.67	5.66	5.64	5.62	5.60	5.58	5.56
Total	55.74	55.11	54.59	53.78	53.05	52.73	52.43	52.09	51.71	51.43	51.19	50.93	50.64	50.34
Carbon Dioxide Emissions 3/ (million metric tons)	39.3	40.1	40.6	41.9	43.3	43.2	43.1	43.2	43.5	43.5	43.3	43.2	43.3	43.4
Combined Heat and Power 4/ Generating Capacity (gigawatts)														
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
Natural Gas	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	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	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	0.01
Total	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Net Generation (billion kilowatthours)														
Petroleum	0.20	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
Natural Gas	0.05	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16
Coal	0.26	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Other 5/	0.04	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	0.55	0.51	0.51	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63
Disposition														
Sales to the Grid	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
Generation for Own Use	0.50	0.47	0.47	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.55	0.56	0.58	0.59

Table 29. Cement Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	9.36	9.44	9.50	9.55	9.59	9.65	9.72	9.81	9.88	10.00	10.10	10.19	10.29	10.37	1.1%
Energy Consumption (trillion Btu) 1/															
Residual Oil	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	1.2	0.3%
Distillate Oil	8.1	8.1	8.2	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.4	0.2%
Petroleum Coke	60.1	60.2	60.4	60.3	60.3	60.4	60.6	60.7	60.8	61.1	61.3	61.5	61.8	62.0	0.4%
Other Petroleum 2/	38.3	38.4	38.5	38.5	38.5	38.5	38.6	38.7	38.8	38.9	39.1	39.2	39.4	39.5	0.4%
Petroleum Subtotal	107.6	107.8	108.2	108.0	108.1	108.2	108.5	108.7	108.8	109.3	109.7	110.1	110.7	111.0	0.4%
Natural Gas	26.1	26.2	26.3	26.5	26.6	26.7	27.0	27.2	27.4	27.7	27.9	28.2	28.4	28.6	0.9%
Steam Coal	273.8	274.8	275.3	275.3	275.2	275.7	276.3	277.3	278.2	279.9	281.5	283.2	285.0	286.5	0.5%
Metallurgical Coal	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	9.0	9.0	9.1	9.2	9.2	9.3	0.5%
Coal Subtotal	282.6	283.6	284.1	284.2	284.1	284.5	285.2	286.3	287.2	288.9	290.7	292.4	294.2	295.8	0.5%
Purchased Electricity	51.9	52.2	52.4	52.5	52.6	52.8	53.1	53.4	53.7	54.2	54.7	55.1	55.6	55.9	0.8%
Total	468.2	469.9	471.0	471.2	471.3	472.3	473.7	475.5	477.1	480.1	483.0	485.8	488.8	491.3	0.5%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Residual Oil	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	-0.9%
Distillate Oil	0.87	0.86	0.86	0.85	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	-0.9%
Petroleum Coke	6.42	6.38	6.35	6.31	6.29	6.26	6.23	6.19	6.15	6.11	6.07	6.03	6.00	5.97	-0.7%
Other Petroleum 2/	4.10	4.07	4.05	4.03	4.01	3.99	3.97	3.95	3.92	3.89	3.87	3.85	3.83	3.81	-0.7%
Petroleum Subtotal	11.50	11.42	11.38	11.31	11.27	11.22	11.16	11.08	11.01	10.93	10.86	10.80	10.75	10.70	-0.8%
Natural Gas	2.79	2.78	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.76	2.76	-0.2%
Steam Coal	29.26	29.10	28.96	28.83	28.70	28.57	28.43	28.28	28.14	28.00	27.88	27.78	27.70	27.62	-0.6%
Metallurgical Coal	0.94	0.94	0.93	0.93	0.92	0.92	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.90	-0.6%
Coal Subtotal	30.20	30.04	29.89	29.76	29.63	29.49	29.34	29.19	29.05	28.91	28.78	28.68	28.59	28.51	-0.6%
Purchased Electricity	5.55	5.53	5.52	5.50	5.49	5.47	5.46	5.45	5.43	5.42	5.41	5.41	5.40	5.39	-0.3%
Total	50.04	49.77	49.56	49.34	49.16	48.95	48.73	48.49	48.26	48.03	47.82	47.66	47.51	47.36	-0.6%
Carbon Dioxide Emissions 3/ (million metric tons)	43.7	43.9	44.0	44.0	44.0	44.1	44.2	44.4	44.6	44.9	45.2	45.5	45.8	46.1	0.5%
Combined Heat and Power 4/															
Generating Capacity (gigawatts)															
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	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	4.3%
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	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.15	1.2%
Net Generation (billion kilowatthours)															
Petroleum	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
Natural Gas	0.17	0.18	0.20	0.21	0.22	0.23	0.25	0.26	0.27	0.28	0.29	0.30	0.31	0.32	8.2%
Coal	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	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	0.64	0.65	0.66	0.68	0.69	0.70	0.71	0.72	0.74	0.75	0.76	0.77	0.78	0.79	1.7%
Disposition															
Sales to the Grid	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
Generation for Own Use	0.60	0.61	0.62	0.63	0.65	0.66	0.67	0.68	0.70	0.71	0.72	0.73	0.74	0.75	1.8%

