NEW YORK STATE OF OPPORTUNITY. | NYSERDA

Patterns and Trends

New York State Energy Profiles: 1999-2013

Final Report

October 2015

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Mission Statement:

Advance innovative energy solutions in ways that improve New York's economy and environment.

Vision Statement:

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.

Patterns and Trends

New York State Energy Profiles:

1999–2013

Prepared by:

New York State Energy Research and Development Authority

Albany, NY

October 2015

Message from the President

Governor Andrew M. Cuomo's Reforming the Energy Vision (REV) strategy is building a clean, resilient and affordable energy system for all New Yorkers. NYSERDA is supporting REV with a focus on reducing barriers to clean energy and energy efficiency adoption. In addition, we continue to support cleantech innovation and stimulate private investment in the clean energy economy.

As part of our efforts, NYSERDA provides valuable information to assist individuals, businesses, and institutions to make informed energy decisions. ***Patterns and Trends*** provides a 15-year overview of New York State energy-related data compiled by NYSERDA. Data in the report is collected and reported by sector and end use, and includes energy production and use; sources of energy supply; fuel prices; and total energy expenditures. Comparisons across states and to the U.S. average are also provided for some data sets.

Highlights from the report:

- New York's energy consumption increased in 2013 for the first time since 2010. It was up 2.7% in 2013 compared to 2012, primarily due to increased natural gas consumption for space heating in buildings as a result of the colder temperatures.

- New Yorkers experienced lower gasoline and heating oil prices in 2013 from the previous year for the first time since 2009.

- The State has the lowest energy expenditures per person and the lowest energy consumption per unit of Gross State Product in the United States.

- New York uses the second lowest amount of energy per person in the United States, making it one of the top two states in energy efficiency.

We hope you find the information in ***Patterns and Trends*** useful, and we welcome any feedback on how this report may better meet the needs of the State's energy stakeholders.

John B. Rhodes
President and CEO
New York State Energy Research and Development Authority

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List of Tables and Figures

Patterns and Trends - New York State Energy Profiles: 1999–2013 presents a 15-year, historical overview of energy statistics for the State. It is an objective and reliable source of energy-related information for use by the general public, businesses, and government analysts. This report was prepared using the most recent comprehensive data available through the 2013 calendar year. Historical data prior to 1999 are available by clicking on the selected table. The timing of the report's release is dependent on the timeliness of data availability from the Energy Information Administration and other sources.

For more information, contact Matthew Milford, NYSERDA, 17 Columbia Circle, Albany, NY 12203-6399; 518-862-1090 ext. 3416; or visit nyserda.ny.gov

1 Overview

Patterns and Trends is organized as follows:

Energy Profiles and Comparisons for the United States and New York State compares energy consumption, selected energy prices, sources of petroleum products, and other factors influencing energy demand and expenditures in the United States and New York State. National petroleum statistics have been aggregated to represent the same six fuels included in the New York State data, specifically gasoline, distillate fuel, kerosene, aviation fuels, residual oil, and liquefied petroleum gases.

New York State Energy Consumption provides historical data for both primary and net energy consumption by fuel type and sector, including residential, commercial, industrial, and transportation. "Primary" represents total consumption of fuels by sector, including the electricity generation sector. "Net" is the end-use consumption by sector, including electricity sales, but excluding losses incurred during generation and distribution of electricity.

New York State Energy Prices presents retail energy price data. Retail energy prices are provided by fuel type for each sector in nominal dollars per physical unit and per million British thermal units (Btu).

New York State Energy Expenditures presents the estimated net energy expenditures by sector and fuel type in nominal dollars, as well as in 2013 constant (inflation adjusted prices) dollars. Estimated expenditures were derived by multiplying quantities consumed by their respective retail prices. Out of state energy expenditure estimates by fuel type are also provided in nominal dollars, as well as in 2013 constant (inflation adjusted prices) dollars.

New York State's Sources of Energy provides information on sources of New York State energy supplies.

Appendices provides data on greenhouse gas emissions from fuel combustion, household end-use energy consumption and expenditures, gasoline consumption by county, occupied housing units by type of space heating, degree-days, county population, electricity and natural gas prices, customers, and sales by sector by utility, conversion factors, and a glossary of energy terms.

2013
NEW YORK STATE
ENERGY FAST FACTS

PRIMARY ENERGY CONSUMPTION

2.7% greater than 2012

Primary consumption (4.1% of U.S. total) (trillion Btu)		3,665.5
By sector:		
Residential	(16.0%)	586.0
Commercial	(11.0%)	402.3
Industrial	(3.8%)	139.6
Transportation	(27.9%)	1,022.9
Electric Generation	(41.3%)	1,514.6
By fuel type:		
Petroleum	(32.4%)	1,187.7
Natural gas	(36.1%)	1,321.6
Nuclear	(12.7%)	467.7
Hydro	(6.4%)	233.6
Net Imported Electricity	(6.2%)	227.4
Other[1]	(4.3%)	158.9
Coal	(1.9%)	68.7
Primary consumption per capita (million Btu)		186.1

NET ENERGY CONSUMPTION AND EXPENDITURES

	Net Energy Consumption (trillion Btu)		Estimated Expenditures (billion dollars)
Total:	2,655.5		$64.8
By sector:			
Residential	(27.9%) 759.3	(28.8%)	$18.7
Commercial	(24.7%) 662.8	(24.6%)	$16.0
Industrial	(7.4%) 200.7	(3.6%)	$2.3
Transportation	(40.0%) 1,032.7	(43.0%)	$27.8
By fuel type:			
Petroleum	(44.4%) 1,179.2	(51.6%)	$33.5
Natural gas	(32.1%) 852.1	(12.6%)	$8.2
Electricity	(19.0%) 504.6	(35.2%)	$22.8
Other[1]	(3.7%) 98.0	(0.3%)	$0.2
Coal	(0.8%) 21.6	(0.1%)	$0.1
Estimated energy expenditures leaving the state (billions)			$37.8

AVERAGE ENERGY PRICES

	2013	2012
Gasoline - all grades (gallon)	$3.55	$3.64
Heating oil (gallon)	$3.88	$3.94
Natural gas (thousand cubic feet)		
Residential	$12.41	$12.87
Commercial	$7.93	$7.79
Industrial	$7.39	$6.87
Electricity (kilowatt-hour)		
Residential	18.8¢	17.6¢
Commercial	15.4¢	15.1¢
Industrial	6.6¢	6.7¢

GREENHOUSE GAS EMISSIONS FROM FUEL COMBUSTION

Total (million metric tons of CO_2 equivalent)		180.1
By sector:		
Residential	(17.9%)	32.3
Commercial	(12.5%)	22.6
Industrial	(5.9%)	10.6
Transportation	(41.9%)	75.4
Electric Generation	(21.8%)	39.2
By fuel type:		
Petroleum	(55.0%)	
Natural gas	(41.1%)	
Coal	(3.9%)	
Greenhouse gas emissions per capita (metric tons of CO_2 equivalent)		9.2

[1]Ethanol (43.5 TBtu) is included in "Other" totals and also as a component of motor gasoline. Total consumption and percentages are based on ethanol only as "Other."

ELECTRICITY

Sales increased 3.3% from 2012

Sales to ultimate consumers (gigawatt-hours)		147,895
By sector:		
Residential	(34.3%)	50,778
Commercial	(51.6%)	76,342
Industrial	(12.1%)	17,911
Transportation	(1.9%)	2,864
Generation (gigawatt-hours)		163,514
By fuel type:		
Nuclear	(27.4%)	44,756
Natural Gas	(33.2%)	54,354
Hydro	(16.1%)	26,396
Net Imported Electricity	(15.7%)	25,694
Coal	(2.9%)	4,697
Petroleum	(0.6%)	1,007
Other	(1.9%)	3,070
Wind	(2.2%)	3,539

PETROLEUM

Consumption decreased 0.1% from 2012

Consumption (4.3% of U.S. total) (million barrels)		218.6
By sector:		
Residential	(10.9%)	23.7
Commercial	(6.5%)	14.1
Industrial	(1.7%)	3.7
Transportation	(80.4%)	175.7
Electric generation	(0.6%)	1.4
In-State production (thousand barrels)		313.0

NATURAL GAS

Consumption increased 4.6% from 2012

Consumption (4.9% of U.S. total) (billion cubic feet)		1,279.4
By sector:		
Residential	(32.5%)	416.2
Commercial	(23.7%)	303.8
Industrial	(6.0%)	77.2
Transportation	(2.1%)	26.4
Electric generation	(35.6%)	455.8
In-State production (billion cubic feet)		23.5

ADDITIONAL 2013 STATISTICS

Population (6.2% of U.S. total) (million)	19.5
Number of housing units (million)	8.1
Gross State Product (billion 2013 dollars)	$1,341.6
Motor vehicle registrations (million)	10.7
Vehicle miles of travel (billion miles)	129.7
Heating degree-days (increased 16.0% from 2012)	6,231
Cooling degree-days (decreased 6.4% from 2012)	644

Note: Totals may not sum exactly due to rounding.

DATA SOURCE

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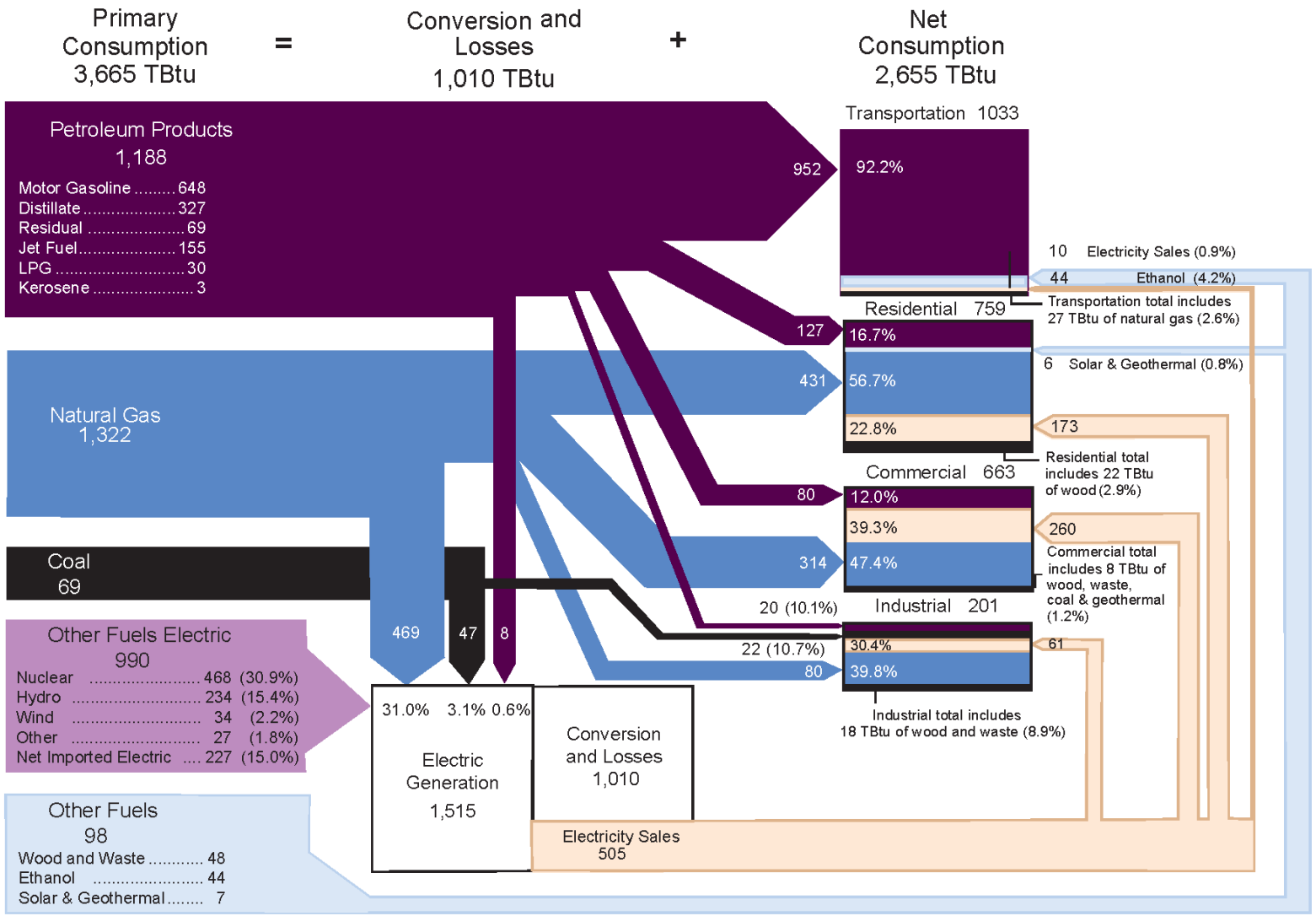
2013 New York State Energy Flow (TBtu)



2 Energy Profiles and Comparisons for the United States and New York State

This section compares energy consumption, selected energy prices, sources of petroleum, and factors influencing energy demand and expenditures for the United States and New York State. Additional statistics compare recent energy consumption and expenditure trends among all states. New York and national data are comparable and exclude petroleum products not used as a form of energy, including propane used in the chemical industry, asphalt, road oil, lubricants, and petrochemical feedstocks.

Selected state and national energy consumption and expenditure data series are presented to illustrate regional differences in energy demand and expenditures. This data are derived from the U.S. Department of Energy's Energy Information Administration *State Energy Data System (SEDS)*, and the U.S. Department of Commerce's *Statistical Abstract of the United States*.

2.1 Key Observations about 2013 New York State Energy Data

- New York State is the second most energy-efficient state in the United States on a per person basis, accounting for 4.1% of the nation's total primary energy consumption. New York accounts for 6.2% of the nation's population.
- New York State ranks eighth nationally in energy consumption.
- Renewable resources accounted for 10.9% of New York State's primary energy consumption compared to 9.6% for the United States in 2013.
- Coal consumption represents 1.9% of New York State energy use compared to 20.1% nationally.
- Net energy demand in New York State differs from national demand in several respects (as shown in Tables 2-1 and 2-2):
    - Residential net energy use accounts for 28.6% of total energy demand in New York State, compared to 18.1% nationally.
    - Commercial net energy use accounts for 25.0% of total energy demand in New York State, compared to 13.6% nationally.
    - Industrial net energy use accounts for 7.6% of total energy demand in New York State, compared to 27.1% nationally.
    - Transportation net energy use accounts for 38.9% of total energy demand in New York State, compared to 41.2% nationally.
- In 2013, the United States imported 32.9% of total petroleum consumed in the country, a decrease from 40.0% in 2012.

United States
Primary Consumption of Energy by Fuel Type and Sector, 2013

Figure 2-1a. United States Primary Consumption of Energy

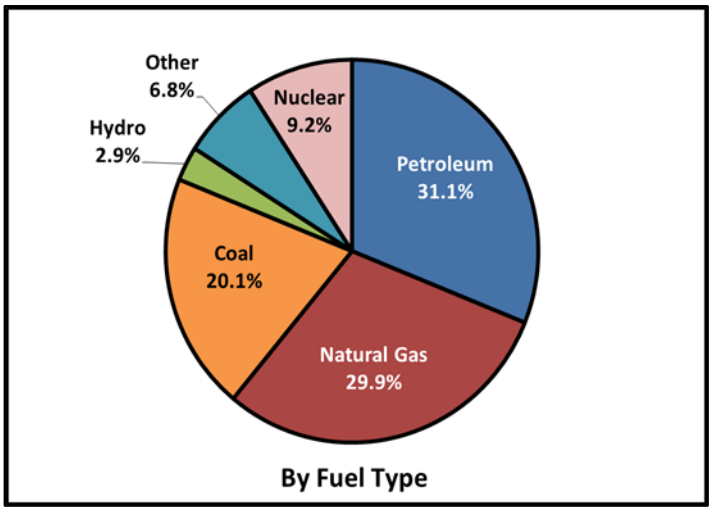


Figure 2-1b. United States Primary Consumption of Energy

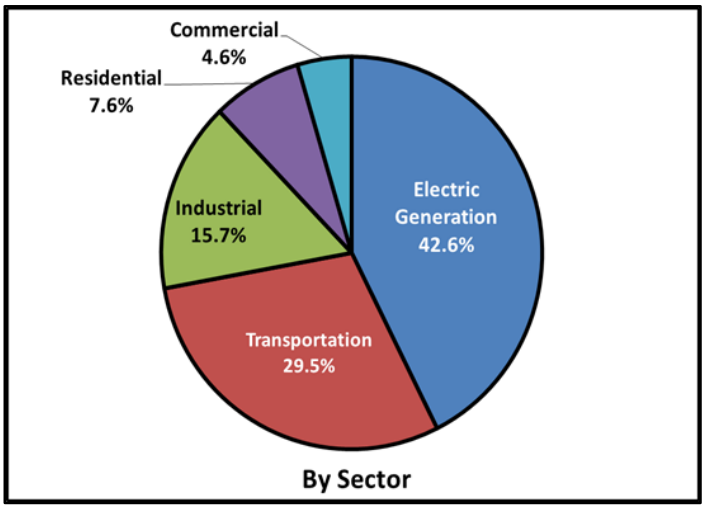


Table 2-1 (in trillion Btu)

	Residential TBtu	Commercial TBtu	Industrial TBtu	Transportation[1] TBtu	Net Consumption TBtu	Electric Generation[2] TBtu	Primary Consumption[3] TBtu
Coal	0	42	1,547	0	1,588	16,450	18,039
Natural Gas	5,055	3,374	9,111	921	18,460	8,398	26,858
Petroleum Products:	970	563	1,879	24,265	27,677	255	27,933
Distillate	491	344	1,266	5,910	8,011	55	8,066
Residual	0	24	48	581	654	77	731
Kerosene	8	1	2	0	11	0	11
LPG	471	154	300	45	969	0	969
Gasoline	0	40	264	16,035	16,339	0	16,339
Jet Fuel	0	0	0	2,969	2,969	0	2,969
Other[4]	839	143	1,537	1,274	3,793	704	4,496
Electric Sales	4,759	4,586	3,338	26	12,710		
Net Consumption	11,623	8,708	17,412	26,486	64,229		
					Hydro Electricity	2,529	2,529
					Nuclear Electricity	8,244	8,244
					Wind Electricity	1,600	1,600
					Primary Consumption	38,181	89,699

1 Components of petroleum may not sum to petroleum total because ethanol and biodiesel values (other category in transportation sector) are embedded in motor gasoline and distillate, respectively.
2 Hydro and wind are excluded from the "Other" category and listed separately.
3 Excludes petroleum products not used as a form of energy.
4 Other includes wood, waste, ethanol, landfill gas, solar, geothermal and biodiesel.