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 30. Iron and Steel Industries Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	65.79	70.86	65.04	68.52	71.46	72.19	73.03	74.26	75.92	76.68	76.98	77.89	79.03	79.79
Energy Consumption (trillion Btu) 1/														
Distillate Oil	8.8	8.8	8.2	8.3	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5
Residual Oil	2.1	1.9	1.4	1.2	1.3	1.3	1.3	1.4	1.3	1.2	1.3	1.2	1.2	1.2
Other Petroleum 2/	6.9	7.1	6.8	6.9	7.0	7.0	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Petroleum Subtotal	17.8	17.8	16.4	16.4	16.9	16.8	16.8	17.0	16.9	16.9	16.9	16.8	16.8	16.7
Natural Gas	407.3	416.4	380.1	395.8	405.4	404.7	404.9	406.9	411.7	412.4	410.9	412.6	415.5	416.7
Metallurgical Coal	614.8	629.7	592.5	600.1	603.9	598.0	593.1	590.5	590.3	586.3	580.5	577.8	576.5	573.6
Net Coke Imports	20.1	22.8	19.3	20.2	20.2	19.2	18.3	17.8	17.7	17.3	16.7	16.5	16.3	16.1
Steam Coal	52.3	55.3	53.1	53.7	54.1	53.9	53.7	53.7	53.8	53.7	53.5	53.4	53.5	53.4
Coal Subtotal	687.2	707.8	664.9	673.9	678.2	671.1	665.1	661.9	661.9	657.4	650.7	647.7	646.2	643.1
Purchased Electricity	186.7	199.7	182.8	193.2	200.6	201.9	203.4	206.1	210.7	212.6	213.2	215.4	218.1	219.9
Total	1299.0	1341.6	1244.2	1279.4	1301.0	1294.5	1290.2	1291.9	1301.1	1299.3	1291.7	1292.6	1296.6	1296.4
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Distillate Oil	0.13	0.12	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11
Residual 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	0.01
Other Petroleum 2/	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Petroleum Subtotal	0.27	0.25	0.25	0.24	0.24	0.23	0.23	0.23	0.22	0.22	0.22	0.22	0.21	0.21
Natural Gas	6.19	5.88	5.84	5.78	5.67	5.61	5.54	5.48	5.42	5.38	5.34	5.30	5.26	5.22
Metallurgical Coal	9.35	8.89	9.11	8.76	8.45	8.28	8.12	7.95	7.77	7.65	7.54	7.42	7.29	7.19
Net Coke Imports	0.31	0.32	0.30	0.29	0.28	0.27	0.25	0.24	0.23	0.23	0.22	0.21	0.21	0.20
Steam Coal	0.80	0.78	0.82	0.78	0.76	0.75	0.74	0.72	0.71	0.70	0.69	0.69	0.68	0.67
Coal Subtotal	10.45	9.99	10.22	9.84	9.49	9.30	9.11	8.91	8.72	8.57	8.45	8.32	8.18	8.06
Purchased Electricity	2.84	2.82	2.81	2.82	2.81	2.80	2.78	2.78	2.77	2.77	2.77	2.77	2.76	2.76
Total	19.75	18.93	19.13	18.67	18.21	17.93	17.67	17.40	17.14	16.94	16.78	16.60	16.41	16.25
Carbon Dioxide Emissions 3/ (million metric tons)	122.3	126.9	117.8	121.1	123.1	122.7	122.6	122.8	123.5	123.6	122.8	122.7	122.9	122.8
Combined Heat and Power 4/ Generating Capacity (gigawatts)														
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
Natural Gas	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.28	0.29	0.29	0.30	0.31	0.32
Coal	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Other 5/	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Total	1.43	1.43	1.43	1.43	1.44	1.44	1.44	1.45	1.46	1.46	1.47	1.47	1.48	1.49
Net Generation (billion kilowatthours)														
Petroleum	0.02	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	0.41	0.61	0.61	0.62	0.64	0.67	0.71	0.75	0.80	0.84	0.89	0.95	1.01	1.08
Coal	1.49	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Other 5/	3.98	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01
Total	5.90	7.25	7.25	7.27	7.29	7.32	7.35	7.40	7.44	7.49	7.54	7.59	7.66	7.73
Disposition														
Sales to the Grid	0.74	0.70	0.70	0.71	0.71	0.71	0.71	0.72	0.72	0.73	0.73	0.74	0.75	0.75
Generation for Own Use	5.16	6.55	6.55	6.56	6.58	6.60	6.64	6.68	6.72	6.76	6.80	6.85	6.91	6.97