New York State
Primary Consumption of Energy by Fuel Type and Sector, 2013

Figure 2-2a. New York State Primary Consumption of Energy

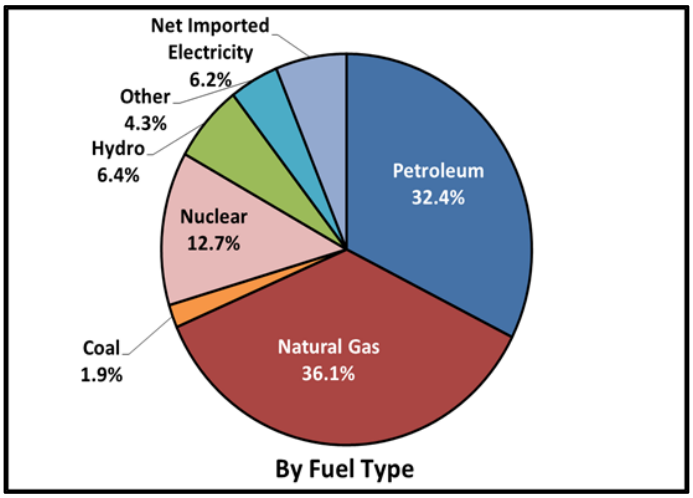


Figure 2-2b. New York State Primary Consumption of Energy

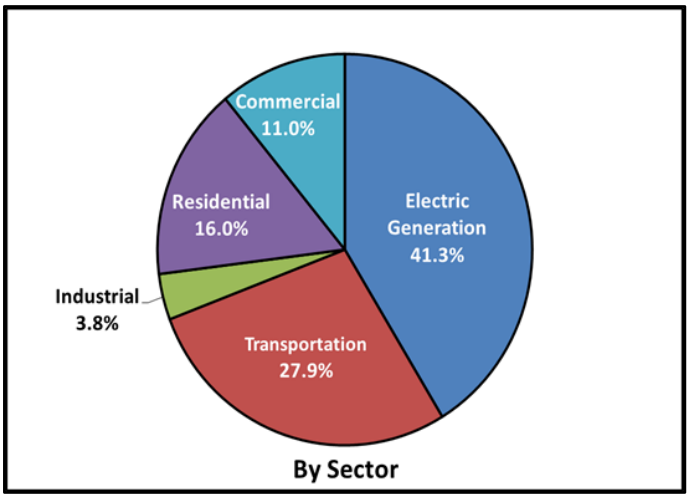


Table 2-2 (in trillion Btu)

	Residential TBtu	Commercial TBtu	Industrial TBtu	Transportation[1] TBtu	Net Consumption TBtu	Electric Generation TBtu	Primary Consumption[1,2] TBtu
Coal	0.0	0.0	21.6	0.0	21.6	47.2	68.7
Natural Gas	430.6	314.3	79.9	27.3	852.1	469.5	1,321.6
Petroleum Products[3]:	127.0	79.7	20.3	952.1	1,179.2	8.5	1,187.7
Distillate	105.1	53.3	13.1	152.4	323.9	2.9	326.8
Residual	0.0	19.7	4.5	39.6	63.8	5.5	69.4
Kerosene	2.2	0.2	0.5	0.0	2.9	0.0	2.9
LPG	19.7	6.6	2.2	1.1	29.6	0.0	29.6
Gasoline	0.0	0.0	0.0	647.6	647.6	0.0	647.6
Jet Fuel	0.0	0.0	0.0	155.0	155.0	0.0	155.0
Other[4]	28.4	8.3	17.8	43.5	98.0	27.2	125.2
Electric Sales	173.3	260.5	61.1	9.8	504.6		
Net Consumption	759.3	662.8	200.7	1,032.7	2,655.5		
					Hydro Electricity	233.6	233.6
					Nuclear Electricity	467.7	467.7
					Net Imported Electricity	227.4	227.4
					Wind Electricity	33.7	33.7
					Primary Consumption	1,514.6	3,665.5

1 Components of petroleum may not sum to petroleum total because ethanol (other category in transportation sector) is embedded in motor gasoline.
2 Excludes petroleum products not used as a form of energy.
3 Petroleum includes petroleum coke used for electric generation.
4 Other includes wood, waste, ethanol, landfill gas, solar and geothermal.

United States and New York State
Selected Energy Prices
in Nominal Dollars,
1999–2013

Table 2-3a. United States

Year	Motor Gasoline	Residential Distillate	Residential Electricity	Residential Natural Gas	Commercial Electricity	Commercial Natural Gas	Industrial Electricity	Industrial Natural Gas
	cents/gal	cents/gal	cents/kWh	$/Mcf	cents/kWh	$/Mcf	cents/kWh	$/Mcf
1999	115.6	91.6	8.2	6.65	7.2	5.34	4.4	3.28
2000	147.6	137.4	8.2	7.81	7.3	6.69	4.6	4.71
2001	140.8	131.3	8.6	9.64	7.8	8.51	5.0	5.84
2002	132.6	119.2	8.4	7.87	7.8	6.64	4.9	4.58
2003	152.9	143.0	8.7	9.45	8.0	8.26	5.1	6.34
2004	181.7	162.3	8.9	10.71	8.2	9.40	5.2	7.18
2005	221.4	215.1	9.4	12.62	8.7	11.23	5.7	9.29
2006	250.7	247.2	10.4	13.66	9.5	11.87	6.1	8.97
2007	270.1	270.2	10.7	12.99	9.6	11.24	6.4	8.48
2008	311.6	335.0	11.3	13.83	10.4	12.16	6.8	10.29
2009	224.8	249.7	11.5	12.08	10.2	9.92	6.8	6.61
2010	265.7	294.3	11.5	11.39	10.2	9.41	6.8	6.31
2011	337.7	353.3	11.7	11.03	10.2	8.99	6.8	6.10
2012	346.8	393.0	11.9	10.68	10.1	8.21	6.7	5.02
2013	344.7	388.1	12.1	10.26	10.3	8.24	6.9	5.59

Table 2-3b. New York State

Year	Motor Gasoline	Residential Distillate	Residential Electricity	Residential Natural Gas	Commercial Electricity	Commercial Natural Gas	Industrial Electricity	Industrial Natural Gas
	cents/gal	cents/gal	cents/kWh	$/Mcf	cents/kWh	$/Mcf	cents/kWh	$/Mcf
1999	118.8	100.7	13.3	9.12	10.3	5.15	4.8	3.90
2000	152.3	149.9	14.0	9.80	12.1	7.73	5.4	6.10
2001	143.3	141.7	14.0	11.70	12.2	9.57	5.6	7.69
2002	135.5	126.6	13.5	9.85	11.8	6.42	5.2	5.54
2003	157.0	149.5	14.3	11.61	12.9	8.61	7.1	7.36
2004	187.4	169.6	14.5	12.49	13.0	10.10	7.0	8.04
2005	224.4	219.1	15.7	14.92	14.4	11.82	8.2	10.77
2006	256.7	255.6	16.9	15.44	15.5	11.98	9.4	10.62
2007	276.0	278.1	17.1	15.77	15.9	11.85	8.7	11.46
2008	325.6	342.5	18.3	16.86	16.8	12.93	9.4	12.37
2009	235.3	260.4	17.5	15.10	15.5	10.75	8.4	9.55
2010	277.2	301.0	18.7	14.04	16.3	10.87	8.8	8.54
2011	351.5	354.9	18.3	13.64	15.8	9.28	7.8	8.15
2012	363.9	394.3	17.6	12.87	15.1	7.79	6.7	6.87
2013	354.6	388.0	18.8	12.41	15.4	7.93	6.6	7.39

United States
Estimated Sources of Petroleum Products, 1999–2013

Figure 2-4. United States Petroleum Imports

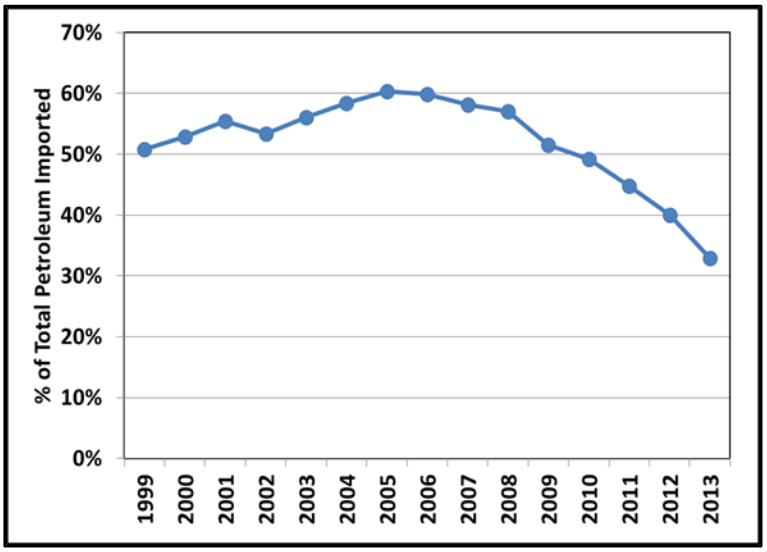


Table 2-4. United States Sources of Petroleum

Year	Total Domestic[1]	Total Foreign	OPEC[2]	Non-OPEC[3]
	%	%	%	%
1999	49.2	50.8	25.3	25.5
2000	47.3	52.7	26.3	26.6
2001	44.5	55.5	28.0	27.4
2002	46.6	53.4	23.2	30.1
2003	43.9	56.1	25.7	30.4
2004	41.8	58.2	27.4	30.9
2005	39.7	60.3	26.8	33.6
2006	40.1	59.9	26.5	33.4
2007	41.8	58.2	28.8	29.4
2008	43.2	56.8	30.3	26.7
2009	48.5	51.5	24.9	26.6
2010	50.8	49.2	25.0	24.2
2011	55.2	44.8	23.4	21.4
2012	60.0	40.0	23.1	16.9
2013	67.1	32.9	19.6	13.3

1 Domestic: Oil produced in the United States or from its outer continental shelf.
2 OPEC: Largest contributors are Saudi Arabia, Venezuela, Nigeria, Iraq and Kuwait.
3 Non-OPEC: Largest contributors are Canada, Mexico, United Kingdom, Colombia, Brazil and Russia.

United States and New York State Factors Influencing Energy Demand and Expenditures, 1999–2013

Table 2-5a. United States

Year	Population	Housing Units	Non-Manufacturing[1] Employment	Manufacturing[1] Employment	GDP[2]	Licensed Drivers	Vehicles Registered	Vehicle Miles Traveled
	thousands	thousands	thousands	thousands	B/2013$	millions	millions	billions
1999	272,691	114,394	111,918	17,322	$ 13,516	187	216	2,707
2000	281,425	116,301	114,756	17,263	$ 13,920	191	221	2,764
2001	284,969	117,905	115,633	16,441	$ 13,976	191	230	2,813
2002	287,625	119,456	115,369	15,259	$ 14,219	195	230	2,874
2003	290,108	121,077	115,809	14,509	$ 14,575	196	231	2,909
2004	292,805	122,825	117,434	14,315	$ 15,140	199	237	2,982
2005	295,517	124,711	119,778	14,227	$ 15,620	201	242	3,009
2006	298,380	126,500	122,243	14,155	$ 16,013	203	244	3,034
2007	301,231	128,132	124,057	13,879	$ 16,269	206	247	3,049
2008	304,094	129,313	123,764	13,406	$ 15,927	208	248	2,993
2009	306,772	129,970	119,386	11,847	$ 15,656	210	246	2,976
2010	308,746	131,705	118,747	11,528	$ 15,980	210	242	2,985
2011	311,583	132,316	120,116	11,726	$ 16,088	212	253	2,965
2012	313,874	132,452	122,177	11,927	$ 16,483	212	254	2,969
2013	316,498	132,803	124,374	12,020	$ 16,768	212	256	2,988

Table 2-5b. New York State

Year	Population	Housing Units	Non-Manufacturing[1] Employment	Manufacturing[1] Employment	GDP[3]	Licensed Drivers	Vehicles Registered	Vehicle Miles Traveled
	thousands	thousands	thousands	thousands	MM/2013$	thousands	thousands	billions
1999	18,883	7,572	7,686	773	$ 1,098,087	10,627	10,437	126.49
2000	18,977	7,689	7,889	749	$ 1,115,253	10,871	10,661	128.70
2001	19,083	7,724	7,888	707	$ 1,137,000	11,015	10,707	130.83
2002	19,138	7,760	7,811	651	$ 1,139,046	11,022	11,369	133.06
2003	19,176	7,799	7,798	612	$ 1,137,639	11,357	10,802	135.05
2004	19,172	7,836	7,859	596	$ 1,176,808	11,247	11,099	137.90
2005	19,133	7,878	7,947	579	$ 1,221,836	11,081	11,863	137.52
2006	19,105	7,915	8,042	566	$ 1,251,675	11,146	11,284	141.35
2007	19,132	7,952	8,172	552	$ 1,267,897	11,369	11,495	136.74
2008	19,212	7,986	8,251	532	$ 1,200,706	11,285	11,089	134.09
2009	19,307	8,018	8,070	476	$ 1,241,091	11,329	11,245	133.50
2010	19,401	8,051	8,100	457	$ 1,281,327	11,286	11,082	131.25
2011	19,522	8,081	8,220	459	$ 1,278,062	11,211	10,085	127.73
2012	19,607	8,102	8,339	459	$ 1,321,606	11,249	10,449	128.22
2013	19,696	8,113	8,452	456	$ 1,341,591	11,211	10,674	129.74

1 Includes nonfarm jobs only.
2 Gross domestic product in billions of 2013 dollars.
3 Gross state product in millions of 2013 dollars.

Energy Consumption and Expenditure Indicators, State Comparisons, 2013

Table 2-6

States	Primary Energy Use	Ranking	Primary Energy Use per Capita	Ranking	Primary Energy Use per unit GSP	Ranking	Energy Expenditures per Capita	Ranking
	TBtu		MMBtu		Btu		Dollars	
Alabama	1,931	17	400	13	9,921	8	$4,997	18
Alaska	609	39	826	3	10,633	5	$9,596	2
Arizona	1,415	27	213	44	5,150	34	$3,434	48
Arkansas	1,093	31	369	17	9,220	11	$4,732	20
California	7,684	2	200	48	3,472	47	$3,563	47
Colorado	1,472	25	279	35	5,104	36	$3,737	44
Connecticut	748	35	208	47	3,030	49	$4,260	31
Delaware	275	48	297	29	4,514	41	$4,165	33
D.C.	171	50	263	36	1,530	51	$3,378	49
Florida	4,078	3	208	46	5,093	37	$3,375	50
Georgia	2,795	11	280	34	6,124	28	$4,004	37
Hawaii	277	47	197	49	3,690	45	$5,350	11
Idaho	530	42	328	22	8,664	16	$4,317	29
Illinois	4,012	4	311	25	5,535	31	$3,824	39
Indiana	2,900	9	441	9	9,319	10	$5,079	16
Iowa	1,517	24	490	5	9,092	13	$5,583	7
Kansas	1,163	29	402	12	8,165	18	$5,267	13
Kentucky	1,823	20	414	11	9,929	7	$5,097	15
Louisiana	3,835	5	828	2	15,548	1	$8,545	4
Maine	407	43	306	27	7,455	21	$5,606	6
Maryland	1,404	28	236	40	4,136	44	$3,868	38
Massachusetts	1,443	26	215	43	3,268	48	$4,149	34
Michigan	2,843	10	287	32	6,541	25	$4,106	36
Minnesota	1,860	18	343	18	6,053	29	$4,554	22
Mississippi	1,142	30	382	16	10,969	4	$5,268	12
Missouri	1,857	19	307	26	6,711	23	$4,421	25
Montana	401	44	395	15	9,329	9	$5,452	10
Nebraska	872	33	467	7	7,972	19	$5,508	9
Nevada	657	38	235	41	5,134	35	$3,646	46
New Hampshire	303	46	229	42	4,408	42	$4,600	21
New Jersey	2,315	14	260	37	4,307	43	$4,404	26
New Mexico	689	37	330	20	7,580	20	$4,387	27
New York	3,625	8	184	50	2,702	50	$3,350	51
North Carolina	2,524	12	256	38	5,404	32	$3,790	42
North Dakota	589	40	813	4	11,530	3	$10,540	1
Ohio	3,745	7	324	23	6,654	24	$4,334	28
Oklahoma	1,623	22	421	10	9,200	12	$5,073	17
Oregon	997	32	254	39	4,865	39	$3,788	43
Pennsylvania	3,795	6	297	28	5,927	30	$4,230	32
Rhode Island	194	49	184	51	3,632	46	$3,715	45
South Carolina	1,591	23	334	19	8,725	15	$4,553	23
South Dakota	390	45	462	8	8,739	14	$5,569	8
Tennessee	2,136	15	329	21	7,362	22	$4,452	24
Texas	12,944	1	488	6	8,312	17	$6,114	5
Utah	831	34	286	33	6,154	27	$3,791	41
Vermont	134	51	213	44	4,633	40	$5,196	14
Virginia	2,411	13	292	31	5,298	33	$4,145	35
Washington	2,039	16	292	30	5,009	38	$3,801	40
West Virgina	738	36	398	14	10,451	6	$4,794	19
Wisconsin	1,804	21	314	24	6,336	26	$4,304	30
Wyoming	536	41	918	1	12,817	2	$9,358	3
United States	97,145		307		5,830		$4,345	
NY as a % of U.S.	**3.7%**		**60%**		**46%**		**77%**	

Note: Table shows the latest year for which consumption and expenditure data are available for all states at time o

Energy Consumption and Expenditure Indicators, State Comparisons for the Residential and Commercial Sectors, 2013

Table 2-7

States	Residential Primary Energy Use[1] per Housing Unit	Ranking	Residential Energy Expenditures per Housing Unit	Ranking	Commercial Primary Energy Use[1] per Non-Manufacturing Employee	Ranking	Commercial Energy Expenditures Per Non-Manufacturing Employee	Ranking
	MMBtu		Dollars		MMBtu		Dollars	
Alabama	163	33	$1,933	23	135	29	$1,498	16
Alaska	159	36	$2,513	6	188	3	$2,555	1
Arizona	138	42	$1,591	45	137	26	$1,367	21
Arkansas	181	16	$1,737	40	150	15	$1,201	37
California	107	50	$1,472	48	98	48	$1,345	23
Colorado	163	32	$1,627	43	120	40	$1,079	44
Connecticut	167	27	$3,243	1	114	41	$1,642	10
Delaware	158	37	$2,187	12	132	31	$1,415	19
D.C.	122	48	$1,462	51	149	16	$1,648	9
Florida	129	47	$1,471	49	128	37	$1,311	25
Georgia	167	28	$1,992	19	132	32	$1,326	24
Hawaii	68	51	$1,994	18	63	51	$2,078	2
Idaho	188	11	$1,764	36	138	24	$1,072	45
Illinois	191	9	$1,765	35	139	23	$1,063	47
Indiana	202	3	$1,905	27	131	34	$1,094	43
Iowa	187	12	$2,036	14	141	22	$1,286	26
Kansas	190	10	$2,005	17	153	12	$1,351	22
Kentucky	198	4	$1,785	34	155	9	$1,218	34
Louisiana	172	22	$1,691	41	138	25	$1,283	27
Maine	118	49	$2,390	7	98	47	$1,672	8
Maryland	179	17	$2,236	10	164	5	$1,619	11
Massachusetts	161	35	$2,700	5	87	49	$1,189	38
Michigan	171	23	$2,010	15	146	18	$1,415	18
Minnesota	176	19	$1,925	25	129	35	$1,170	39
Mississippi	164	31	$1,875	28	144	19	$1,548	13
Missouri	197	6	$1,981	20	152	14	$1,283	28
Montana	175	20	$1,764	37	171	4	$1,511	15
Nebraska	202	2	$1,950	22	143	21	$1,113	41
Nevada	136	44	$1,636	42	103	46	$956	51
New Hampshire	150	40	$2,748	3	110	43	$1,572	12
New Jersey	167	26	$2,217	11	153	13	$1,749	6
New Mexico	136	43	$1,469	50	155	11	$1,387	20
New York	131	46	$2,276	8	127	38	$1,792	4
North Carolina	157	38	$1,755	38	137	27	$1,208	36
North Dakota	216	1	$2,122	13	192	2	$1,785	5
Ohio	178	18	$1,929	24	132	30	$1,112	42
Oklahoma	191	8	$1,839	30	158	7	$1,248	31
Oregon	153	39	$1,581	46	114	42	$1,040	48
Pennsylvania	167	29	$2,264	9	110	44	$1,068	46
Rhode Island	143	41	$2,706	4	104	45	$1,513	14
South Carolina	162	34	$1,838	31	137	28	$1,276	29
South Dakota	198	5	$2,010	16	156	8	$1,245	32
Tennessee	187	13	$1,749	39	155	10	$1,437	17
Texas	164	30	$1,818	32	144	20	$1,152	40
Utah	174	21	$1,627	44	127	39	$1,040	49
Vermont	131	45	$2,932	2	85	50	$1,720	7
Virginia	183	15	$1,970	21	163	6	$1,270	30
Washington	169	25	$1,542	47	128	36	$1,039	50
West Virgina	197	7	$1,874	29	147	17	$1,223	33
Wisconsin	169	24	$1,909	26	131	33	$1,210	35
Wyoming	185	14	$1,814	33	218	1	$1,959	3
United States	159		$1,880		131		$1,315	
NYS as % of U.S.	**83%**		**121%**		**97%**		**136%**	

Note: Table shows the latest year for which consumption and expenditure data are available for all states at time of publication.

[1] Use figures include electricity and the associated system losses.