Table 30. Iron and Steel Industries Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	80.83	81.63	82.05	82.37	82.69	83.13	83.67	84.32	84.92	85.75	86.58	87.31	88.04	88.54	0.9%
Energy Consumption (trillion Btu) 1/															
Distillate Oil	8.5	8.5	8.5	8.4	8.4	8.3	8.3	8.2	8.2	8.2	8.2	8.2	8.2	8.1	-0.3%
Residual Oil	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-1.7%
Other Petroleum 2/	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	7.1	0.0%
Petroleum Subtotal	16.7	16.8	16.7	16.6	16.5	16.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	-0.3%
Natural Gas	419.3	420.7	420.5	420.5	421.0	422.2	424.0	426.3	428.4	431.5	434.6	437.4	440.1	441.9	0.2%
Metallurgical Coal	572.2	569.8	565.8	561.6	557.5	554.1	551.2	549.6	548.3	548.1	548.0	547.6	547.2	545.9	-0.5%
Net Coke Imports	16.1	16.1	15.8	15.5	15.2	15.0	14.9	14.9	14.9	15.0	15.2	15.3	15.4	15.4	-1.5%
Steam Coal	53.5	53.4	53.3	53.1	53.0	52.8	52.8	52.7	52.7	52.7	52.8	52.8	52.8	52.8	-0.2%
Coal Subtotal	641.7	639.3	634.9	630.2	625.7	621.9	618.9	617.3	615.9	615.9	615.9	615.7	615.4	614.2	-0.5%
Purchased Electricity	222.8	225.1	226.3	227.1	228.1	229.3	230.8	232.8	234.8	237.5	240.2	242.8	245.4	247.4	0.8%
Total	1300.5	1301.9	1298.4	1294.4	1291.2	1290.0	1290.2	1292.8	1295.5	1301.2	1307.1	1312.3	1317.4	1319.8	-0.1%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Distillate Oil	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	-1.1%
Residual 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	-2.5%
Other Petroleum 2/	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	-0.9%
Petroleum Subtotal	0.21	0.21	0.20	0.20	0.20	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.19	0.18	-1.2%
Natural Gas	5.19	5.15	5.12	5.11	5.09	5.08	5.07	5.06	5.04	5.03	5.02	5.01	5.00	4.99	-0.6%
Metallurgical Coal	7.08	6.98	6.90	6.82	6.74	6.66	6.59	6.52	6.46	6.39	6.33	6.27	6.22	6.17	-1.4%
Net Coke Imports	0.20	0.20	0.19	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17	-2.3%
Steam Coal	0.66	0.65	0.65	0.64	0.64	0.64	0.63	0.63	0.62	0.61	0.61	0.60	0.60	0.60	-1.0%
Coal Subtotal	7.94	7.83	7.74	7.65	7.57	7.48	7.40	7.32	7.25	7.18	7.11	7.05	6.99	6.94	-1.4%
Purchased Electricity	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.77	2.77	2.77	2.78	2.79	2.79	0.0%
Total	16.09	15.95	15.82	15.71	15.61	15.52	15.42	15.33	15.25	15.17	15.10	15.03	14.96	14.91	-0.9%
Carbon Dioxide Emissions 3/ (million metric tons)	123.2	123.4	123.2	122.8	122.6	122.6	122.7	123.1	123.5	124.2	125.0	125.7	126.4	126.7	0.0%
Combined Heat and Power 4/ Generating Capacity (gigawatts)															
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	0.33	0.34	0.34	0.35	0.36	0.37	0.38	0.38	0.39	0.40	0.40	0.41	0.41	0.42	1.9%
Coal	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	N/A
Other 5/	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	N/A
Total	1.50	1.51	1.52	1.53	1.54	1.54	1.55	1.56	1.56	1.57	1.58	1.58	1.59	1.59	0.4%
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	1.15	1.21	1.28	1.34	1.40	1.46	1.52	1.57	1.62	1.67	1.72	1.77	1.81	1.85	4.4%
Coal	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	N/A
Other 5/	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	N/A
Total	7.80	7.86	7.93	7.99	8.05	8.11	8.17	8.22	8.27	8.32	8.37	8.41	8.45	8.49	0.6%
Disposition															
Sales to the Grid	0.76	0.77	0.77	0.78	0.78	0.79	0.80	0.80	0.81	0.81	0.82	0.82	0.82	0.83	0.6%
Generation for Own Use	7.04	7.10	7.15	7.21	7.27	7.32	7.37	7.42	7.47	7.51	7.55	7.59	7.63	7.67	0.6%

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 31. Aluminum Industry Energy Consumption

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value of Shipments (billion 2000 dollars)	28.75	29.82	29.95	30.41	31.30	31.86	32.06	32.50	33.11	33.53	33.25	33.30	33.61	34.12
Energy Consumption (trillion Btu) 1/														
Distillate Oil	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Liquefied Petroleum Gas	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Petroleum Coke	40.5	39.9	39.2	38.4	37.7	36.9	36.3	35.6	35.0	34.4	33.8	33.2	32.6	32.1
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	0.0
Petroleum Subtotal	42.6	41.8	41.2	40.3	39.6	38.8	38.1	37.5	36.8	36.2	35.6	35.0	34.4	33.9
Natural Gas	126.2	132.2	130.8	131.3	133.3	134.1	133.8	134.3	135.3	135.7	133.9	133.2	133.3	134.1
Steam Coal	31.0	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
Purchased Electricity	183.3	182.4	179.9	177.5	175.8	173.7	171.5	169.5	167.8	166.0	163.5	161.3	159.4	157.8
Total	383.1	388.1	383.5	380.8	380.3	378.3	375.1	372.9	371.7	369.7	364.6	361.2	358.9	357.4
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)														
Distillate Oil	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Liquefied Petroleum Gas	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Petroleum Coke	1.41	1.34	1.31	1.26	1.20	1.16	1.13	1.10	1.06	1.03	1.02	1.00	0.97	0.94
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
Petroleum Subtotal	1.48	1.40	1.37	1.32	1.26	1.22	1.19	1.15	1.11	1.08	1.07	1.05	1.02	0.99
Natural Gas	4.39	4.43	4.37	4.32	4.26	4.21	4.17	4.13	4.09	4.05	4.03	4.00	3.97	3.93
Steam Coal	1.08	1.06	1.06	1.04	1.01	0.99	0.99	0.97	0.96	0.94	0.95	0.95	0.94	0.93
Purchased Electricity	6.37	6.11	6.01	5.84	5.62	5.45	5.35	5.21	5.07	4.95	4.92	4.84	4.74	4.63
Total	13.33	13.01	12.81	12.52	12.15	11.88	11.70	11.47	11.22	11.03	10.97	10.85	10.68	10.47
Carbon Dioxide Emissions 2/ (million metric tons)	46.7	46.5	46.1	45.3	44.8	44.5	44.1	43.6	43.1	42.8	42.0	41.3	40.7	40.3
Combined Heat and Power 3/ 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
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	0.01
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
Other 4/	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
Total	0.70	0.70	0.70	0.70	0.70	0.70	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.72
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
Natural Gas	0.00	0.16	0.16	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.26	0.27
Coal	2.73	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
Other 4/	1.98	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
Total	4.71	4.30	4.30	4.30	4.31	4.32	4.33	4.34	4.35	4.36	4.37	4.39	4.40	4.41
Disposition														
Sales to the Grid	1.78	1.47	1.47	1.47	1.47	1.48	1.48	1.48	1.49	1.49	1.49	1.50	1.50	1.51
Generation for Own Use	2.93	2.83	2.83	2.83	2.84	2.84	2.85	2.86	2.86	2.87	2.88	2.89	2.90	2.90