Energy Consumption and Expenditure Indicators, State Comparisons for the Industrial and Transportation Sectors, 2013

Table 2-8

States	Industrial Primary Energy Use[1] per unit of GSP	Ranking	Industrial Energy Expenditures per unit of GSP	Ranking	Transportation Primary Use[1] per Vehicle Registration	Ranking	Transportation Expenditures per Vehicle Registration	Ranking
	Btu		Dollars		MMBtu		Dollars	
Alabama	4,348	6	$0.0247	9	98	25	$2,556	30
Alaska	5,662	4	$0.0159	20	220	1	$5,767	1
Arizona	767	41	$0.0082	39	85	40	$2,321	42
Arkansas	3,364	14	$0.0241	11	114	11	$3,068	12
California	819	39	$0.0064	44	104	23	$2,923	18
Colorado	1,446	32	$0.0093	37	86	38	$2,306	43
Connecticut	332	49	$0.0042	48	80	44	$2,363	41
Delaware	1,488	31	$0.0098	35	65	50	$1,846	50
D.C.	26	51	$0.0002	51	60	51	$1,477	51
Florida	594	42	$0.0052	45	97	27	$2,559	29
Georgia	1,650	30	$0.0110	32	106	20	$2,754	24
Hawaii	815	40	$0.0158	21	106	21	$3,006	14
Idaho	2,939	17	$0.0218	13	80	45	$2,214	46
Illinois	1,717	28	$0.0114	29	93	30	$2,506	33
Indiana	4,259	7	$0.0261	7	111	14	$2,989	16
Iowa	4,481	5	$0.0264	6	85	41	$2,302	44
Kansas	3,015	16	$0.0243	10	109	16	$2,832	22
Kentucky	3,883	10	$0.0252	8	109	17	$3,002	15
Louisiana	10,387	1	$0.0750	1	167	3	$3,833	4
Maine	2,465	21	$0.0178	17	107	19	$3,114	10
Maryland	344	48	$0.0039	49	112	13	$3,147	9
Massachusetts	550	44	$0.0073	40	92	34	$2,606	26
Michigan	1,693	29	$0.0134	28	89	35	$2,430	36
Minnesota	2,071	23	$0.0142	25	86	39	$2,395	40
Mississippi	3,864	11	$0.0239	12	178	2	$4,407	2
Missouri	1,320	34	$0.0112	30	93	31	$2,534	32
Montana	2,814	19	$0.0178	18	77	47	$2,097	47
Nebraska	3,406	13	$0.0204	14	103	24	$2,854	21
Nevada	1,298	35	$0.0111	31	94	28	$2,583	28
New Hampshire	584	43	$0.0069	41	71	48	$2,061	48
New Jersey	497	46	$0.0048	47	120	9	$3,097	11
New Mexico	2,614	20	$0.0135	27	107	18	$2,905	19
New York	280	50	$0.0026	50	98	26	$2,614	25
North Carolina	1,190	37	$0.0093	36	92	33	$2,601	27
North Dakota	5,683	3	$0.0511	2	165	4	$4,149	3
Ohio	2,160	22	$0.0151	23	89	36	$2,499	35
Oklahoma	3,332	15	$0.0186	16	131	7	$3,215	8
Oregon	1,203	36	$0.0089	38	84	42	$2,397	39
Pennsylvania	2,059	24	$0.0154	22	88	37	$2,429	37
Rhode Island	375	47	$0.0049	46	68	49	$1,975	49
South Carolina	2,891	18	$0.0178	19	114	12	$3,029	13
South Dakota	3,499	12	$0.0202	15	94	29	$2,500	34
Tennessee	1,998	26	$0.0135	26	109	15	$2,945	17
Texas	4,222	8	$0.0369	4	152	5	$3,617	5
Utah	1,791	27	$0.0102	34	121	8	$3,224	7
Vermont	548	45	$0.0103	33	80	43	$2,418	38
Virginia	964	38	$0.0069	42	104	22	$2,786	23
Washington	1,397	33	$0.0064	43	93	32	$2,545	31
West Virgina	3,983	9	$0.0302	5	117	10	$2,863	20
Wisconsin	2,029	25	$0.0149	24	77	46	$2,255	45
Wyoming	7,400	2	$0.0399	3	137	6	$3,298	6
United States	1,883		$0.0140		104		$2,783	
NYS as % of U.S.	**15%**		**18%**		**94%**		**94%**	

Note: Table shows the latest year for which consumption and expenditure data are available for all states at time of publication.

[1] Use figures include electricity and the associated system losses.

United States and New York State
Selected Comparisons,
2013

Figure 2-9a. Primary Consumption by Fuel Type, 2013

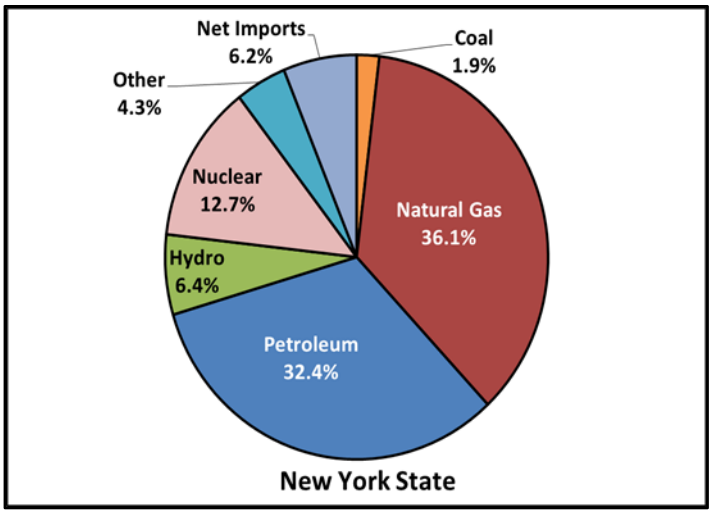


Figure 2-9b. Primary Consumption by Fuel Type, 2013

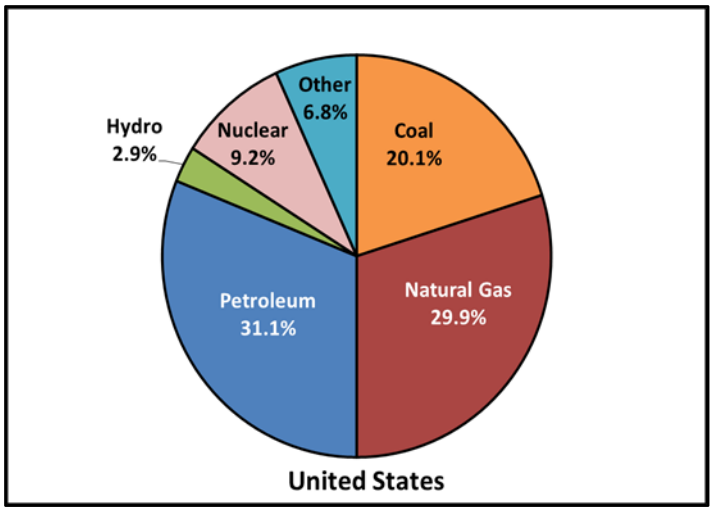


Figure 2-9c. Primary Consumption by Sector, 2013

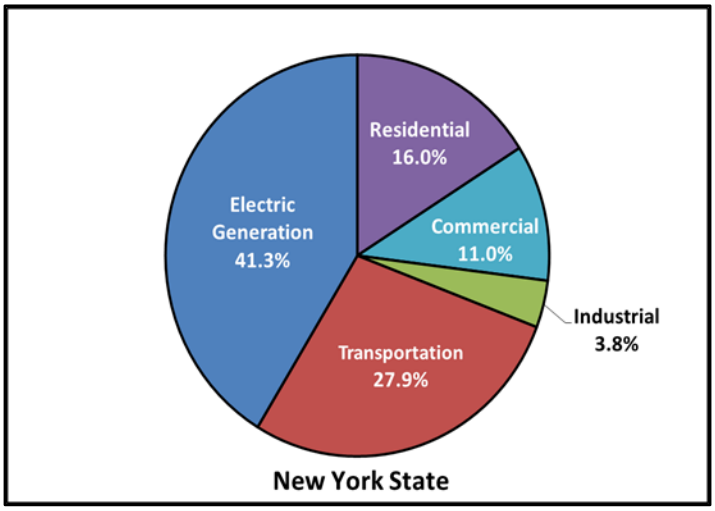
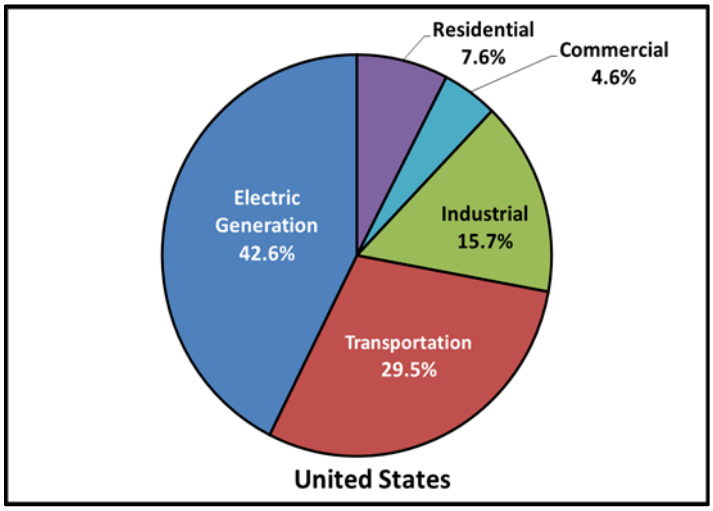


Figure 2-9d. Primary Consumption by Sector, 2013



United States and New York State
Selected Comparisons,
2013

Figure 2-10a. Electricity Generation by Fuel Type, 2013

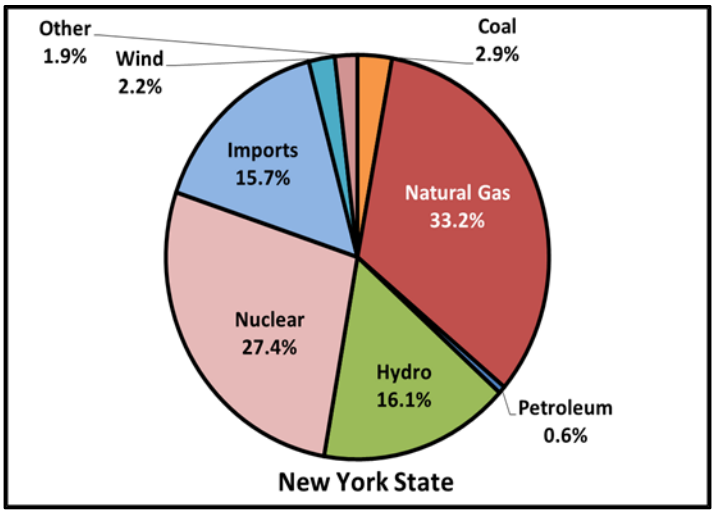


Figure 2-10b. Electricity Generation by Fuel Type, 2013

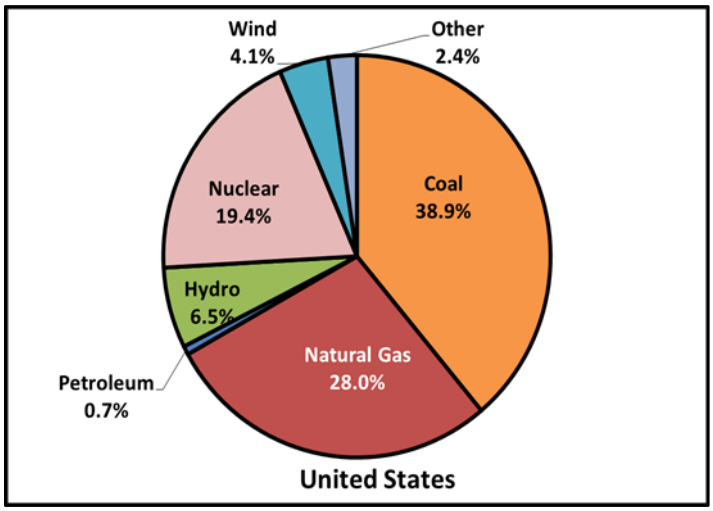


Figure 2-10c. Primary Consumption of Petroleum Products, 2013[1,2]

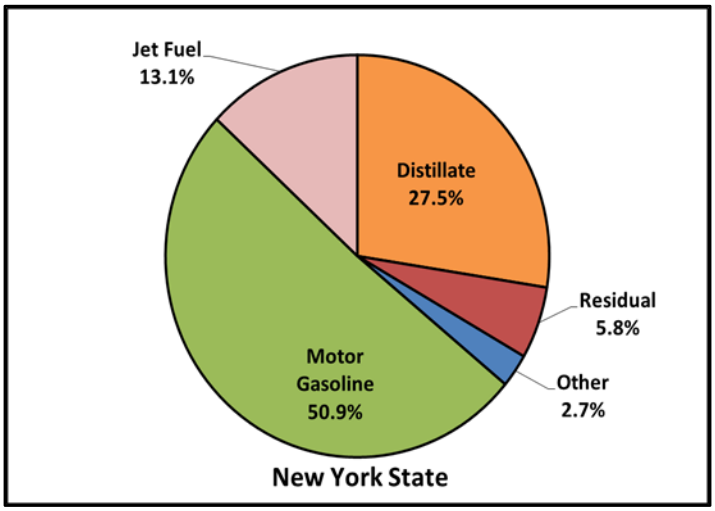
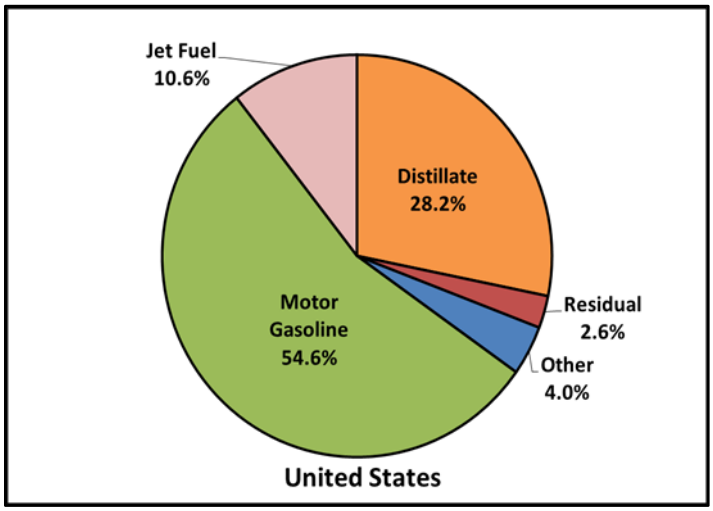


Figure 2-10d. Primary Consumption of Petroleum Products, 2013[1,2]



1 Excludes petroleum products not used as a form of energy.

2 Motor gasoline percentages do not include ethanol embedded in motor gasoline. Percentages based on petroleum-only fuel.

United States and New York State
Selected Comparisons,
2013

Figure 2-11a. Petroleum Consumption by Sector, 2013[1]

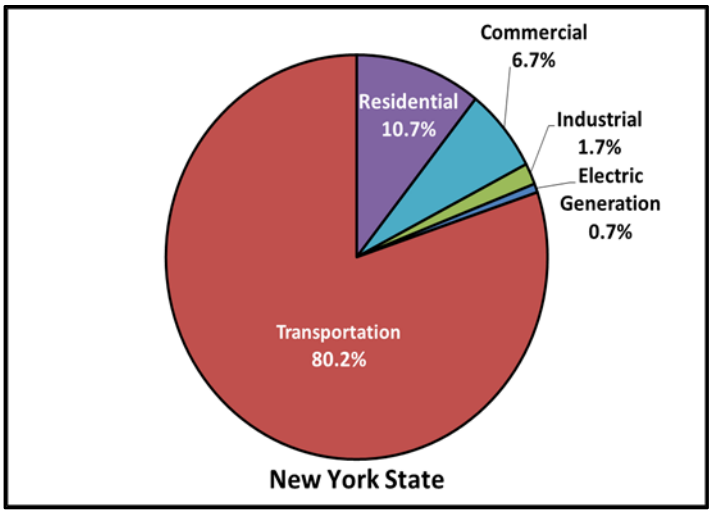


Figure 2-11b. Petroleum Consumption by Sector, 2013[1]

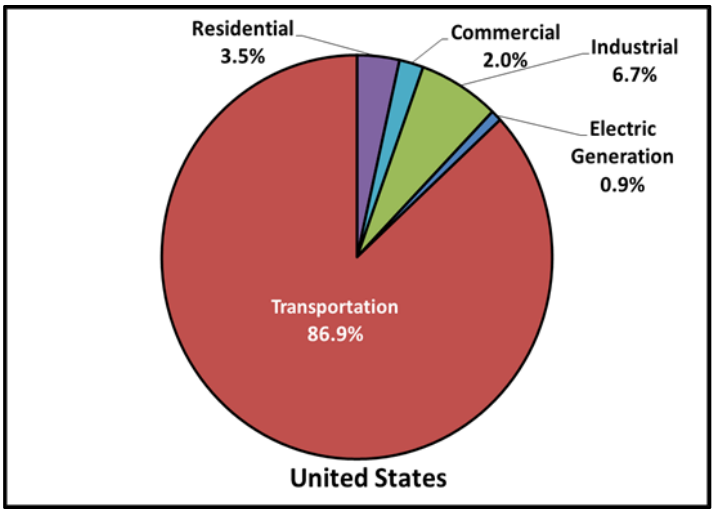


Figure 2-11c. Natural Gas Consumption by Sector, 2013

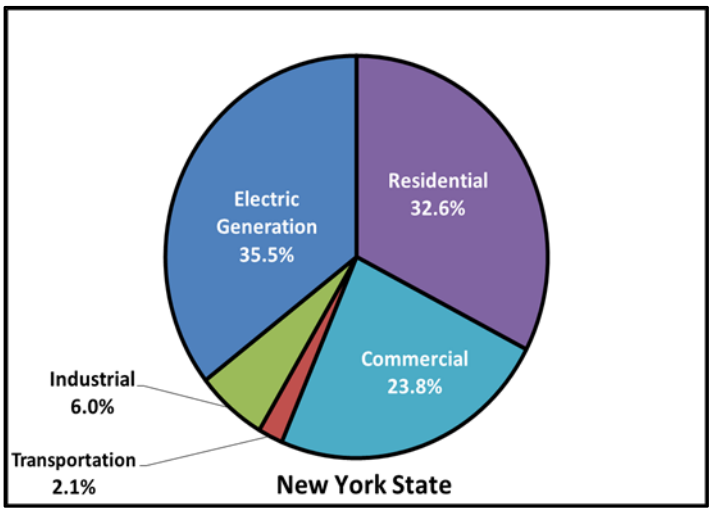
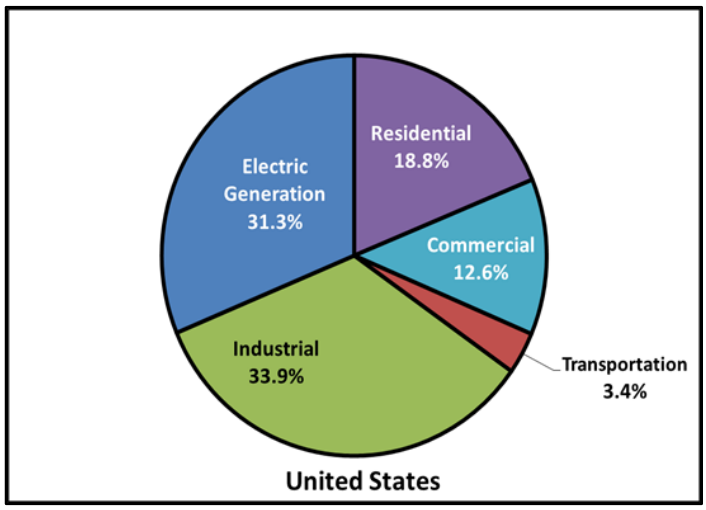


Figure 2-11d. Natural Gas Consumption by Sector, 2013



[1] Excludes petroleum products not used as a form of energy.

United States and New York State
Selected Comparisons,
2013

Figure 2-12a. Coal Consumption by Sector, 2013

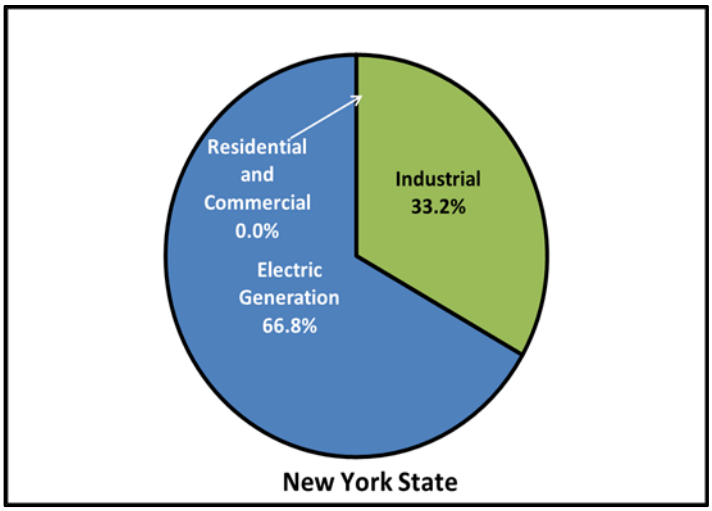


Figure 2-12b. Coal Consumption by Sector, 2013

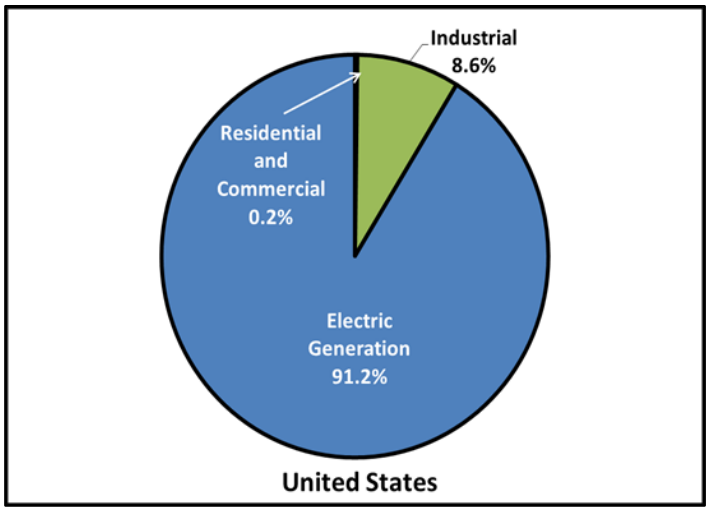


Figure 2-12c. Electricity Sales by Sector, 2013

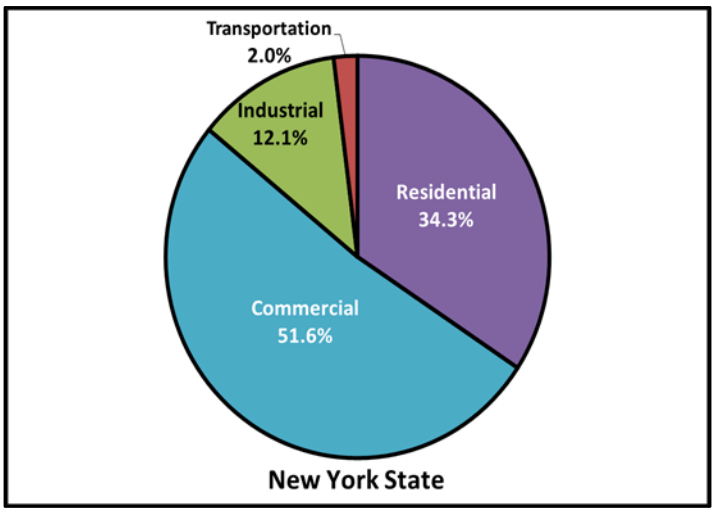
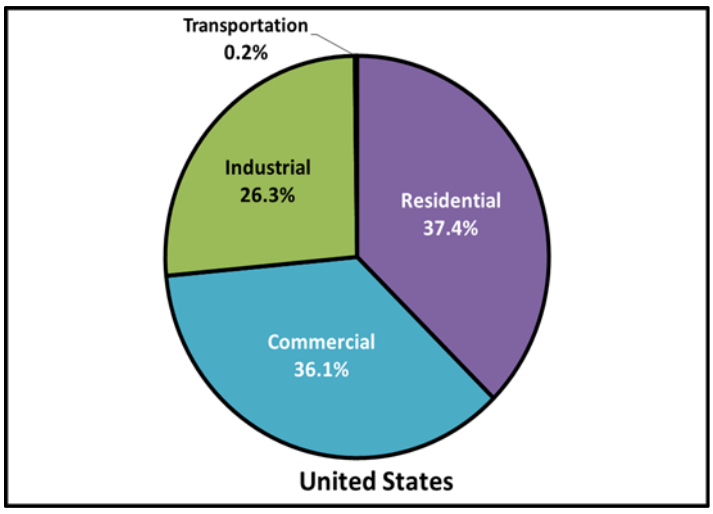


Figure 2-12d. Electricity Sales by Sector, 2013



United States and New York State Selected Energy Indicators, 1999–2013

Table 2-13a.
Primary Consumption per Dollar of Gross State Product/Gross Domestic Product

Year	NYS	U.S.
	thousand Btu	thousand Btu
1999	3.58	7.15
2000	3.63	7.10
2001	3.45	6.88
2002	3.46	6.87
2003	3.59	6.72
2004	3.53	6.61
2005	3.35	6.41
2006	3.10	6.21
2007	3.15	6.21
2008	3.28	6.21
2009	3.00	6.01
2010	2.92	6.10
2011	2.85	6.02
2012	2.70	5.73
2013	2.73	5.79

Figure 2-13a. Primary Consumption per Dollar of Gross State Product/Gross Domestic Product

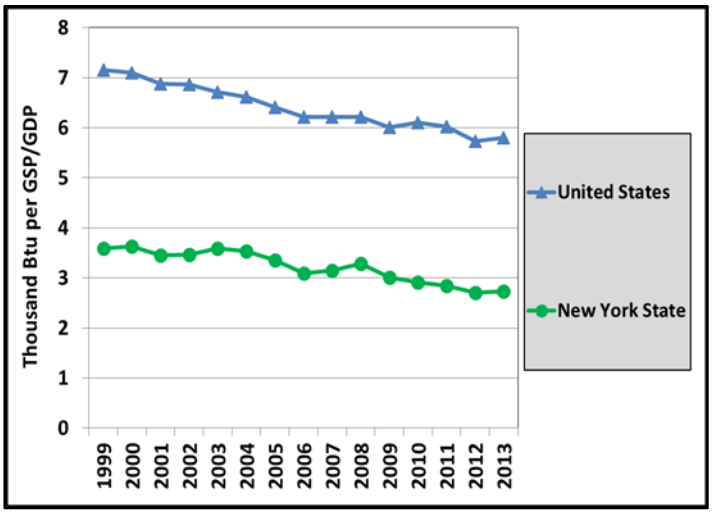
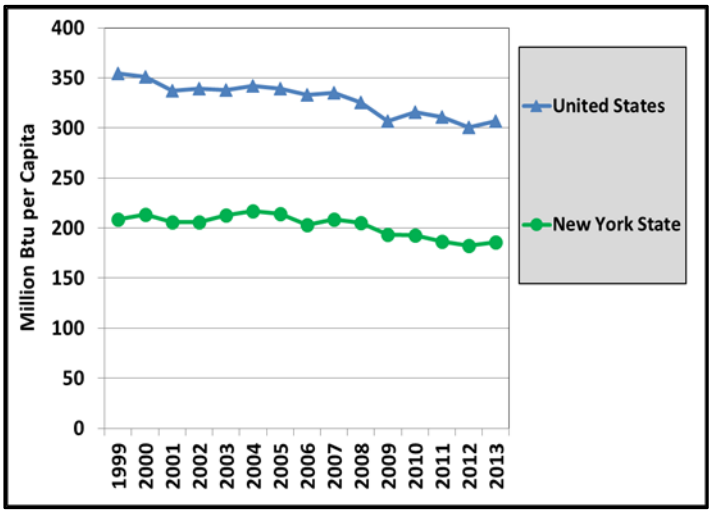


Table 2-13b.

Primary Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1999	208.42	354.35
2000	213.59	351.11
2001	205.69	337.39
2002	206.15	339.51
2003	212.76	337.53
2004	216.86	341.88
2005	214.07	339.04
2006	202.99	333.32
2007	208.68	335.31
2008	205.15	325.16
2009	193.11	306.80
2010	192.57	315.62
2011	186.52	310.76
2012	182.11	300.80
2013	186.11	306.94

Figure 2-13b. Primary Consumption per Capita

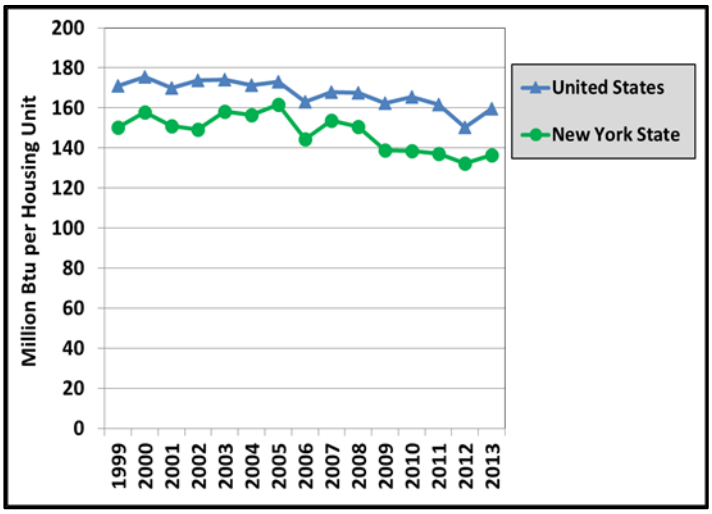


United States and New York State Selected Energy Indicators, 1999–2013

Table 2-14a.
Residential Consumption per Housing Unit

Year	NYS	U.S.
	MMBtu	MMBtu
1999	150.31	170.81
2000	157.72	175.34
2001	151.09	169.87
2002	149.32	173.85
2003	158.25	174.18
2004	156.42	171.38
2005	161.56	173.04
2006	144.51	163.13
2007	153.62	167.83
2008	150.70	167.48
2009	139.03	162.20
2010	138.47	165.60
2011	136.99	161.49
2012	132.37	150.42
2013	136.32	159.50

Figure 2-14a. Residential Consumption per Housing Unit

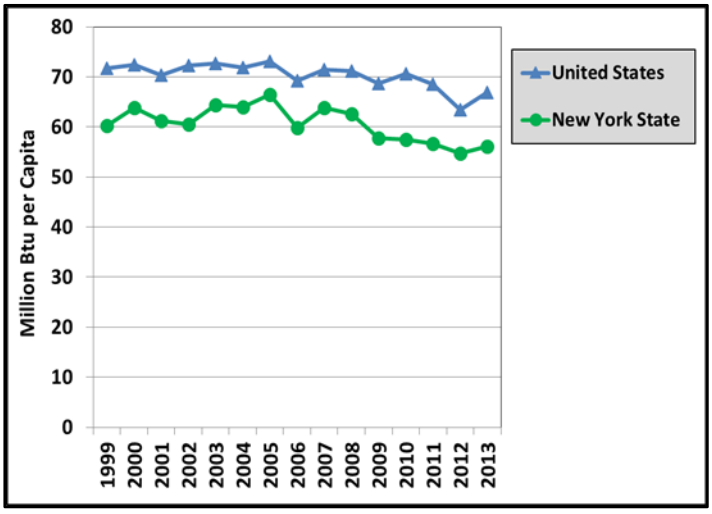


Tablet 2-14b.

Residential Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1999	60.27	71.66
2000	63.90	72.46
2001	61.16	70.28
2002	60.55	72.20
2003	64.36	72.69
2004	63.93	71.89
2005	66.52	73.02
2006	59.87	69.16
2007	63.85	71.39
2008	62.64	71.22
2009	57.74	68.72
2010	57.46	70.64
2011	56.71	68.58
2012	54.70	63.48
2013	56.16	66.93

Figure 2-14b. Residential Consumption per Capita



United States and New York State Selected Energy Indicators, 1999–2013

Table 2-15a.
Commercial Consumption per Nonmanufacturing Employee

Year	NYS	U.S.
	MMBtu	MMBtu
1999	168.50	146.49
2000	169.39	149.61
2001	165.58	148.19
2002	170.06	150.31
2003	174.30	149.69
2004	180.27	150.29
2005	168.75	148.78
2006	160.69	144.55
2007	156.73	146.77
2008	159.79	148.25
2009	156.09	149.49
2010	155.50	151.62
2011	150.47	149.22
2012	140.74	141.88
2013	140.10	143.87

Figure 2-15a. Commercial Consumption per Nonmanufacturing Employee

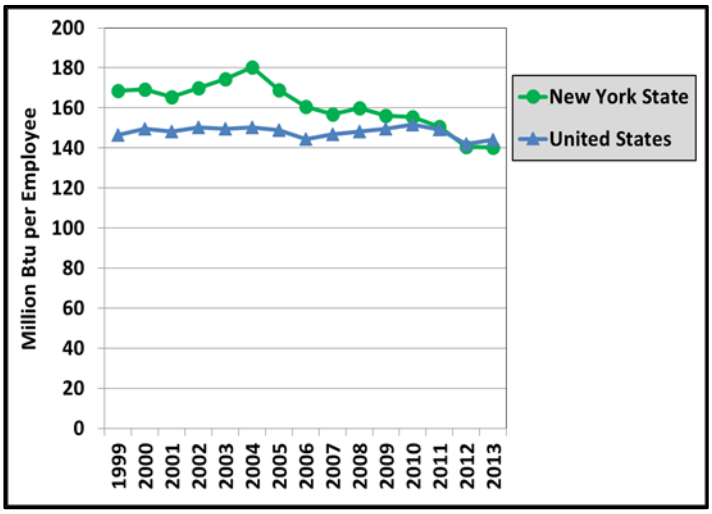
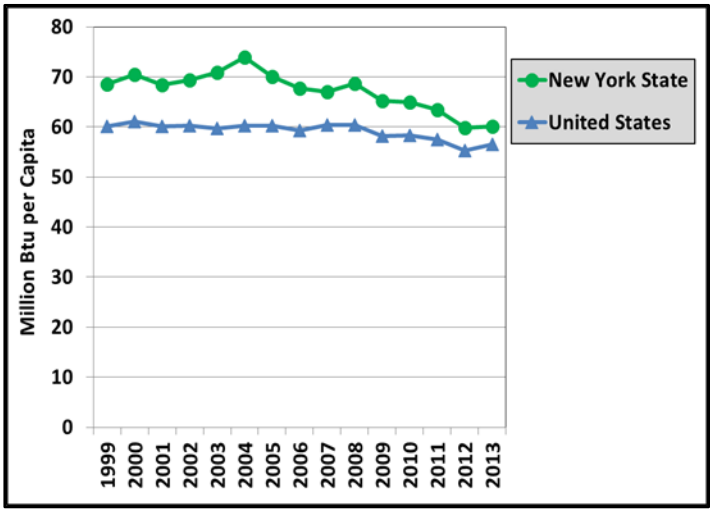


Table 2-15b.
Commercial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1999	68.59	60.12
2000	70.41	61.01
2001	68.44	60.13
2002	69.41	60.29
2003	70.88	59.76
2004	73.90	60.28
2005	70.09	60.30
2006	67.64	59.22
2007	66.95	60.45
2008	68.62	60.34
2009	65.24	58.18
2010	64.92	58.32
2011	63.35	57.53
2012	59.85	55.23
2013	60.12	56.54

Figure 2-15b. Commercial Consumption per Capita



United States and New York State Selected Energy Indicators, 1999–2013

Table 2-16a.
Industrial Consumption per Manufacturing Employee

Year	NYS	U.S.
	MMBtu	MMBtu
1999	693.2	2,005.6
2000	710.6	2,009.4
2001	676.8	1,989.1
2002	703.7	2,142.7
2003	686.8	2,246.1
2004	681.2	2,344.1
2005	700.3	2,285.2
2006	602.6	2,292.7
2007	709.7	2,338.9
2008	609.5	2,342.5
2009	593.3	2,408.4
2010	625.4	2,653.8
2011	640.6	2,635.3
2012	625.8	2,598.9
2013	708.3	2,610.6

Figure 2-16a. Industrial Consumption per Manufacturing Employee

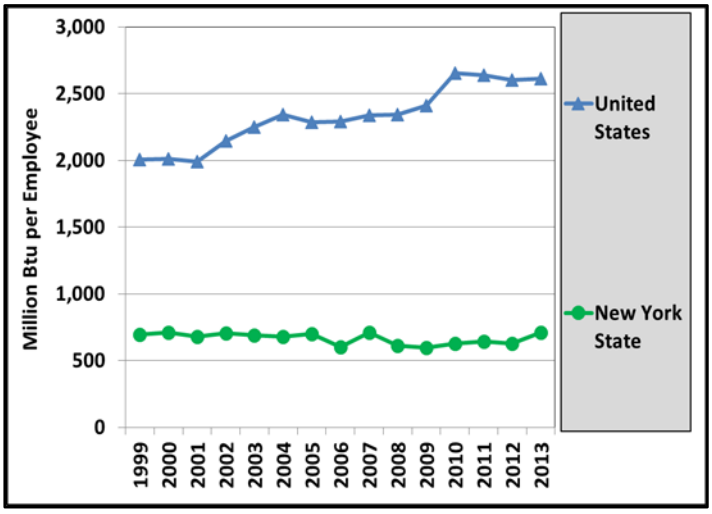
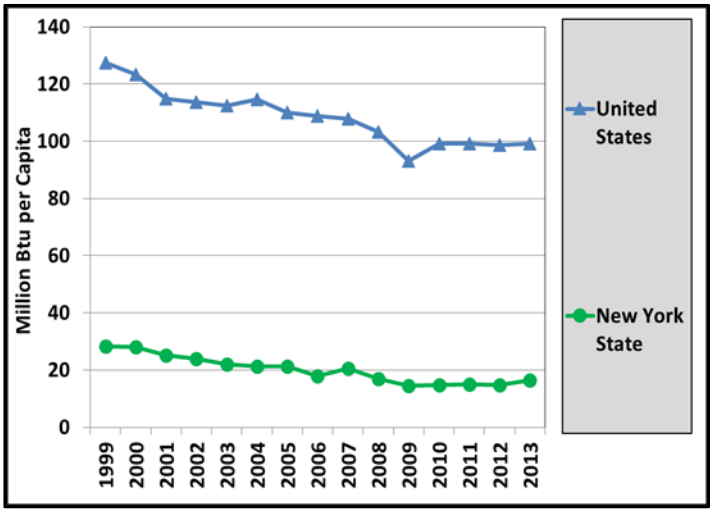


Table 2-16b.
Industrial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1999	28.37	127.40
2000	28.06	123.26
2001	25.07	114.76
2002	23.93	113.68
2003	21.92	112.33
2004	21.16	114.60
2005	21.21	110.02
2006	17.87	108.76
2007	20.46	107.76
2008	16.87	103.27
2009	14.62	93.01
2010	14.73	99.09
2011	15.05	99.17
2012	14.66	98.76
2013	16.40	99.14

Figure 2-16b. Industrial Consumption per Capita



United States and New York State Selected Energy Indicators, 1999–2013

Table 2-17a.
Transportation Consumption per Vehicle Mile Traveled

Year	NYS	U.S.
	Btu	Btu
1999	7,642	9,587
2000	7,552	9,608
2001	7,442	9,341
2002	7,517	9,343
2003	7,896	9,250
2004	8,046	9,339
2005	7,825	9,397
2006	7,788	9,459
2007	8,034	9,455
2008	8,169	9,179
2009	8,028	8,958
2010	8,196	9,058
2011	7,857	8,984
2012	8,089	8,810
2013	8,111	8,931

Figure 2-17a. Transportation Consumption per Vehicle Mile Traveled

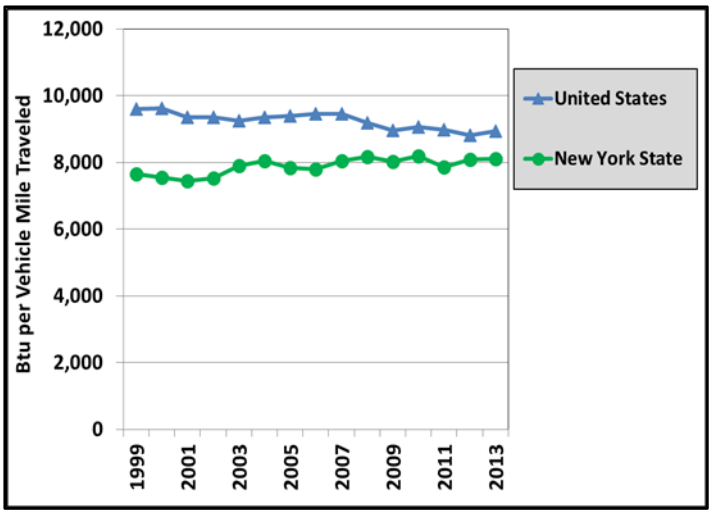
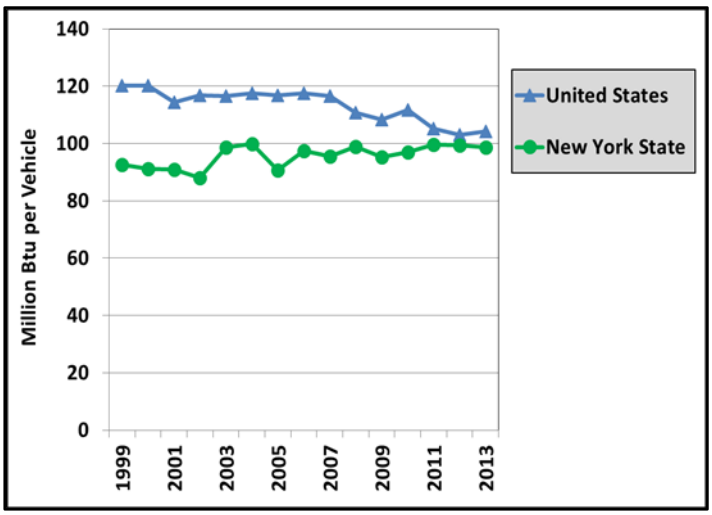


Table 2-17b.
Transportation Consumption per Registered Motor Vehicle

Year	NYS	U.S.
	MMBtu	MMBtu
1999	92.61	120.15
2000	91.17	120.18
2001	90.93	114.26
2002	87.97	116.73
2003	98.72	116.48
2004	99.96	117.51
2005	90.71	116.86
2006	97.55	117.61
2007	95.57	116.60
2008	98.78	110.69
2009	95.31	108.23
2010	97.07	111.70
2011	99.51	105.18
2012	99.26	103.12
2013	98.58	104.30

Figure 2-17b. Transportation Consumption per Registered Motor Vehicle



3 New York State Energy Consumption

This section presents data on primary and net energy consumption in New York, by sector and fuel type, for the 15-year period from 1999 through 2013.