Table 31. Aluminum Industry Energy Consumption

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Value of Shipments (billion 2000 dollars)	34.63	34.88	34.80	34.83	34.78	34.93	35.12	35.20	35.32	35.78	36.06	36.44	36.79	36.89	0.8%
Energy Consumption (trillion Btu) 1/															
Distillate Oil	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	0.1%
Liquefied Petroleum Gas	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-0.3%
Petroleum Coke	31.5	31.0	30.6	30.2	29.7	29.2	28.7	28.2	27.7	27.2	26.8	26.4	26.1	25.7	-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	33.3	32.8	32.5	32.0	31.5	31.1	30.6	30.1	29.6	29.1	28.7	28.3	28.0	27.6	-1.6%
Natural Gas	134.8	134.7	133.6	133.1	132.5	132.7	133.1	133.0	133.1	134.2	134.8	135.7	136.4	136.3	0.1%
Steam Coal	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	N/A
Purchased Electricity	156.2	154.4	152.3	150.3	148.2	146.3	144.5	142.7	141.1	139.9	138.5	137.4	136.2	134.8	-1.2%
Total	356.0	353.6	350.0	347.0	343.9	341.7	339.8	337.4	335.4	334.8	333.7	333.1	332.3	330.4	-0.6%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)															
Distillate 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	0.03	-0.7%
Liquefied Petroleum Gas	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	-1.1%
Petroleum Coke	0.91	0.89	0.88	0.87	0.85	0.84	0.82	0.80	0.79	0.76	0.74	0.72	0.71	0.70	-2.5%
Other Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Petroleum Subtotal	0.96	0.94	0.93	0.92	0.91	0.89	0.87	0.85	0.84	0.81	0.79	0.78	0.76	0.75	-2.4%
Natural Gas	3.89	3.86	3.84	3.82	3.81	3.80	3.79	3.78	3.77	3.75	3.74	3.72	3.71	3.70	-0.7%
Steam Coal	0.91	0.91	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.89	0.88	0.87	0.86	0.86	-0.8%
Purchased Electricity	4.51	4.43	4.38	4.31	4.26	4.19	4.11	4.05	3.99	3.91	3.84	3.77	3.70	3.65	-2.0%
Total	10.28	10.14	10.06	9.96	9.89	9.78	9.67	9.59	9.50	9.36	9.25	9.14	9.03	8.96	-1.4%
Carbon Dioxide Emissions 2/ (million metric tons)	39.9	39.5	39.1	38.6	38.2	37.9	37.6	37.2	37.0	36.8	36.7	36.5	36.4	36.1	-1.0%
Combined Heat and Power 3/ 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	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	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 4/	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	0.72	0.72	0.72	0.72	0.72	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.2%
Net Generation (billion kilowatthours)															
Petroleum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Natural Gas	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.36	0.37	0.38	0.38	0.39	3.5%
Coal	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	N/A
Other 4/	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	N/A
Total	4.42	4.43	4.44	4.45	4.46	4.47	4.48	4.49	4.50	4.51	4.51	4.52	4.53	4.53	0.2%
Disposition															
Sales to the Grid	1.51	1.51	1.52	1.52	1.52	1.53	1.53	1.53	1.54	1.54	1.54	1.54	1.54	1.55	0.2%
Generation for Own Use	2.91	2.92	2.93	2.93	2.94	2.95	2.95	2.96	2.96	2.97	2.97	2.98	2.98	2.99	0.2%

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.

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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture														
Distillate Oil	458.6	443.5	446.9	444.9	443.0	442.6	443.4	443.6	441.8	439.0	436.8	435.1	433.8	433.2
Liquefied Petroleum Gas	77.7	75.1	75.5	75.1	74.8	74.7	74.9	74.9	74.6	74.2	73.8	73.5	73.3	73.2
Motor Gasoline	205.0	198.4	199.8	199.0	198.2	198.0	198.5	198.7	197.9	196.7	195.8	195.1	194.5	194.3
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
Petroleum Subtotal	741.3	717.0	722.3	719.0	716.0	715.3	716.7	717.2	714.4	709.9	706.3	703.7	701.6	700.7
Natural Gas	89.9	88.0	89.0	89.2	89.3	89.5	90.1	90.5	90.7	90.7	90.8	91.0	91.2	91.7
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	0.0
Renewables	19.1	18.8	19.1	19.3	19.5	19.7	20.0	20.3	20.5	20.6	20.8	21.0	21.1	21.4
Purchased Electricity	122.2	118.8	120.3	120.4	120.5	121.1	121.9	122.7	122.9	122.8	122.9	123.1	123.4	123.9
Total	972.5	942.6	950.7	947.9	945.3	945.6	948.8	950.8	948.4	944.0	940.8	938.7	937.4	937.7
Value of Shipments (billion 2000 dollars)	247.99	240.82	245.11	246.29	248.11	250.96	254.72	258.20	260.12	261.08	262.42	264.26	266.53	269.28
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	3.92	3.91	3.88	3.85	3.81	3.77	3.72	3.68	3.65	3.62	3.58	3.55	3.52	3.48
Carbon Dioxide Emissions 1/ (million metric tons)	80.5	77.9	78.6	78.2	77.9	78.0	78.4	78.5	78.1	77.8	77.5	77.2	76.9	76.8
Construction														
Distillate Oil	466.1	483.8	494.9	498.3	498.1	501.1	499.3	502.1	505.7	507.7	510.9	516.8	524.0	531.2
Liquefied Petroleum Gas	0.0	0.0	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	84.1	86.5	90.9	90.7	89.9	89.6	88.4	88.1	87.9	87.5	87.3	87.6	88.1	88.5
Asphalt and Road Oil	1252.7	1287.9	1309.0	1305.0	1292.5	1288.6	1272.9	1269.7	1268.5	1263.8	1262.1	1267.3	1275.6	1284.0
Petroleum Subtotal	1802.9	1858.2	1894.7	1894.1	1880.5	1879.3	1860.6	1859.9	1862.0	1859.0	1860.4	1871.7	1887.7	1903.7
Natural Gas	193.6	202.0	206.3	208.4	208.9	210.9	210.7	212.6	214.9	216.6	218.7	222.1	226.1	230.1
Purchased Electricity	115.1	120.1	123.4	124.7	125.1	126.3	126.2	127.4	128.8	129.8	131.1	133.1	135.5	137.9
Total	2111.6	2180.3	2224.4	2227.2	2214.5	2216.4	2197.5	2199.9	2205.7	2205.4	2210.2	2226.9	2249.3	2271.7
Value of Shipments (billion 2000 dollars)	950.74	1000.54	1040.79	1058.33	1066.69	1082.78	1086.58	1101.86	1119.26	1132.97	1149.50	1173.33	1200.63	1228.09
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	2.22	2.18	2.14	2.10	2.08	2.05	2.02	2.00	1.97	1.95	1.92	1.90	1.87	1.85
Carbon Dioxide Emissions 1/ (million metric tons)	71.8	74.4	76.5	76.9	76.7	77.3	77.1	77.5	77.9	78.4	78.8	79.7	80.6	81.7
Mining														
Residual Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Distillate Oil	131.1	133.1	136.9	139.8	141.2	141.7	142.5	142.3	142.0	141.9	141.7	141.0	140.8	141.6
Motor Gasoline	15.4	15.6	15.8	16.1	16.0	16.1	16.2	16.2	16.2	16.2	16.2	16.2	16.3	16.4
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum Subtotal	146.6	148.8	152.7	155.9	157.2	157.9	158.7	158.5	158.2	158.1	157.9	157.2	157.1	158.0
Natural Gas	966.1	991.4	995.8	1004.4	995.5	1004.9	1011.5	1011.5	1014.8	1017.1	1024.1	1026.6	1033.9	1048.8
Lease and Plant Fuel	1162.0	1143.3	1143.4	1132.8	1113.0	1123.6	1121.5	1118.1	1132.6	1143.7	1166.6	1174.2	1219.4	1265.8
Steam Coal	10.7	10.9	11.5	11.8	12.0	12.1	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.2
Renewables	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Purchased Electricity excluding Oil Shale	237.7	242.2	247.5	253.5	255.0	256.7	258.0	257.9	258.3	258.8	259.6	259.4	260.2	262.9