Primary consumption of energy is shown by fuel type in physical units, such as tons, cubic feet, gigawatt-hours (GWh), and barrels, and in trillion Btu (TBtu). Total primary energy consumption by sector, including residential, commercial, industrial, transportation, and electric generation, is presented for the 15-year period.

This section also presents statistics on the State's other fuels, including wood, municipal waste, solar, and geothermal energy.

Electricity generation reported does not include generator station use. Electricity from hydro, as well as wood, waste, landfill gas, wind, solar and net electricity imports, has been converted to primary energy by applying a statewide average annual heat rate (Btu per kilowatt-hour[kWh] generated) for fossil-fueled power plants. The current year heat rate can be found in Appendix G Conversion Factors.

Electricity sales figures are combined with end-use consumption of coal, petroleum products, natural gas, biofuels, solar, and geothermal to derive total net energy consumption in the residential, commercial, industrial, and transportation sectors. Net energy consumption is provided in TBtu and physical units.

End-use energy consumption by large multifamily buildings and institutional facilities is included in the commercial sector.

3.1 Key Observations about 2013 New York State Energy Consumption Data

- Total primary energy consumption was 3,665 TBtu, a 2.7% increase from 2012.
- Primary consumption of natural gas (1,322 TBtu) exceeded petroleum (1,188 TBtu) for the third year in a row as the largest energy source for New York State energy consumption, representing 36.1% of total primary energy consumption.
- Cumulative heating degree-days were 16.0% higher in 2013 compared to 2012.
- Primary consumption of energy from nuclear power, natural gas, and hydropower, increased 9.4%, 4.8% and 2.4%, respectively in 2013, while use of coal, electricity imports, and petroleum decreased 5.8%, 3.6%, and 0.9%, respectively.

- Total consumption of petroleum products was 1,188 TBtu, or 219 million barrels, representing 32.4% of total primary energy consumption.
- In 2013, statewide distillate oil use decreased by 7.3% from 2012 levels. Statewide motor gasoline use stayed the same and residual fuel use increased by 7.5% from 2012 to 2013. Total statewide petroleum fuels use decreased by 0.1% from 2012 to 2013.
- Sales of natural gas totaled 1,279 billion cubic feet in 2013, which was 4.6% above the 1,223 billion cubic feet sold in 2012.
- Sales of natural gas by sector were 32.5% for the residential sector, 23.7% for the commercial sector, 6.0% for the industrial sector, 2.1% for the transportation sector, and 35.6% for the electric generation sector.
- Natural gas and nuclear power accounted for 33.2% and 27.4% of New York's electricity requirements in 2013, respectively.
- Energy used for electricity generation accounted for 41.3% of primary energy use.
- Sales of electricity to ultimate customers increased by 3.3% between 2012 and 2013.
- Total residential net energy consumption was 759 TBtu, which was 7.0% higher than 2012 levels. The residential sector accounted for 27.9% of total net energy consumption.
- Total net energy consumption in the commercial sector was 663 TBtu, or 24.7% of total net energy consumption. The sector's total energy use increased 5.4% above the 2012 level and sales of electricity in the sector increased by 0.4%.
- Industrial net energy consumption was 201 TBtu, or 7.4% of total net consumption. The sector's total energy use increased 6.1% from the 2012 level.
- Transportation energy consumption was 1,033 TBtu, or up 1.5% from 2012. The sector accounted for 40.0% of total net energy consumption in 2013.

New York State Primary Consumption of Energy by Fuel Type, 1999–2013

Figure 3-1

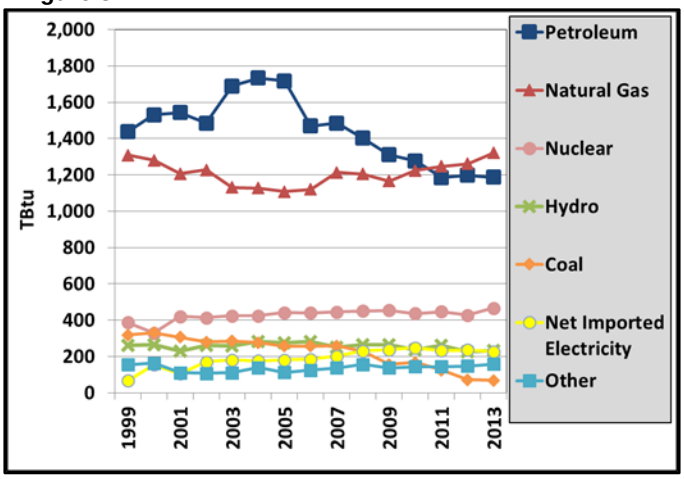


Table 3-1a. (in physical units)

Year	Coal	Natural Gas	Petroleum Products[1]	Hydro	Nuclear	Net Imported Electricity
	Mtons	Bcf	Mbbl	GWh	GWh	GWh
1999	12,187	1,274	260,213	26,810	37,019	6,904
2000	12,611	1,245	276,729	26,753	31,508	15,723
2001	11,784	1,172	279,045	23,152	40,395	10,628
2002	10,907	1,200	269,954	26,213	39,617	17,088
2003	11,313	1,102	303,848	25,798	40,679	18,163
2004	11,335	1,098	308,604	28,153	40,640	17,646
2005	10,739	1,080	306,040	27,583	42,443	18,115
2006	10,979	1,097	265,577	28,422	42,224	18,569
2007	11,058	1,187	268,768	25,557	42,453	20,708
2008	10,158	1,180	255,310	27,501	43,209	23,899
2009	7,032	1,143	238,927	27,945	43,485	25,009
2010	7,366	1,198	233,663	25,103	41,870	26,517
2011	5,603	1,217	217,813	28,355	42,695	25,201
2012	3,137	1,223	220,232	25,303	40,775	26,180
2013	3,041	1,279	218,639	26,397	44,756	25,694

Table 3-1b. (in trillion Btu)

Year	Coal	Natural Gas	Petroleum Products[1]	Hydro	Nuclear	Net Imported Electricity	Other[2]	Total[3]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	318.0	1,308.7	1,437.5	261.8	386.8	67.4	155.2	3,935.5
2000	330.8	1,279.7	1,530.0	264.3	328.6	155.4	164.5	4,053.3
2001	307.0	1,205.9	1,543.3	230.7	421.8	105.9	110.4	3,925.1
2002	280.6	1,227.2	1,485.7	260.8	413.7	170.0	107.1	3,945.2
2003	286.2	1,131.4	1,688.5	257.1	424.0	181.0	111.8	4,079.9
2004	276.5	1,126.6	1,732.9	281.6	423.8	176.5	139.6	4,157.6
2005	256.9	1,107.2	1,717.3	276.4	442.9	181.5	113.3	4,095.6
2006	256.3	1,120.2	1,468.9	282.4	440.6	184.5	125.0	3,878.0
2007	258.5	1,214.4	1,484.5	250.1	445.3	202.7	137.0	3,992.4
2008	229.0	1,205.1	1,402.2	265.3	451.6	230.6	157.6	3,941.5
2009	156.0	1,166.6	1,310.0	265.8	454.8	237.8	137.5	3,728.5
2010	167.1	1,224.5	1,277.5	235.7	437.6	248.9	144.7	3,735.9
2011	125.2	1,247.8	1,185.1	260.7	446.8	231.7	143.9	3,641.1
2012	72.9	1,261.0	1,197.9	228.0	427.3	235.9	147.6	3,570.6
2013	68.7	1,321.6	1,187.7	233.6	467.7	227.4	158.9	3,665.5

1 Includes petroleum coke used for electric generation.
2 Includes primarily wood, wind, waste, landfill gas, solar, geothermal, and ethanol; ethanol values are embedded in motor gasoline but are excluded from the petroleum products total.
3 Excludes nonfuel uses.

New York State Primary Consumption of Refined Petroleum Products, 1999–2013

Figure 3-2

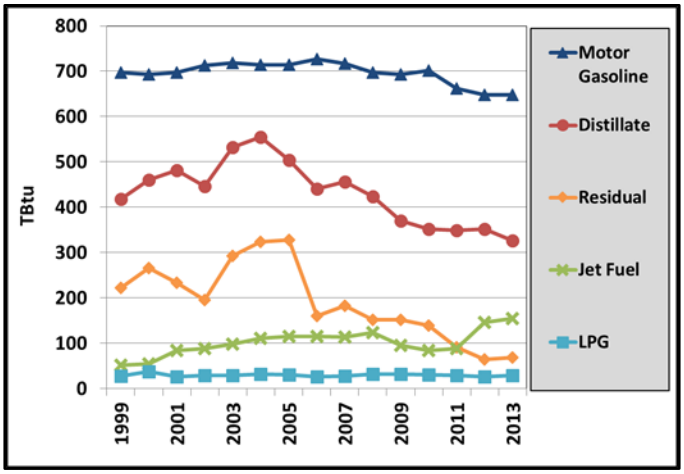


Table 3-2a. (in thousand barrels)

Year	Distillate[1]	Residual	Kerosene	LPG	Motor Gasoline	Jet Fuel[2]	Total[3]
	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl
1999	71,969	35,352	3,086	7,316	133,621	9,206	260,213
2000	79,038	42,349	3,443	9,850	132,831	9,591	276,729
2001	82,878	37,090	3,444	7,111	133,724	14,904	279,045
2002	76,684	31,110	2,373	7,613	136,664	15,603	269,954
2003	91,549	46,578	3,195	7,771	138,010	17,286	303,848
2004	95,300	51,469	3,182	8,639	137,391	19,526	308,604
2005	86,630	52,151	3,632	8,261	137,355	20,291	306,040
2006	75,872	25,526	2,579	7,153	140,020	20,366	265,577
2007	78,850	28,975	1,777	7,346	139,140	20,162	268,768
2008	73,289	24,203	830	8,536	136,105	21,812	255,310
2009	64,154	24,060	1,218	8,344	135,921	16,790	238,927
2010	60,987	22,233	1,701	8,152	138,087	14,808	233,663
2011	60,438	14,517	1,058	7,680	130,718	15,497	217,813
2012	61,030	10,262	569	6,982	127,902	25,864	220,232
2013	56,594	11,032	506	7,784	127,924	27,337	218,639

Table 3-2b. (in trillion Btu)

Year	Distillate[1]	Residual	Kerosene	LPG	Motor Gasoline	Jet Fuel[2]	Total[3]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	418.8	222.3	17.5	27.6	696.6	52.1	1437.5
2000	459.9	266.2	19.5	37.1	692.6	54.3	1530.0
2001	482.3	233.2	19.5	26.8	697.2	84.3	1543.3
2002	446.2	195.6	13.5	28.9	712.2	88.4	1485.7
2003	532.7	292.8	18.1	29.4	718.1	98.0	1688.5
2004	554.5	323.6	18.0	32.7	714.6	110.6	1732.9
2005	504.0	327.9	20.6	31.0	714.0	114.9	1717.3
2006	440.3	160.5	14.6	26.9	726.8	115.5	1468.9
2007	456.1	182.2	10.1	27.8	717.3	114.2	1484.5
2008	423.6	152.2	4.7	32.5	697.7	123.6	1402.2
2009	370.9	151.3	6.9	31.8	693.3	95.2	1310.0
2010	352.4	139.8	9.6	31.1	701.2	83.9	1277.5
2011	349.1	91.3	6.0	29.3	662.5	87.8	1185.1
2012	352.4	64.5	3.2	26.5	647.6	146.6	1197.9
2013	326.8	69.4	2.9	29.6	647.6	155.0	1187.7

1 Distillate consumption estimates include biodiesel blended into diesel fuel.
2 Kerosene-type jet fuel and aviation gasoline.
3 Includes petroleum coke used for electric generation. Ethanol values are embedded in motor gasoline but are excluded from the petroleum products total.

New York State Primary Consumption of Energy by Sector, 1999–2013

Figure 3-3

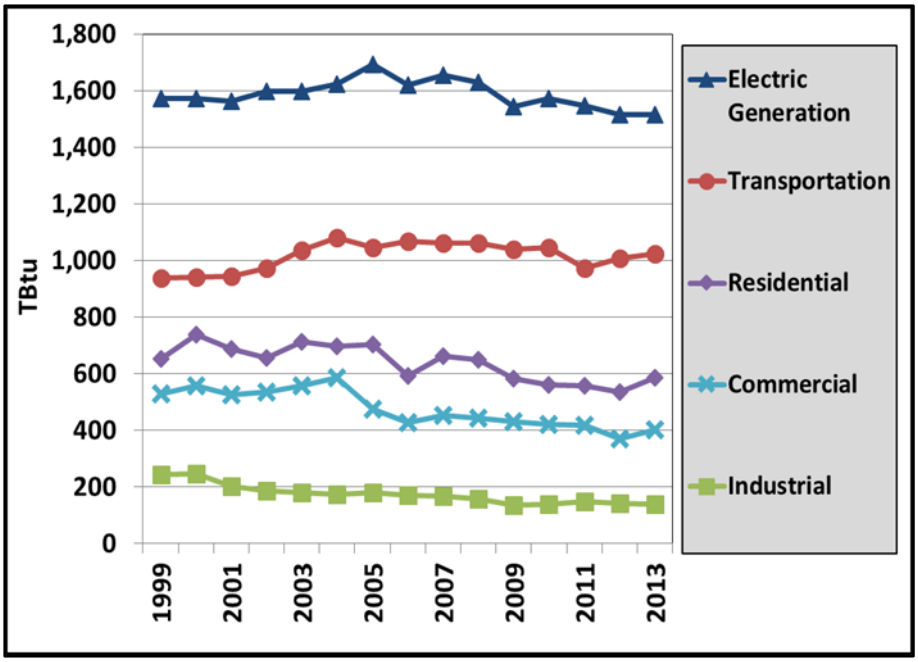


Table 3-3. (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Electric Generation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	653.7	528.0	244.1	936.7	1,573.1	3,935.5
2000	736.7	557.2	246.6	941.5	1,571.3	4,053.3
2001	687.3	526.8	202.3	944.9	1,563.7	3,925.1
2002	655.4	535.2	185.4	971.6	1,597.7	3,945.2
2003	712.0	555.9	179.3	1,036.6	1,596.2	4,079.9
2004	695.7	584.8	174.4	1,079.9	1,622.8	4,157.6
2005	702.9	474.9	180.8	1,044.1	1,692.9	4,095.6
2006	592.2	426.3	170.7	1,068.8	1,619.9	3,878.0
2007	661.0	451.5	165.9	1,060.7	1,653.3	3,992.4
2008	648.8	442.8	158.1	1,062.4	1,629.4	3,941.5
2009	583.5	430.0	134.6	1,038.5	1,541.9	3,728.5
2010	561.6	420.4	139.5	1,044.1	1,570.4	3,735.9
2011	556.9	416.5	149.7	971.6	1,546.5	3,641.1
2012	536.3	369.5	142.4	1,008.1	1,514.2	3,570.6
2013	586.0	402.3	139.6	1,022.9	1,514.6	3,665.5

New York State Primary Consumption of Energy for Electric Generation, 1999–2013

Figure 3-4

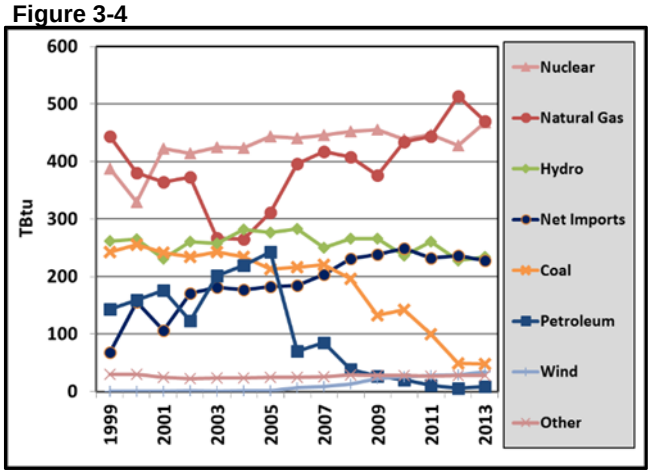


Table 3-4a. (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Total Petroleum[2]	Conventional Hydro	Pumped Storage Hydro	Nuclear	Net Imported Electricity	Wind	Other
	Mtons	Bcf	Mbbl	Mbbl	Mbbl	GWh	GWh	GWh	GWh	GWh	GWh
1999	9,265	433	2,207	20,697	22,905	24,752	2,058	37,019	6,904	0	2,950
2000	9,763	373	2,352	23,056	25,409	24,910	1,843	31,508	15,723	10	2,958
2001	9,258	357	3,010	25,184	28,194	21,486	1,666	40,395	10,628	21	2,404
2002	9,154	366	2,229	17,473	19,702	24,612	1,601	39,617	17,088	82	2,282
2003	9,646	261	2,410	29,821	32,230	24,207	1,591	40,679	18,163	41	2,302
2004	9,702	259	1,740	33,236	34,977	26,745	1,408	40,640	17,646	116	2,303
2005	9,069	304	1,574	37,320	38,894	26,204	1,379	42,443	18,115	103	2,481
2006	9,417	388	622	10,614	11,236	27,110	1,312	42,224	18,569	655	2,488
2007	9,613	408	1,372	12,224	13,596	24,184	1,373	42,453	20,708	833	2,555
2008	8,885	399	809	4,935	6,106	25,711	1,790	43,209	23,899	1,251	2,996
2009	6,108	368	736	3,261	4,296	26,420	1,525	43,485	25,009	2,266	2,888
2010	6,384	425	637	1,790	3,340	24,214	889	41,870	26,517	2,596	2,916
2011	4,591	434	331	1,026	1,826	27,634	721	42,695	25,201	2,828	2,830
2012	2,228	499	392	459	851	24,572	731	40,775	26,180	2,992	2,998
2013	2,225	456	503	882	1,385	25,631	766	44,756	25,694	3,539	3,070

Table 3-4b. (in trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Residual	Total Petroleum[2]	Hydro[3]	Nuclear	Net Imports[3]	Wind	Other[3,4]	Total[5]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	241.8	443.0	12.8	126.1	142.8	261.8	386.8	67.4	0.0	29.4	1573.1
2000	254.8	380.1	13.7	143.3	158.6	264.3	328.6	155.4	0.1	29.5	1571.3
2001	241.1	364.1	17.5	158.1	175.8	230.7	421.8	105.9	0.2	24.0	1563.7
2002	234.3	372.5	13.0	108.4	122.8	260.8	413.7	170.0	0.8	22.7	1597.7
2003	242.1	267.1	14.0	186.3	201.5	257.1	424.0	181.0	0.4	22.9	1596.2
2004	233.6	264.2	10.1	205.7	218.8	281.6	423.8	176.5	1.2	23.0	1622.8
2005	213.0	310.6	9.2	220.4	242.5	276.4	442.9	181.5	1.0	24.9	1692.9
2006	215.8	395.5	3.6	61.3	69.9	282.4	440.6	184.5	6.5	24.7	1619.9
2007	220.6	416.9	7.9	73.7	84.5	250.1	445.3	202.7	8.2	25.0	1653.3
2008	195.6	407.3	4.7	31.0	37.8	265.3	451.6	230.6	12.3	28.9	1629.4
2009	131.8	375.6	4.3	20.5	26.5	265.8	454.8	237.8	22.1	27.5	1541.9
2010	141.6	433.7	3.7	11.3	20.2	235.7	437.6	248.9	25.3	27.4	1570.4
2011	99.2	443.6	1.9	6.4	11.0	260.7	446.8	231.7	27.5	26.0	1546.5
2012	48.7	513.6	2.3	2.9	5.2	228.0	427.3	235.9	28.4	27.0	1514.2
2013	47.2	469.5	2.9	5.5	8.5	233.6	467.7	227.4	33.7	27.2	1514.6

1 Includes small quantities of kerosene-type jet fuel.
2 Includes petroleum coke used for electric generation.
3 Converts to TBtu by applying a 3-year statewide weighted average annual heat rate for fossil-fueled power plants.
4 Includes primarily waste, methane, wood, and solar. See Table 3-5 for a breakout of energy output.
5 Excludes utility consumption of fuels used in the production of steam distributed for space heating.

New York State Electric Generation by Fuel Type, 1999–2013

Figure 3-5

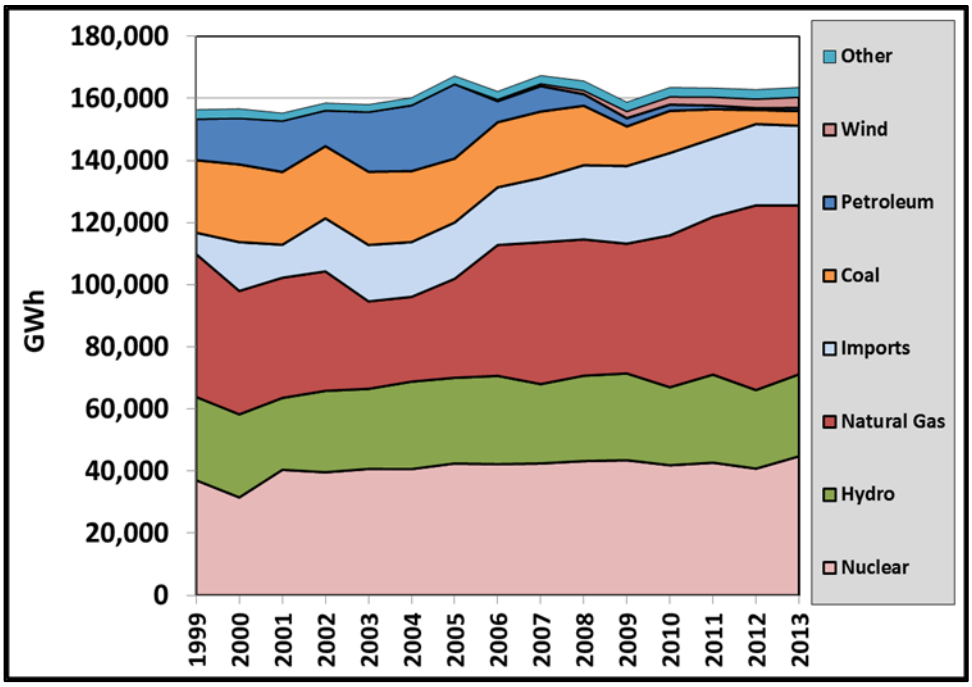


Table 3-5. (in gigawatt-hours)

Year	Coal	Natural Gas	Petroleum Products	Conv. Hydro	PS Hydro	Nuclear	Net Imports	Other[1,2]			Wind	Solar[3]	Total
								Waste	LFG	Wood			
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
1999	23,366	45,999	13,304	24,752	2,058	37,019	6,904	2,950			0	0	156,352
2000	25,010	39,729	14,945	24,910	1,843	31,508	15,723	2,958			10	0	156,636
2001	23,432	38,697	16,512	21,486	1,666	40,395	10,628	1,837	284	283	21	0	155,241
2002	23,239	38,451	11,534	24,612	1,601	39,617	17,088	1,878	198	206	82	0	158,507
2003	23,581	28,156	19,292	24,207	1,591	40,679	18,163	1,905	205	192	41	0	158,012
2004	22,853	27,294	21,205	26,745	1,408	40,640	17,646	1,883	209	211	116	0	160,211
2005	20,598	31,873	24,013	26,204	1,379	42,443	18,115	1,899	329	253	103	0	167,208
2006	20,968	42,134	6,778	27,110	1,312	42,224	18,569	1,902	326	260	655	0	162,238
2007	21,406	45,634	8,195	24,184	1,373	42,453	20,708	1,902	397	256	833	0	167,341
2008	19,154	43,856	3,745	25,711	1,790	43,209	23,899	1,903	533	560	1,251	0	165,612
2009	12,759	41,780	2,648	26,420	1,525	43,485	25,009	1,900	648	340	2,266	0	158,780
2010	13,583	48,916	2,005	24,214	889	41,870	26,517	1,893	708	315	2,596	0	163,505
2011	9,426	50,805	1,189	27,634	721	42,695	25,201	1,878	735	210	2,828	7	163,329
2012	4,551	59,462	580	24,572	731	40,775	26,180	1,897	736	311	2,992	53	162,840
2013	4,697	54,354	1,007	25,631	766	44,756	25,694	1,799	828	377	3,539	67	163,514

1 Includes primarily waste, landfill gas and wood.
2 Data for disaggregation prior to 2001 are not available.
3 Solar powered electric generation is utility-scale solar electric and does not include customer-sited solar electric energy.

New York State
Fossil Fuel[1] for Electric Generation Trends, 1999–2013

Figure 3-6a. Fossil Fuel Used per kWh of in-State Generation

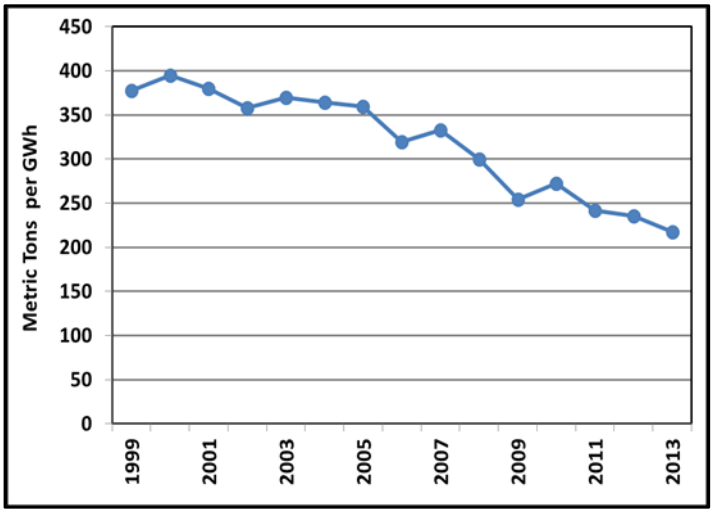


Figure 3-6b. Metric Tons Emitted of CO_2 Equivalent per GWh of in-State Generation

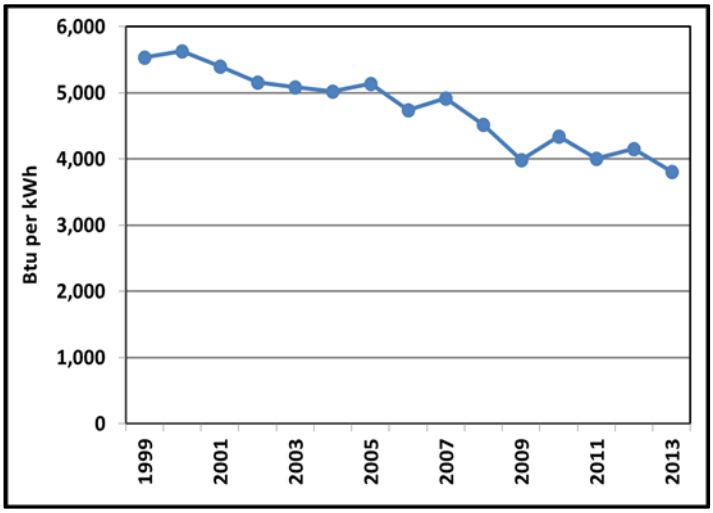


Table 3-6. Fossil Fuel Use for Electricity Trends

Year	Total Fossil Fuel Use	Fossil Fuel per kWh of in-State Generation	CO_2 Emitted per GWh of in-State Generation
	TBtu	Btu	Metric Tons of CO_{2e}
1999	828	5,538	378
2000	793	5,631	395
2001	781	5,401	380
2002	730	5,159	358
2003	711	5,082	370
2004	717	5,026	365
2005	766	5,139	359
2006	681	4,741	320
2007	722	4,924	333
2008	641	4,521	300
2009	534	3,991	254
2010	595	4,347	272
2011	554	4,009	242
2012	568	4,153	235
2013	525	3,810	217

[1] Fossil Fuel includes natural gas, coal, and all petroleum products used for electric generation.

New York State Sales of Electricity to Ultimate Consumers, 1999–2013

Figure 3-7

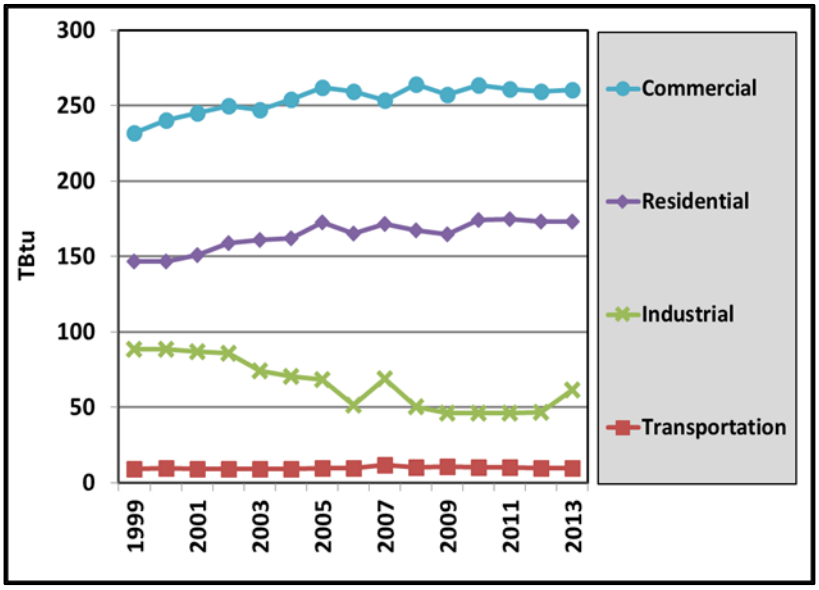


Table 3-7a. (in gigawatt-hours)

Year	Residential	Commercial	Industrial	Transportation	Total
	GWh	GWh	GWh	GWh	GWh
1999	42,919	67,969	25,835	2,654	139,378
2000	43,018	70,417	25,838	2,753	142,027
2001	44,236	71,850	25,450	2,646	144,181
2002	46,457	73,198	25,148	2,637	147,440
2003	47,116	72,495	21,745	2,689	144,045
2004	47,379	74,378	20,675	2,650	145,082
2005	50,533	76,822	19,947	2,846	150,148
2006	48,427	76,029	14,976	2,806	142,238
2007	50,241	74,326	20,213	3,397	148,178
2008	49,034	77,416	14,685	2,918	144,053
2009	48,246	75,347	13,417	3,025	140,034
2010	50,946	77,276	13,480	2,922	144,624
2011	51,240	76,406	13,420	2,981	144,047
2012	50,692	76,018	13,705	2,748	143,163
2013	50,778	76,342	17,911	2,864	147,895

Table 3-7b. (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu
1999	146.4	231.9	88.2	9.1	475.6
2000	146.8	240.3	88.2	9.4	484.6
2001	150.9	245.2	86.8	9.0	491.9
2002	158.5	249.8	85.8	9.0	503.1
2003	160.8	247.4	74.2	9.2	491.5
2004	161.7	253.8	70.5	9.0	495.0
2005	172.4	262.1	68.1	9.7	512.3
2006	165.2	259.4	51.1	9.6	485.3
2007	171.4	253.6	69.0	11.6	505.6
2008	167.3	264.1	50.1	10.0	491.5
2009	164.6	257.1	45.8	10.3	477.8
2010	173.8	263.7	46.0	10.0	493.5
2011	174.8	260.7	45.8	10.2	491.5
2012	173.0	259.4	46.8	9.4	488.5
2013	173.3	260.5	61.1	9.8	504.6

New York State Net Consumption of Energy by Sector, 1999–2013

Figure 3-8

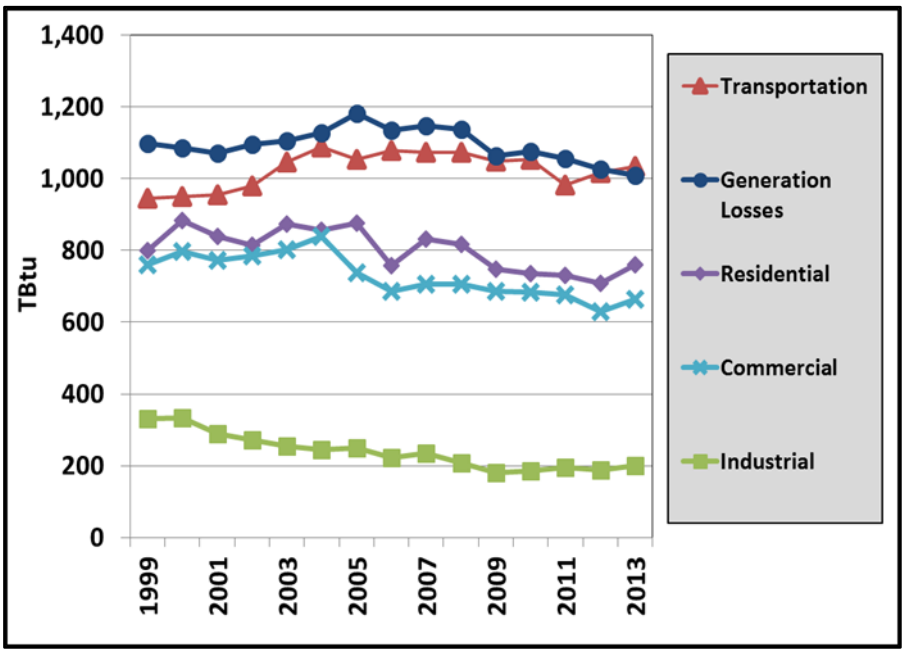


Table 3-8. (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Net Consumption	Generation Losses[1]	Primary Consumption
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	800.1	759.9	332.3	945.7	2,838.0	1,097.5	3,935.5
2000	883.5	797.5	334.7	950.9	2,966.6	1,086.7	4,053.3
2001	838.2	772.0	289.1	953.9	2,853.3	1,071.8	3,925.1
2002	813.9	785.0	271.2	980.6	2,850.6	1,094.6	3,945.2
2003	872.8	803.2	253.5	1,045.7	2,975.2	1,104.7	4,079.9
2004	857.4	838.6	244.9	1,088.9	3,029.8	1,127.8	4,157.6
2005	875.3	737.0	248.9	1,053.8	2,915.0	1,180.6	4,095.6
2006	757.5	685.8	221.8	1,078.4	2,743.5	1,134.6	3,878.0
2007	832.4	705.1	234.9	1,072.2	2,844.7	1,147.7	3,992.4
2008	816.1	706.9	208.2	1,072.4	2,803.6	1,137.9	3,941.5
2009	748.1	687.1	180.4	1,048.8	2,664.4	1,064.1	3,728.5
2010	735.5	684.0	185.5	1,054.0	2,659.0	1,076.9	3,735.9
2011	731.8	677.2	195.5	981.7	2,586.1	1,055.0	3,641.1
2012	709.3	628.9	189.2	1,017.5	2,544.9	1,025.7	3,570.6
2013	759.3	662.8	200.7	1,032.7	2,655.5	1,010.0	3,665.5

[1] Conversion and transmission losses.

New York State
Net Residential Consumption of Energy by Fuel Type
1999–2013

Figure 3-9

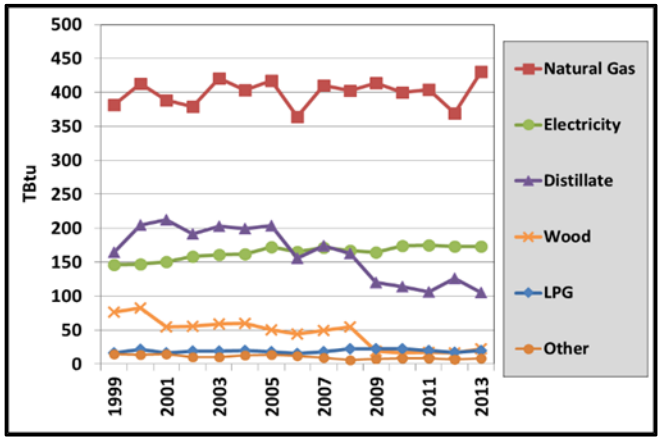


Table 3-9a. (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Kerosene	LPG	Total Petroleum	Wood	Electricity
	Mtons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1999	22	371	28,347	2,327	4,299	34,973	3,832	42,919
2000	11	400	35,229	2,344	5,693	43,266	4,127	43,018
2001	13	376	36,502	2,390	4,306	43,198	2,755	44,236
2002	5	370	32,893	1,642	4,987	39,522	2,796	46,457
2003	11	410	34,876	1,639	4,933	41,448	2,943	47,116
2004	16	393	34,262	2,065	5,119	41,446	3,017	47,379
2005	13	406	35,054	2,203	4,661	41,918	2,518	50,533
2006	13	356	26,797	1,803	4,155	32,755	2,233	48,427
2007	13	400	30,101	1,318	4,771	36,190	2,468	50,241
2008	0	394	28,139	661	5,885	34,685	2,762	49,034
2009	0	405	20,755	973	5,940	27,668	967	48,246
2010	0	390	19,781	999	5,792	26,572	844	50,946
2011	0	394	18,454	726	5,296	24,476	864	51,240
2012	0	358	21,943	365	4,455	26,763	806	50,692
2013	0	416	18,199	394	5,135	23,728	1,113	50,778

Table 3-9b. (in trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Kerosene	LPG	Total Petroleum	Wood	Electricity	Solar/ Geothermal[2]	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	0.6	381.3	165.0	13.2	16.5	194.6	76.6	146.4	0.6	800.1
2000	0.3	413.1	205.0	13.3	21.8	240.1	82.5	146.8	0.6	883.5
2001	0.3	388.8	212.4	13.6	16.5	242.5	55.1	150.9	0.6	838.2
2002	0.1	378.8	191.4	9.3	19.1	219.8	55.9	158.5	0.6	813.9
2003	0.3	421.0	202.9	9.3	18.9	231.2	58.9	160.8	0.7	872.8
2004	0.4	403.5	199.3	11.7	19.6	230.7	60.3	161.7	0.8	857.4
2005	0.3	416.9	203.9	12.5	17.9	234.3	50.4	172.4	1.0	875.3
2006	0.3	364.3	155.5	10.2	15.9	181.7	44.7	165.2	1.3	757.5
2007	0.3	409.9	174.1	7.5	18.3	199.9	49.4	171.4	1.5	832.4
2008	0.0	402.7	162.6	3.7	22.6	189.0	55.2	167.3	1.9	816.1
2009	0.0	413.6	120.0	5.5	22.8	148.3	19.3	164.6	2.2	748.1
2010	0.0	399.7	114.3	5.7	22.2	142.2	16.9	173.8	2.9	735.5
2011	0.0	404.3	106.6	4.1	20.3	131.0	17.3	174.8	4.3	731.8
2012	0.0	369.2	126.7	2.1	17.1	145.9	16.1	173.0	5.1	709.3
2013	0.0	430.6	105.1	2.2	19.7	127.0	22.3	173.3	6.1	759.3

[1] Distillate consumption estimates include biodiesel blended into diesel fuel.
[2] Includes solar electric and thermal energy. Residential sector solar estimates include small quantities consumed by the commercial sector.