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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
Total	2525.0	2538.6	2552.8	2560.2	2534.7	2557.0	2563.9	2560.1	2578.1	2591.8	2622.4	2631.5	2684.8	2749.8
Value of Shipments (billion 2000 dollars)	193.82	197.44	199.84	203.97	204.46	207.98	211.04	212.23	213.96	215.57	218.10	219.43	221.89	226.34
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	13.03	12.86	12.77	12.55	12.40	12.29	12.15	12.06	12.05	12.02	12.02	11.99	12.10	12.15
Carbon Dioxide Emissions 1/ (million metric tons)	107.9	109.8	111.5	113.0	112.6	113.5	114.3	114.1	113.9	114.3	114.5	114.1	114.3	115.4
Metal-Based Durables Consumption														
Residual Oil	7.9	6.9	6.8	6.2	6.7	6.6	6.5	6.6	6.4	6.3	6.5	6.4	6.3	6.3
Distillate Oil	9.8	8.5	9.9	8.6	8.7	8.5	8.5	8.5	8.0	8.1	8.3	8.3	8.0	8.1
Liquefied Petroleum Gas	6.6	6.8	7.1	6.1	7.4	7.4	7.4	7.5	7.3	7.4	7.6	7.7	7.7	7.6
Petroleum Coke	69.3	72.5	73.8	75.0	76.2	77.5	78.8	80.0	81.3	82.7	84.1	85.7	87.3	88.9
Petroleum Subtotal	93.5	94.7	97.6	95.8	98.9	100.1	101.3	102.6	103.0	104.5	106.5	108.1	109.3	110.8
Natural Gas	580.0	611.1	606.2	624.6	638.6	653.3	668.6	679.0	690.2	700.6	708.0	721.2	735.0	746.5
Steam Coal	40.4	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
Renewables	40.8	44.8	46.1	47.5	48.9	50.4	51.8	53.0	54.4	55.8	57.1	58.7	60.2	61.8
Purchased Electricity	588.7	617.5	628.4	639.0	650.9	665.5	678.7	689.7	700.3	711.4	720.9	733.6	745.3	756.9
Total	1343.4	1392.9	1403.2	1431.8	1462.3	1494.2	1525.3	1549.3	1573.0	1597.3	1617.5	1646.6	1674.9	1701.0
Value of Shipments (billion 2000 dollars)	1704.89	1841.02	1925.52	1992.32	2053.67	2116.72	2176.90	2231.54	2294.79	2362.61	2426.50	2499.04	2570.55	2642.39
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	0.79	0.76	0.73	0.72	0.71	0.71	0.70	0.69	0.69	0.68	0.67	0.66	0.65	0.64
Carbon Dioxide Emissions 1/ (million metric tons)	151.8	156.5	158.7	160.5	162.8	166.6	170.4	172.6	174.0	177.0	178.5	180.6	182.4	184.4
Other Manufacturing Consumption														
Residual Oil	52.5	47.7	51.1	42.8	42.4	40.2	38.3	39.5	35.9	35.5	38.0	35.9	35.6	35.3
Distillate Oil	67.6	55.1	66.6	54.5	51.8	49.6	48.9	48.3	45.0	44.9	45.8	45.6	43.8	43.7
Liquefied Petroleum Gas	20.6	21.6	22.0	17.5	28.0	28.1	26.1	24.6	23.6	23.9	23.9	24.0	24.3	25.8
Petroleum Subtotal	140.8	124.4	139.8	114.8	122.2	117.9	113.3	112.5	104.5	104.3	107.6	105.5	103.7	104.8
Natural Gas	1047.3	1075.2	1028.0	1058.6	1064.4	1074.5	1088.9	1103.3	1128.1	1143.2	1153.3	1171.6	1193.5	1210.9
Metallurgical Coal	21.1	21.3	20.9	20.8	20.8	20.7	20.7	20.7	20.8	20.8	20.9	21.0	21.0	21.1
Steam Coal	202.6	209.0	207.7	207.4	207.4	207.1	206.8	206.8	207.1	207.2	207.3	207.4	207.6	207.6
Renewables	235.0	244.0	242.3	245.4	250.1	253.7	258.1	263.5	270.1	276.3	282.2	288.5	295.3	301.8
Purchased Electricity	795.7	816.6	808.6	807.7	812.6	816.3	820.9	829.7	841.5	851.5	860.1	869.1	879.1	888.5
Total	2442.4	2490.4	2447.3	2454.8	2477.5	2490.1	2508.6	2536.5	2572.1	2603.4	2631.4	2663.0	2700.2	2734.8
Value of Shipments (billion 2000 dollars)	1162.99	1202.52	1192.68	1206.54	1227.84	1243.25	1262.19	1286.32	1315.80	1343.18	1369.32	1396.44	1426.23	1454.52
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	2.10	2.07	2.05	2.03	2.02	2.00	1.99	1.97	1.95	1.94	1.92	1.91	1.89	1.88
Carbon Dioxide Emissions 1/ (million metric tons)	238.1	241.5	238.9	237.2	237.7	238.9	240.7	242.5	244.0	247.1	248.5	249.8	251.3	253.2

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture, Mining, Construction, Metals Based Durables, and Other Manufacturing														
Combined Heat and Power 2/ Generating Capacity (gigawatts)														
Petroleum	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
Natural Gas	0.57	0.56	0.72	0.81	0.91	1.01	1.13	1.24	1.35	1.46	1.58	1.72	1.89	2.07
Coal	0.64	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Other 3/	0.46	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Total	1.87	1.77	1.93	2.03	2.12	2.23	2.34	2.45	2.56	2.67	2.79	2.93	3.10	3.28
Net Generation (billion kilowatthours)														
Petroleum	0.17	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	0.89	0.81	1.84	2.54	3.27	4.04	4.90	5.75	6.56	7.38	8.29	9.32	10.57	11.94
Coal	1.71	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
Other 3/	1.78	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Total	4.56	4.87	5.90	6.61	7.33	8.11	8.96	9.82	10.62	11.45	12.36	13.39	14.64	16.00
Disposition														
Sales to the Grid	1.33	1.42	1.64	2.00	2.36	2.75	3.18	3.62	4.02	4.44	4.90	5.42	6.05	6.73
Generation for Own Use	3.22	3.45	4.26	4.61	4.97	5.35	5.78	6.20	6.60	7.01	7.46	7.97	8.59	9.27

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Agriculture															
Distillate Oil	432.6	432.1	431.2	430.3	429.2	428.3	427.6	426.9	426.9	428.6	430.2	431.5	432.8	434.1	-0.1%
Liquefied Petroleum Gas	73.1	72.9	72.8	72.8	72.8	73.0	73.1	73.3	73.5	73.7	73.9	73.9	73.9	73.9	-0.1%
Motor Gasoline	194.1	193.9	193.5	193.6	194.1	194.7	195.3	196.0	196.8	197.5	198.3	198.8	199.4	199.9	0.0%
Other Petroleum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Petroleum Subtotal	699.7	698.9	697.6	696.6	696.2	695.9	696.0	696.2	697.2	699.8	702.4	704.3	706.1	707.9	0.0%
Natural Gas	92.1	92.6	93.1	93.5	94.2	95.1	96.0	96.9	97.8	98.8	99.7	100.7	101.5	102.5	0.6%
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	21.6	21.9	22.1	22.4	22.6	22.8	23.1	23.3	23.6	23.9	24.1	24.4	24.6	24.9	1.1%
Purchased Electricity	124.4	125.0	125.5	125.9	126.3	126.7	127.2	127.8	128.5	129.2	130.0	130.8	131.5	132.2	0.4%
Total	937.9	938.4	938.3	938.4	939.3	940.5	942.2	944.2	947.1	951.7	956.3	960.1	963.7	967.5	0.1%
Value of Shipments (billion 2000 dollars)	271.89	274.46	276.80	279.01	281.12	283.32	285.70	288.17	290.79	293.38	295.90	298.17	300.39	302.56	0.9%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	3.45	3.42	3.39	3.36	3.34	3.32	3.30	3.28	3.26	3.24	3.23	3.22	3.21	3.20	-0.8%
Carbon Dioxide Emissions 1/ (million metric tons)	76.8	76.9	76.9	76.9	76.9	77.0	77.2	77.4	77.7	78.1	78.5	78.9	79.3	79.6	0.1%
Construction															
Distillate Oil	535.4	539.3	542.3	546.2	548.6	551.8	555.4	561.4	570.2	580.8	588.8	593.9	601.2	611.0	0.9%
Liquefied Petroleum Gas	0.0	0.0	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	88.5	88.3	88.0	87.9	87.9	87.9	88.0	88.5	89.3	90.4	91.0	91.2	91.6	92.5	0.3%
Asphalt and Road Oil	1285.4	1288.1	1297.4	1299.2	1298.2	1322.5	1326.5	1336.5	1352.3	1375.4	1392.9	1403.5	1419.1	1440.7	0.4%
Petroleum Subtotal	1909.3	1915.7	1927.6	1933.3	1934.7	1962.2	1969.9	1986.4	2011.8	2046.6	2072.7	2088.6	2111.9	2144.2	0.6%
Natural Gas	232.7	235.2	237.3	240.0	242.5	245.5	248.7	253.2	258.8	264.6	269.1	272.2	276.3	281.8	1.3%
Purchased Electricity	139.5	141.0	142.2	143.7	144.8	146.1	147.6	149.7	152.7	155.7	158.0	159.6	161.7	164.7	1.2%
Total	2281.5	2292.0	2307.2	2317.0	2322.0	2353.9	2366.2	2389.3	2423.4	2466.8	2499.8	2520.4	2550.0	2590.6	0.7%
Value of Shipments (billion 2000 dollars)	1247.59	1266.14	1282.09	1300.71	1315.21	1331.96	1349.85	1374.91	1407.39	1440.79	1466.74	1484.09	1507.77	1539.29	1.7%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	1.83	1.81	1.80	1.78	1.77	1.77	1.75	1.74	1.72	1.71	1.70	1.70	1.69	1.68	-1.0%
Carbon Dioxide Emissions 1/ (million metric tons)	82.4	83.0	83.5	84.2	84.7	85.3	86.1	87.2	88.8	90.5	91.8	92.7	94.0	95.6	1.0%
Mining															
Residual 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	0.0%
Distillate Oil	141.8	142.2	142.2	142.9	143.4	143.9	144.4	145.2	146.2	147.8	149.0	150.3	151.7	152.6	0.5%
Motor Gasoline	16.4	16.4	16.4	16.4	16.3	16.3	16.4	16.4	16.3	16.4	16.4	16.4	16.4	16.4	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	158.3	158.6	158.5	159.3	159.7	160.2	160.8	161.6	162.5	164.2	165.4	166.7	168.1	169.0	0.5%
Natural Gas	1049.2	1047.4	1044.0	1036.5	1030.3	1025.5	1024.3	1018.7	1011.7	1010.4	1004.2	1000.9	996.0	993.4	0.0%
Lease and Plant Fuel	1279.1	1291.1	1292.3	1283.0	1274.8	1266.7	1263.2	1255.7	1240.8	1234.5	1226.7	1218.4	1210.9	1206.5	0.2%
Steam Coal	12.3	12.4	12.4	12.6	12.7	12.9	13.0	13.2	13.3	13.5	13.7	13.8	14.0	14.1	1.0%
Renewables	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	-0.3%
Purchased Electricity excluding Oil Shale	264.1	264.9	265.2	265.5	265.2	265.0	265.3	265.6	266.2	267.6	268.0	268.5	269.0	269.2	0.4%