New York State
Net Commercial Consumption of Energy by Fuel Type, 1999–2013

Figure 3-10

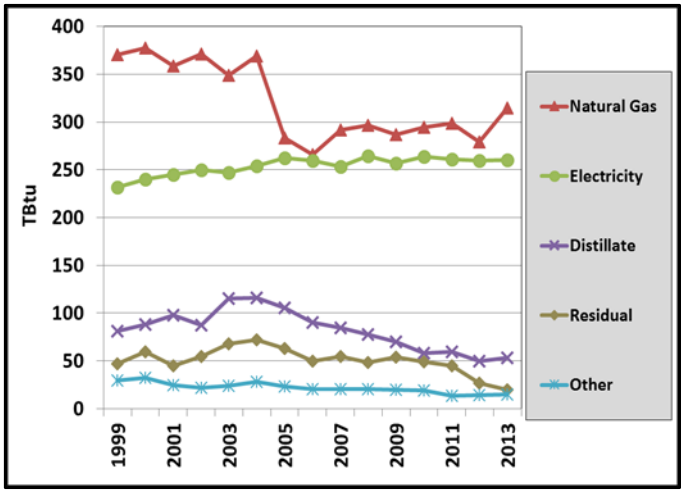


Table 3-10a. (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Electricity
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1999	158	360	13,946	7,439	682	1,220	23,287	645	67,969
2000	90	366	15,128	9,429	948	1,615	27,120	690	70,417
2001	102	347	16,865	7,193	874	1,221	26,153	485	71,850
2002	40	362	15,032	8,678	493	1,415	25,618	496	73,198
2003	73	339	19,782	10,784	665	1,408	32,639	517	72,495
2004	145	359	19,907	11,441	745	1,893	33,986	505	74,378
2005	147	276	18,086	10,066	759	1,108	30,019	404	76,822
2006	127	260	15,602	7,941	354	1,145	25,042	375	76,029
2007	119	285	14,606	8,723	244	1,276	24,849	398	74,326
2008	68	290	13,447	7,685	128	1,641	22,901	420	77,416
2009	22	281	12,062	8,571	169	1,724	22,526	137	75,347
2010	3	287	10,050	7,835	154	1,720	19,759	135	77,276
2011	4	291	10,310	7,089	168	1,851	19,418	130	76,406
2012	0	270	8,602	4,237	60	1,581	14,480	114	76,018
2013	0	304	9,223	3,139	28	1,721	14,111	132	76,342

Table 3-10b. (in trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Waste	Electricity	Geothermal	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	4.0	370.4	81.2	46.8	3.9	4.7	136.5	12.9	3.9	231.9	0.2	759.9
2000	2.3	377.7	88.0	59.3	5.4	6.2	158.9	13.8	4.3	240.3	0.2	797.5
2001	2.5	358.9	98.1	45.2	5.0	4.7	153.0	9.7	2.5	245.2	0.3	772.0
2002	1.0	371.3	87.5	54.6	2.8	5.4	150.3	9.9	2.5	249.8	0.3	785.0
2003	1.8	348.8	115.1	67.8	3.8	5.4	192.1	10.3	2.4	247.4	0.4	803.2
2004	3.6	368.9	115.8	71.9	4.2	7.3	199.2	10.1	2.5	253.8	0.4	838.6
2005	3.7	283.0	105.2	63.3	4.3	4.2	177.1	8.1	2.6	262.1	0.5	737.0
2006	3.2	265.7	90.5	49.9	2.0	4.4	146.9	7.5	2.6	259.4	0.5	685.8
2007	3.0	291.9	84.5	54.8	1.4	4.9	145.6	8.0	2.5	253.6	0.6	705.1
2008	1.7	296.4	77.7	48.3	0.7	6.3	133.1	8.4	2.5	264.1	0.6	706.9
2009	0.6	286.8	69.7	53.9	1.0	6.6	131.2	2.7	2.3	257.1	0.7	687.1
2010	0.1	294.1	58.1	49.3	0.9	6.6	114.8	2.7	2.3	263.7	0.8	684.0
2011	0.1	298.9	59.6	44.6	1.0	7.1	112.2	2.6	2.1	260.7	0.6	677.2
2012	0.0	278.9	49.7	26.6	0.3	6.1	82.7	2.3	4.9	259.4	0.8	628.9
2013	0.0	314.3	53.3	19.7	0.2	6.6	79.7	2.6	4.9	260.5	0.8	662.8

[1] Distillate consumption estimates include biodiesel blended into diesel fuel.

New York State Net Industrial Consumption of Energy by Fuel Type, 1999–2013

Figure 3-11

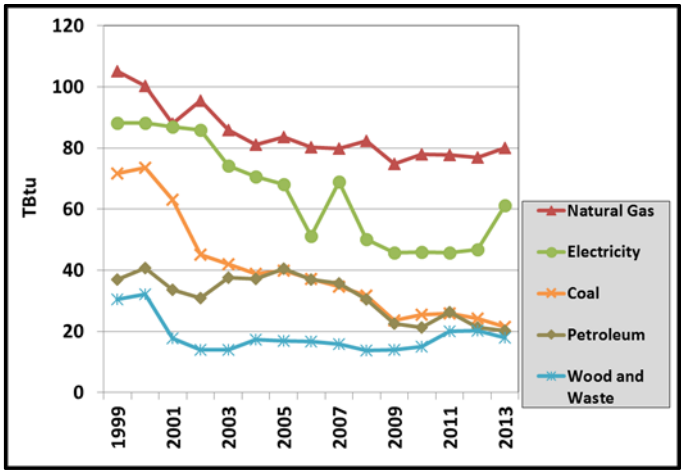


Table 3-11a. (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Electricity
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1999	2,742	102	3,441	1,623	77	1,772	6,913	1,451	25,835
2000	2,747	97	3,285	2,005	151	2,308	7,749	1,544	25,838
2001	2,411	85	2,981	1,544	180	1,559	6,264	858	25,450
2002	1,708	93	2,889	1,362	238	1,145	5,634	676	25,148
2003	1,583	84	3,050	1,584	891	1,375	6,900	669	21,745
2004	1,472	79	3,481	1,483	372	1,561	6,897	837	20,675
2005	1,510	81	3,371	1,337	670	2,417	7,795	822	19,947
2006	1,422	78	3,463	1,301	422	1,754	6,940	771	14,976
2007	1,313	78	3,625	1,461	215	1,243	6,544	735	20,213
2008	1,205	81	3,409	1,247	41	753	5,450	613	14,685
2009	902	73	2,931	485	76	583	4,075	578	13,417
2010	979	76	2,274	514	548	502	3,838	637	13,480
2011	1,008	76	2,809	1,244	164	353	4,570	706	13,420
2012	909	75	2,502	578	144	656	3,880	744	13,705
2013	816	77	2,274	711	84	639	3,708	640	17,911

Table 3-11b. (in trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Waste	Electricity	Total[2,3]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	71.6	105.2	20.0	10.2	0.4	6.3	37.0	29.0	1.4	88.2	332.3
2000	73.5	100.2	19.1	12.6	0.9	8.2	40.7	30.9	1.2	88.2	334.7
2001	63.1	87.9	17.3	9.7	1.0	5.5	33.6	17.2	0.6	86.8	289.1
2002	45.2	95.4	16.8	8.6	1.4	4.1	30.8	13.5	0.5	85.8	271.2
2003	41.9	85.8	17.7	10.0	5.0	4.9	37.6	13.4	0.5	74.2	253.5
2004	38.9	81.1	20.3	9.3	2.1	5.5	37.2	16.7	0.5	70.5	244.9
2005	39.9	83.6	19.6	8.4	3.8	8.6	40.4	16.4	0.5	68.1	248.9
2006	37.1	80.2	20.1	8.2	2.4	6.2	36.9	15.4	1.2	51.1	221.8
2007	34.6	79.8	21.0	9.2	1.2	4.4	35.8	14.7	1.3	69.0	234.9
2008	31.6	82.4	19.7	7.8	0.2	2.6	30.4	12.3	1.3	50.1	208.2
2009	23.6	74.8	16.9	3.0	0.4	2.0	22.4	11.6	1.5	45.8	180.4
2010	25.4	77.8	13.1	3.2	3.1	1.7	21.2	12.7	1.5	46.0	185.5
2011	25.9	77.7	16.2	7.8	0.9	1.2	26.2	14.1	5.8	45.8	195.5
2012	24.2	77.0	14.4	3.6	0.8	2.3	21.2	14.9	5.2	46.8	189.2
2013	21.6	79.9	13.1	4.5	0.5	2.2	20.3	12.8	5.0	61.1	200.7

1 Distillate consumption estimates include biodiesel blended into diesel fuel.
2 Excludes nonfuel uses (e.g., feedstock).
3 Includes fuels used by industry to generate electricity and process steam.

New York State
Net Transportation Consumption of Energy by Fuel Type, 1999–2013

Figure 3-12

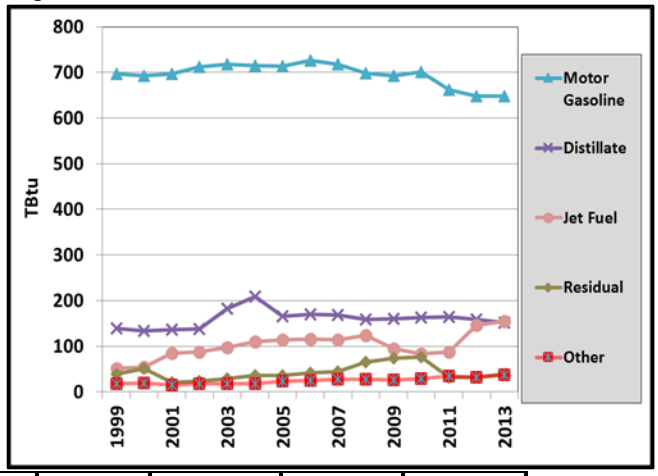


Table 3-12a. (in physical units)

Year	Natural Gas	Distillate[1]	Residual	Motor Gasoline	Jet Fuel[2]	LPG	Total Petroleum	Ethanol	Electricity
	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	GWh
1999	9	24,028	6,237	133,621	9,206	25	172,779	338	2,654
2000	8	23,044	8,126	132,831	9,591	234	173,452	374	2,753
2001	6	23,520	3,207	133,724	14,904	25	175,274	106	2,646
2002	9	23,641	3,826	136,664	15,603	66	179,707	93	2,637
2003	8	31,431	4,583	138,010	17,286	55	190,825	540	2,689
2004	9	35,910	5,823	137,391	19,526	66	191,812	6,904	2,650
2005	13	28,545	5,684	137,355	20,291	75	189,670	2,280	2,846
2006	14	29,388	6,530	140,020	20,366	99	190,464	5,939	2,806
2007	16	29,146	7,063	139,140	20,162	56	188,085	7,482	3,397
2008	16	27,485	10,336	136,105	21,812	257	186,168	9,827	2,918
2009	15	27,670	11,743	135,921	16,790	97	180,362	11,859	3,025
2010	19	28,245	12,094	138,087	14,808	138	180,154	13,218	2,922
2011	23	28,534	5,158	130,718	15,497	180	167,523	12,564	2,981
2012	21	27,591	4,988	127,902	25,864	290	174,258	12,377	2,748
2013	26	26,395	6,300	127,924	27,337	289	175,707	12,538	2,864

Table 3-12b. (in trillion Btu)

Year	Natural Gas	Distillate[1]	Residual	Motor Gasoline	Jet Fuel[2]	LPG	Total Petroleum	Ethanol[3]	Electricity	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	8.8	139.8	39.2	696.6	52.1	0.1	926.7	1.2	9.1	945.7
2000	8.5	134.1	51.1	692.6	54.3	0.9	931.7	1.3	9.4	950.9
2001	6.2	136.9	20.2	697.2	84.3	0.1	938.3	0.4	9.0	953.9
2002	9.2	137.6	24.1	712.2	88.4	0.3	962.1	0.3	9.0	980.6
2003	8.6	182.9	28.8	718.1	98.0	0.2	1,026.1	1.9	9.2	1,045.7
2004	8.9	208.9	36.6	714.6	110.6	0.3	1,047.0	23.9	9.0	1,088.9
2005	13.1	166.1	35.7	714.0	114.9	0.3	1,023.0	7.9	9.7	1,053.8
2006	14.5	170.5	41.1	726.8	115.5	0.4	1,033.7	20.6	9.6	1,078.4
2007	16.0	168.6	44.4	717.3	114.2	0.2	1,018.8	25.9	11.6	1,072.2
2008	16.3	158.9	65.0	697.7	123.6	1.0	1,012.0	34.1	10.0	1,072.4
2009	15.8	160.0	73.8	693.3	95.2	0.4	981.6	41.1	10.3	1,048.8
2010	19.2	163.2	76.0	701.2	83.9	0.5	979.1	45.8	10.0	1,054.0
2011	23.3	164.8	32.4	662.5	87.8	0.7	904.7	43.6	10.2	981.7
2012	22.2	159.3	31.4	647.6	146.6	1.1	943.0	42.9	9.4	1,017.5
2013	27.3	152.4	39.6	647.6	155.0	1.1	952.1	43.5	9.8	1,032.7

1 Distillate consumption estimates include biodiesel blended into diesel fuel.
2 Consists of aviation gasoline and kerosene-type jet fuel.
3 Ethanol values are embedded in motor gasoline but are excluded from the petroleum products total.

4 New York Energy Prices

This section presents data on retail energy prices for the 15-year period from 1999 through 2013. Energy prices are provided by fuel type in nominal dollars per physical unit and per million Btu for the residential, commercial, industrial, and transportation sectors.

This section includes a column in the price tables displaying gross domestic product (GDP) price deflators for converting nominal (current year) dollars into constant 2013 (real) dollars. To convert energy prices from nominal to constant 2013 dollars, divide the nominal energy price by the GDP price deflator for that particular year.

Historical petroleum, electricity, coal, and natural gas prices were compiled primarily from various reports from the U.S. Department of Energy's Energy Information Administration.

4.1 Key Observations about 2013 New York State Energy Price Data

- Residential sector statewide average nominal fuel prices:
  - Home heating oil decreased by 1.6% from an average $3.94 per gallon in 2012 to $3.88 in 2013.
  - Natural gas declined by 3.6% from an average $12.87 per thousand cubic feet in 2012 to $12.41 in 2013.
  - Electricity increased by 6.7% from 17.6¢ per kilowatt hour in 2012 to 18.8¢ in 2013.
- Commercial sector statewide average nominal fuel prices:
  - Distillate fuel prices averaged $3.44 per gallon in 2013, which was a 2.9% decrease from 2012 prices.
  - Residual oil prices averaged $105.87 per barrel in 2013, which was an 8.3% decrease from 2012 prices.
  - Electricity prices averaged 15.4¢ per kilowatt-hour, which was a 2.0% increase from 2012 prices.
  - Natural gas prices averaged $7.93 per thousand cubic feet, which was a 1.7% increase from 2012 prices.
- Industrial sector statewide average nominal fuel prices:
  - Residual oil prices averaged $105.87 per barrel in 2013, which was an 8.3% decrease from 2012 prices.
  - Natural gas prices averaged $7.39 per thousand cubic feet, which was a 7.6% increase from 2012 prices.
  - Electricity prices averaged 6.6¢ per kilowatt-hour, which was a 1.6% decrease compared to 2012 prices.
- The average retail price for all grades of gasoline was $3.55 per gallon, down $0.09 per gallon (2.6%) from the average price in 2012.

New York State Residential Energy Prices in Nominal Dollars, 1999–2013

Figure 4-1

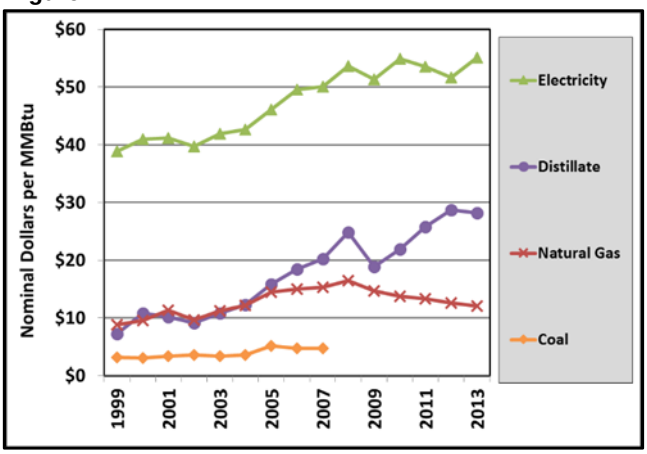


Table 4-1a. (in physical units)

Year	Coal	Distillate[1]	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2013=1
1999	76.65	100.72	73.58	114.08	9.12	13.27	0.715
2000	75.56	149.91	127.44	143.25	9.80	13.97	0.739
2001	85.19	141.73	117.99	150.58	11.70	14.04	0.760
2002	83.35	126.63	106.92	132.22	9.85	13.55	0.772
2003	76.07	149.49	134.60	151.73	11.61	14.31	0.790
2004	80.37	169.55	162.14	168.06	12.49	14.54	0.811
2005	115.73	219.14	214.92	188.07	14.92	15.72	0.838
2006	105.03	255.61	260.15	211.43	15.44	16.89	0.865
2007	105.05	278.09	289.85	244.32	15.77	17.10	0.890
2008	N/A	342.53	365.31	286.15	16.86	18.31	0.924
2009	N/A	260.42	281.21	259.39	15.10	17.50	0.921
2010	N/A	301.01	320.90	275.10	14.04	18.74	0.936
2011	N/A	354.95	379.76	312.45	13.64	18.26	0.966
2012	N/A	394.28	399.87	323.69	12.87	17.62	0.986
2013	N/A	387.96	400.68	318.39	12.41	18.79	1.000

Table 4-1b. (in $/million Btu)

Year	Coal	Distillate[1]	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2013=1
1999	3.21	7.27	5.45	13.25	8.87	38.90	0.715
2000	3.02	10.82	9.44	16.68	9.55	40.95	0.739
2001	3.42	10.23	8.74	17.50	11.37	41.14	0.760
2002	3.63	9.14	7.92	15.37	9.61	39.71	0.772
2003	3.42	10.79	9.97	17.56	11.28	41.94	0.790
2004	3.60	12.24	12.01	19.51	12.17	42.62	0.811
2005	5.18	15.82	15.92	21.82	14.51	46.08	0.838
2006	4.76	18.50	19.27	24.64	15.02	49.51	0.865
2007	4.76	20.19	21.47	26.75	15.36	50.11	0.890
2008	N/A	24.89	27.06	31.33	16.42	53.66	0.924
2009	N/A	18.92	20.83	28.40	14.73	51.29	0.921
2010	N/A	21.88	23.77	30.12	13.72	54.93	0.936
2011	N/A	25.81	28.13	34.21	13.35	53.52	0.966
2012	N/A	28.68	29.62	35.44	12.56	51.63	0.986
2013	N/A	28.22	29.68	34.86	12.07	55.08	1.000

[1] Home heating oil

[2] To convert prices to 2013 dollars, divide the selected price by the deflator factor in the same row.