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
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	2764.9	2776.4	2774.5	2758.9	2744.7	2732.3	2728.5	2716.7	2696.6	2692.1	2679.8	2670.3	2659.8	2654.0	0.2%
Value of Shipments (billion 2000 dollars)	227.56	228.42	228.82	228.78	228.38	228.01	228.35	227.99	227.38	227.89	227.30	227.30	227.06	227.00	0.5%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	12.15	12.15	12.13	12.06	12.02	11.98	11.95	11.92	11.86	11.81	11.79	11.75	11.71	11.69	-0.4%
Carbon Dioxide Emissions 1/ (million metric tons)	115.5	115.5	115.4	115.1	114.7	114.5	114.6	114.5	114.4	114.8	114.8	114.9	115.0	115.0	0.2%
Metal-Based Durables Consumption															
Residual Oil	6.4	6.6	6.7	6.6	6.8	6.9	7.0	7.0	7.2	7.3	7.4	7.6	7.7	7.8	0.5%
Distillate Oil	8.3	8.5	8.8	8.7	9.0	9.2	9.4	9.6	9.9	10.0	10.3	10.5	11.0	11.3	1.1%
Liquefied Petroleum Gas	7.8	7.9	8.0	8.0	8.1	8.2	8.4	8.5	8.7	8.9	9.0	8.9	9.1	9.4	1.3%
Petroleum Coke	90.7	92.7	94.7	96.3	98.2	100.2	102.3	104.6	107.1	110.0	113.0	116.0	119.1	122.5	2.0%
Petroleum Subtotal	113.1	115.6	118.3	119.6	122.1	124.6	127.1	129.6	132.8	136.3	139.7	143.0	146.9	151.0	1.8%
Natural Gas	759.1	770.2	778.4	788.7	799.3	811.6	825.0	838.5	853.3	869.6	886.2	902.5	918.1	934.4	1.6%
Steam Coal	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.1	25.1	25.1	25.1	0.0%
Renewables	63.5	65.3	66.8	68.3	70.0	71.8	73.7	75.7	77.9	80.2	82.5	84.9	87.3	89.9	2.7%
Purchased Electricity	770.7	784.4	794.8	804.6	816.1	826.9	840.5	854.7	870.5	887.9	905.8	923.4	941.2	960.1	1.7%
Total	1731.5	1760.5	1783.3	1806.3	1832.6	1860.0	1891.3	1923.6	1959.6	1999.0	2039.3	2078.9	2118.6	2160.5	1.7%
Value of Shipments (billion 2000 dollars)	2726.47	2810.01	2880.67	2951.82	3031.17	3114.55	3200.98	3290.59	3388.34	3492.37	3599.26	3705.53	3815.79	3934.93	3.0%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	0.64	0.63	0.62	0.61	0.60	0.60	0.59	0.58	0.58	0.57	0.57	0.56	0.56	0.55	-1.2%
Carbon Dioxide Emissions 1/ (million metric tons)	187.3	190.4	192.8	195.0	197.8	200.6	203.9	207.7	211.8	216.0	220.8	225.4	230.1	234.8	1.6%
Other Manufacturing Consumption															
Residual Oil	36.2	38.4	40.0	39.0	41.4	43.3	44.3	44.6	46.5	48.0	49.1	50.6	52.2	53.4	0.4%
Distillate Oil	44.3	45.0	46.5	45.9	47.1	48.0	48.3	49.2	50.4	50.9	51.8	52.5	54.5	55.5	0.0%
Liquefied Petroleum Gas	27.4	27.6	27.4	27.3	26.5	26.2	26.6	26.4	26.9	27.5	28.1	27.6	28.0	29.8	1.2%
Petroleum Subtotal	107.8	111.0	113.9	112.3	114.9	117.5	119.2	120.2	123.7	126.4	129.1	130.7	134.8	138.8	0.4%
Natural Gas	1227.8	1245.1	1261.8	1285.4	1307.3	1331.5	1356.8	1383.7	1410.4	1439.8	1468.9	1497.9	1524.7	1551.2	1.4%
Metallurgical Coal	21.2	21.3	21.4	21.5	21.6	21.6	21.7	21.9	22.1	22.4	22.6	22.8	23.1	23.3	0.4%
Steam Coal	207.8	208.0	208.2	208.3	208.4	208.6	208.8	209.0	209.4	210.1	210.8	211.6	212.4	213.2	0.1%
Renewables	308.8	316.2	323.3	330.3	337.7	345.5	353.5	361.8	370.9	380.5	390.1	399.5	409.3	419.3	2.1%
Purchased Electricity	898.8	910.4	920.2	929.4	939.4	950.0	961.1	972.9	985.2	1000.1	1014.7	1028.9	1043.7	1058.2	1.0%
Total	2772.2	2812.1	2848.6	2887.1	2929.4	2974.8	3021.2	3069.5	3121.7	3179.2	3236.2	3291.4	3348.0	3404.0	1.2%
Value of Shipments (billion 2000 dollars)	1484.49	1516.77	1546.60	1576.24	1607.68	1640.38	1673.65	1708.42	1746.35	1786.62	1826.69	1865.49	1905.90	1946.79	1.9%
Energy Consumption per Unit of Output (thousand Btu per 2000 dollar shipments)	1.87	1.85	1.84	1.83	1.82	1.81	1.81	1.80	1.79	1.78	1.77	1.76	1.76	1.75	-0.6%
Carbon Dioxide Emissions 1/ (million metric tons)	255.7	258.8	261.7	264.2	267.5	270.9	274.5	278.6	282.8	287.4	292.4	297.2	302.1	306.7	0.9%

Table 32. Other Industrial Sector Energy Consumption
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Agriculture, Mining, Construction, Metals Based Durables, and Other Manufacturing															
Combined Heat and Power 2/ Generating Capacity (gigawatts)															
Petroleum	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
Natural Gas	2.27	2.46	2.66	2.88	3.10	3.32	3.53	3.74	3.95	4.16	4.37	4.57	4.77	4.97	8.8%
Coal	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	N/A
Other 3/	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	N/A
Total	3.48	3.67	3.88	4.09	4.31	4.53	4.74	4.95	5.17	5.37	5.58	5.79	5.99	6.18	4.9%
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	13.36	14.80	16.29	17.87	19.47	21.08	22.65	24.18	25.74	27.26	28.77	30.26	31.71	33.13	15.4%
Coal	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	N/A
Other 3/	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	N/A
Total	17.43	18.87	20.35	21.93	23.54	25.15	26.71	28.25	29.81	31.32	32.84	34.33	35.77	37.19	8.1%
Disposition															
Sales to the Grid	7.45	8.18	8.92	9.72	10.52	11.33	12.12	12.89	13.67	14.43	15.19	15.94	16.66	17.38	10.1%
Generation for Own Use	9.98	10.69	11.43	12.21	13.01	13.81	14.59	15.36	16.13	16.89	17.64	18.39	19.11	19.81	7.0%

Table 32. Other Industrial 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 2004 are model results and may differ slightly from official EIA data reports.

Source: 2003 and 2004 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 2003 and 2004 data based on: EIA, Manufacturing Energy Consumption Survey, 1998. Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.