New York State Commercial Energy Prices in Nominal Dollars, 1999–2013

Figure 4-2

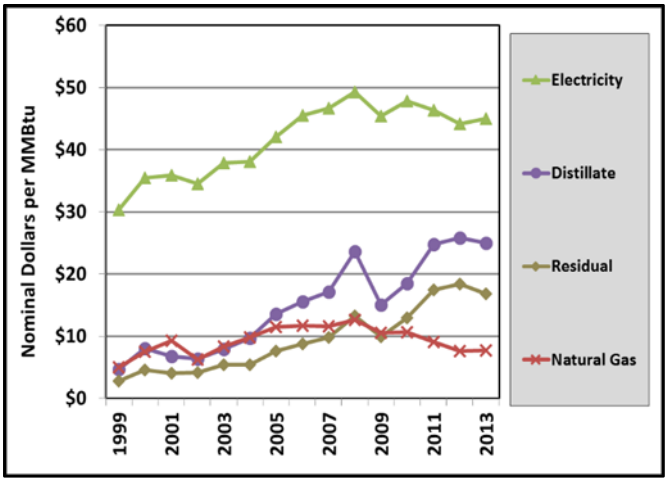


Table 4-2a. (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2013=1
1999	31.09	65.26	17.48	73.58	83.51	5.15	10.33	0.715
2000	37.12	110.28	28.92	127.44	106.66	7.73	12.10	0.739
2001	37.59	93.66	25.59	117.99	113.24	9.57	12.24	0.760
2002	44.55	88.39	25.90	106.92	101.68	6.42	11.79	0.772
2003	40.84	109.87	34.20	134.60	120.53	8.61	12.93	0.790
2004	43.39	134.78	33.70	162.14	134.47	10.10	12.98	0.811
2005	48.26	188.53	47.59	214.92	151.09	11.82	14.36	0.838
2006	66.82	215.40	55.26	260.15	166.73	11.98	15.51	0.865
2007	64.04	236.22	61.74	289.85	193.44	11.85	15.92	0.890
2008	104.18	324.51	83.43	365.31	233.36	12.93	16.79	0.924
2009	134.58	206.74	62.49	281.21	188.33	10.75	15.48	0.921
2010	137.13	254.51	81.10	320.90	215.82	10.87	16.31	0.936
2011	134.11	339.96	109.46	379.76	237.83	9.28	15.81	0.966
2012	N/A	354.28	115.43	399.87	220.48	7.79	15.06	0.986
2013	N/A	343.83	105.87	400.68	217.28	7.93	15.35	1.000

Table 4-2b. (in $/million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2013=1
1999	1.34	4.71	2.78	5.45	9.70	5.01	30.28	0.715
2000	1.60	7.96	4.60	9.44	12.42	7.53	35.46	0.739
2001	1.62	6.76	4.07	8.74	13.16	9.30	35.88	0.760
2002	1.92	6.38	4.12	7.92	11.82	6.26	34.55	0.772
2003	1.76	7.93	5.44	9.97	13.95	8.37	37.89	0.790
2004	1.87	9.73	5.36	12.01	15.61	9.84	38.04	0.811
2005	2.08	13.61	7.57	15.92	17.53	11.50	42.08	0.838
2006	2.88	15.59	8.79	19.27	19.43	11.65	45.46	0.865
2007	2.76	17.15	9.82	21.47	21.18	11.54	46.65	0.890
2008	4.49	23.58	13.27	27.06	25.55	12.59	49.22	0.924
2009	5.80	15.02	9.94	20.83	20.62	10.49	45.36	0.921
2010	5.91	18.50	12.90	23.77	23.63	10.63	47.79	0.936
2011	5.78	24.72	17.41	28.13	26.04	9.08	46.33	0.966
2012	N/A	25.77	18.36	29.62	24.14	7.60	44.13	0.986
2013	N/A	25.01	16.84	29.68	23.79	7.71	45.00	1.000

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1 Home heating oil

2 To convert prices to 2013 dollars, divide the selected price by the deflator factor in the same row.

New York State Industrial Energy Prices in Nominal Dollars, 1999–2013

Figure 4-3

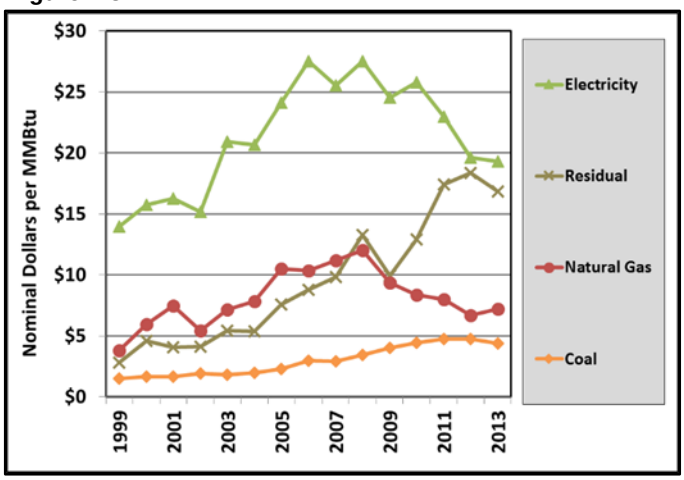

Table 4-3a. (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2013=1
1999	30.12	64.84	17.48	62.51	83.51	3.90	4.76	0.715
2000	33.43	105.30	28.92	111.51	108.81	6.10	5.37	0.739
2001	33.76	91.58	25.59	90.86	111.95	7.69	5.55	0.760
2002	38.86	88.53	25.90	81.41	105.90	5.54	5.18	0.772
2003	36.35	107.93	34.20	109.76	130.56	7.36	7.14	0.790
2004	39.16	127.44	33.70	137.97	147.39	8.04	7.04	0.811
2005	45.37	190.19	47.59	181.85	160.92	10.77	8.23	0.838
2006	59.20	218.86	55.26	213.17	177.71	10.62	9.39	0.865
2007	57.94	238.56	61.74	243.27	220.66	11.46	8.71	0.890
2008	67.81	327.12	83.43	306.86	264.41	12.37	9.39	0.924
2009	78.28	197.66	62.49	204.39	217.46	9.55	8.37	0.921
2010	87.13	263.59	81.10	251.24	249.07	8.54	8.79	0.936
2011	91.68	324.42	109.46	331.56	278.57	8.15	7.83	0.966
2012	90.87	341.77	115.43	346.55	273.09	6.87	6.69	0.986
2013	83.79	332.01	105.87	351.41	267.88	7.39	6.59	1.000

Table 4-3b. (in $/million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2013=1
1999	1.47	4.68	2.78	4.63	9.70	3.79	13.96	0.715
2000	1.63	7.60	4.60	8.26	12.67	5.95	15.75	0.739
2001	1.66	6.61	4.07	6.73	13.01	7.47	16.28	0.760
2002	1.92	6.39	4.12	6.03	12.31	5.40	15.17	0.772
2003	1.81	7.79	5.44	8.13	15.11	7.15	20.92	0.790
2004	1.96	9.20	5.36	10.22	17.11	7.84	20.63	0.811
2005	2.27	13.73	7.57	13.47	18.67	10.48	24.11	0.838
2006	2.97	15.84	8.79	15.79	20.71	10.33	27.53	0.865
2007	2.91	17.32	9.82	18.02	24.16	11.16	25.53	0.890
2008	3.44	23.77	13.27	22.73	28.95	12.04	27.53	0.924
2009	4.01	14.36	9.94	15.14	23.81	9.32	24.54	0.921
2010	4.44	19.16	12.90	18.61	27.27	8.35	25.76	0.936
2011	4.74	23.59	17.41	24.56	30.50	7.97	22.96	0.966
2012	4.73	24.86	18.36	25.67	29.90	6.70	19.62	0.986
2013	4.37	24.15	16.84	26.03	29.33	7.19	19.30	1.000

[1] Home heating oil
[2] To convert prices to 2013 dollars, divide the selected price by the deflator factor in the same row.

New York State Transportation Energy Prices in Nominal Dollars, 1999–2013

Figure 4-4

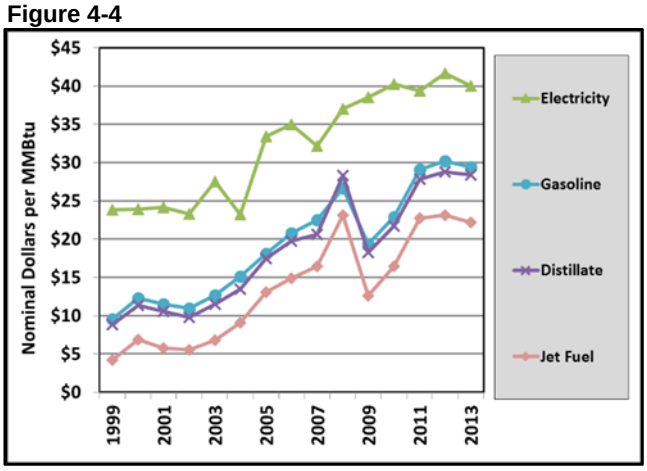

Table 4-4a. (in physical units)

Year	Motor Gasoline	Distillate[1]	Jet Fuel[2]	Residual[3]	Electricity[4]	GDP Deflator[5]
	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/bbl	Cents/kWh	2013=1
1999	118.78	122.06	57.11	15.53	8.14	0.715
2000	152.32	156.97	93.15	25.78	8.15	0.739
2001	143.26	145.89	78.17	19.93	8.25	0.760
2002	135.49	135.92	74.79	21.82	7.95	0.772
2003	156.96	159.19	91.26	28.48	9.38	0.790
2004	187.36	186.73	122.31	29.61	7.92	0.811
2005	224.38	242.14	176.85	42.63	11.40	0.838
2006	256.71	273.29	201.02	49.10	11.94	0.865
2007	276.04	284.29	222.21	49.35	10.97	0.890
2008	325.62	389.19	312.26	75.95	12.64	0.924
2009	235.25	251.34	170.64	51.80	13.13	0.921
2010	277.23	298.94	221.81	68.28	13.74	0.936
2011	351.50	382.45	307.40	93.11	13.45	0.966
2012	363.93	395.24	312.66	96.82	14.20	0.986
2013	354.58	389.88	299.03	97.57	13.65	1.000

Table 4-4b. (in $/million Btu)

Year	Motor Gasoline	Distillate[1]	Jet Fuel[2]	Residual[3]	Electricity[4]	GDP Deflator[5]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2013=1
1999	9.57	8.81	4.23	2.47	23.85	0.715
2000	12.27	11.33	6.90	4.10	23.90	0.739
2001	11.54	10.53	5.79	3.17	24.18	0.760
2002	10.92	9.81	5.54	3.47	23.29	0.772
2003	12.67	11.49	6.76	4.53	27.49	0.790
2004	15.13	13.48	9.06	4.71	23.21	0.811
2005	18.13	17.48	13.10	6.78	33.40	0.838
2006	20.77	19.78	14.89	7.81	34.98	0.865
2007	22.49	20.64	16.46	7.85	32.14	0.890
2008	26.68	28.28	23.13	12.08	37.05	0.924
2009	19.37	18.26	12.64	8.24	38.49	0.921
2010	22.93	21.73	16.43	10.86	40.28	0.936
2011	29.13	27.81	22.77	14.81	39.41	0.966
2012	30.19	28.75	23.16	15.40	41.63	0.986
2013	29.42	28.36	22.15	15.52	40.01	1.000

[1] Diesel
[2] Kerosene-based
[3] Bunker fuel
[4] Railroad use
[5] To convert prices to 2013 dollars, divide the selected price by the deflator factor in the same row.

5 New York State Energy Expenditures

This section presents the estimated costs of net energy consumed by sector and fuel type in nominal and constant 2013 dollars for the following selected years: 1999, 2004, and 2009 through 2013. Estimated costs were derived by multiplying quantities of fuels consumed, in TBtu, by their respective prices. Out-of-state energy expenditure estimates by fuel type are provided for 1999 through 2013 in both nominal and constant 2013 dollars.

5.1 Key Observations about 2013 New York State Energy Expenditures Data

- Cumulative heating degree-days were 16.0% higher in 2013 compared to 2012.
- In nominal dollars, New York State's 2013 estimated energy bill of $64.8 billion was up 1.2% from 2012, and 112.1% more than the $30.6 billion spent in 1999.
- In constant 2013 dollars, New York State's estimated energy bill decreased $0.1 billion (0.2%) from 2012, and was $22.1 billion (51.7%) greater than in 1999.
- New Yorkers spent $18.7 billion for household energy, which was a 3.6% increase from the 2012 level in nominal dollars and 2.1% higher in constant 2013 dollars.
- The total commercial customer energy bill was $16.0 billion, which was 3.1% higher than 2012 in nominal dollars and 1.6% higher in constant 2013 dollars.
- Industrial customers paid $2.3 billion for energy, which was a 12.4% increase from 2012 levels in nominal dollars and 10.8% higher in constant 2013 dollars.
- The annual energy bill for transporting people and goods was $27.8 billion, a 2.1% decrease from 2012 levels in nominal dollars and 3.5% lower in constant 2013 dollars.
- From 2012 to 2013, statewide expenditures decreased 3.8% for petroleum, but increased 5.3% for electricity and 12.7% for natural gas in nominal dollars.
- In nominal dollars, New York State's 2013 out of state estimated energy bill of $37.8 billion decreased 1.7% from 2012, and 235.3% more than the $11.3 billion spent in 1999.
- In constant 2013 dollars, New York State's out-of-state estimated energy bill decreased $1.2 billion (3.2%) from 2012, and was $22.1 billion (139.8%) greater than in 1999.

New York State Energy Expenditure Estimates by Fuel Type and Sector in Nominal Dollars, 1999–2013

Figure 5-1

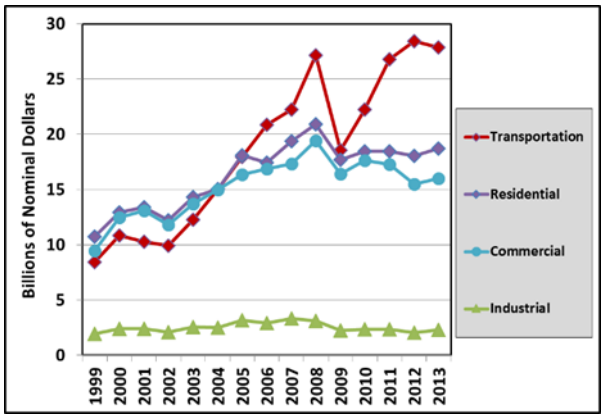

Table 5-1. (in million dollars)

	1999	2004	2009	2010	2011	2012	2013
Residential							
Coal	$1.8	$1.4	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$1,489.6	$2,963.7	$3,032.1	$3,304.6	$3,561.9	$4,300.6	$3,718.3
Distillate	$1,199.2	$2,439.9	$2,270.2	$2,500.8	$2,751.2	$3,633.7	$2,965.4
Kerosene	$71.9	$140.6	$114.9	$134.6	$115.8	$61.4	$66.4
LPG	$218.5	$383.1	$647.1	$669.2	$694.9	$605.6	$686.6
Natural Gas	$3,381.8	$4,910.3	$6,092.8	$5,483.3	$5,397.7	$4,637.7	$5,197.8
Electricity	$5,696.5	$6,889.8	$8,443.1	$9,548.3	$9,356.9	$8,929.9	$9,542.8
Wood	$178.6	$249.8	$123.8	$127.5	$156.6	$162.7	$221.7
Total	$10,748.2	$15,015.1	$17,691.8	$18,463.8	$18,473.2	$18,030.9	$18,680.6
Commercial							
Coal	$5.4	$6.8	$3.2	$0.5	$0.6	$0.0	$0.0
Petroleum	$578.7	$1,676.6	$1,739.3	$1,886.4	$2,459.7	$1,925.5	$1,825.9
Distillate	$382.2	$1,126.9	$1,047.3	$1,074.3	$1,472.1	$1,280.0	$1,331.9
Residual	$130.0	$385.5	$535.6	$635.5	$775.9	$489.0	$332.3
Kerosene	$21.1	$50.7	$20.0	$20.8	$26.8	$10.0	$4.7
LPG	$45.4	$113.4	$136.4	$155.9	$184.9	$146.5	$157.0
Natural Gas	$1,855.9	$3,629.9	$3,008.9	$3,126.7	$2,713.8	$2,120.0	$2,423.3
Electricity	$7,022.2	$9,653.7	$11,661.3	$12,600.6	$12,078.1	$11,446.1	$11,721.6
Total	$9,462.2	$14,966.9	$16,412.8	$17,614.1	$17,252.3	$15,491.6	$15,970.8
Industrial							
Coal	$105.2	$76.2	$94.5	$113.0	$122.7	$114.3	$94.2
Petroleum	$185.2	$352.8	$328.2	$398.9	$578.7	$514.9	$470.1
Distillate	$93.7	$186.3	$243.3	$251.8	$382.7	$359.1	$317.1
Residual	$28.4	$50.0	$30.3	$41.7	$136.2	$66.7	$75.3
Kerosene	$2.0	$21.6	$6.5	$57.8	$22.8	$21.0	$12.4
LPG	$61.1	$94.9	$48.1	$47.6	$37.0	$68.0	$65.3
Natural Gas	$398.6	$635.5	$696.7	$649.9	$619.1	$515.6	$574.6
Electricity	$1,230.6	$1,455.3	$1,123.4	$1,184.8	$1,051.3	$917.5	$1,179.5
Total	$1,919.6	$2,519.8	$2,242.8	$2,346.6	$2,371.8	$2,062.3	$2,318.4
Transportation							
Petroleum	$8,216.3	$14,806.3	$18,171.0	$21,844.2	$26,382.9	$28,042.2	$27,453.1
Distillate	$1,231.8	$2,816.3	$2,920.8	$3,546.3	$4,583.4	$4,580.2	$4,322.2
Residual	$96.9	$172.4	$608.4	$825.7	$480.3	$482.9	$614.7
Motor Gasoline	$6,666.1	$10,811.4	$13,429.8	$16,078.7	$19,298.1	$19,550.0	$19,051.0
Jet Fuel	$220.6	$1,001.8	$1,203.1	$1,379.1	$2,000.1	$3,395.8	$3,432.8
LPG	$0.9	$4.3	$8.9	$14.5	$21.0	$33.3	$32.6
Electricity	$216.0	$209.8	$397.3	$401.6	$400.8	$390.3	$391.1
Total	$8,432.3	$15,016.1	$18,568.2	$22,245.8	$26,783.8	$28,432.5	$27,844.2
Total							
Coal	$112.4	$84.4	$97.7	$113.4	$123.3	$114.3	$94.2
Petroleum	$10,469.8	$19,799.3	$23,270.6	$27,434.3	$32,983.3	$34,783.2	$33,467.5
Distillate	$2,906.9	$6,569.4	$6,481.6	$7,373.2	$9,189.4	$9,853.0	$8,936.5
Residual	$255.2	$607.9	$1,174.3	$1,502.9	$1,392.4	$1,038.7	$1,022.3
Motor Gasoline	$6,666.1	$10,811.4	$13,429.8	$16,078.7	$19,298.1	$19,550.0	$19,051.0
Kerosene	$95.0	$212.9	$141.4	$213.2	$165.4	$92.4	$83.5
Jet Fuel	$220.6	$1,001.8	$1,203.1	$1,379.1	$2,000.1	$3,395.8	$3,432.8
LPG	$325.9	$595.7	$840.4	$887.2	$937.9	$853.4	$941.5
Natural Gas	$5,636.3	$9,175.8	$9,798.4	$9,259.9	$8,730.6	$7,273.3	$8,195.7
Electricity	$14,165.3	$18,208.6	$21,625.1	$23,735.2	$22,887.2	$21,683.8	$22,834.9
Wood	$178.6	$249.8	$123.8	$127.5	$156.6	$162.7	$221.7
Total	**$30,562.4**	**$47,517.9**	**$54,915.6**	**$60,670.4**	**$64,881.1**	**$64,017.3**	**$64,814.0**

New York State Energy Expenditure Estimates by Fuel Type and Sector in Constant 2013 Dollars, 1999–2013

Figure 5-2

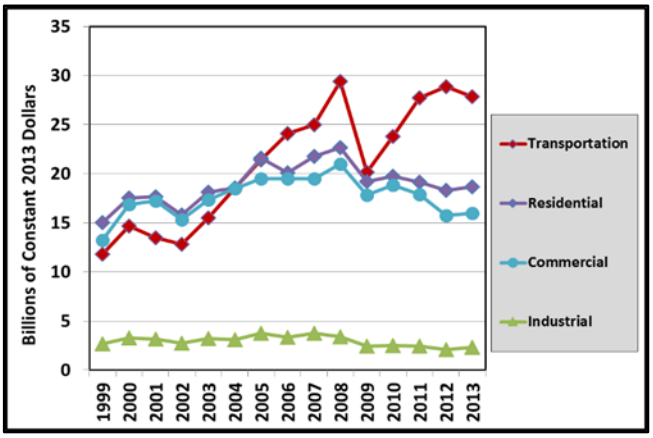

Table 5-2. (in million dollars)

	1999	2004	2009	2010	2011	2012	2013
Residential							
Coal	$2.5	$1.8	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$2,082.9	$3,654.9	$3,292.5	$3,530.5	$3,688.9	$4,363.6	$3,718.3
Distillate	$1,676.8	$3,009.0	$2,465.1	$2,671.7	$2,849.2	$3,686.9	$2,965.4
Kerosene	$100.6	$173.5	$124.8	$143.8	$119.9	$62.3	$66.4
LPG	$305.5	$472.5	$702.7	$715.0	$719.7	$614.5	$686.6
Natural Gas	$4,728.7	$6,055.6	$6,615.9	$5,858.0	$5,590.1	$4,705.6	$5,197.8
Electricity	$7,965.4	$8,496.7	$9,168.0	$10,200.8	$9,690.4	$9,060.7	$9,542.8
Wood	$249.7	$308.1	$134.4	$136.2	$162.2	$165.0	$221.7
Total	$15,029.3	$18,517.1	$19,210.8	$19,725.5	$19,131.7	$18,295.0	$18,680.6
Commercial							
Coal	$7.6	$8.3	$3.5	$0.5	$0.7	$0.0	$0.0
Petroleum	$809.2	$2,067.6	$1,888.7	$2,015.4	$2,547.4	$1,953.7	$1,825.9
Distillate	$534.5	$1,389.7	$1,137.3	$1,147.7	$1,524.6	$1,298.7	$1,331.9
Residual	$181.8	$475.5	$581.6	$678.9	$803.6	$496.2	$332.3
Kerosene	$29.5	$62.5	$21.7	$22.2	$27.8	$10.2	$4.7
LPG	$63.5	$139.8	$148.1	$166.6	$191.5	$148.6	$157.0
Natural Gas	$2,595.1	$4,476.5	$3,267.3	$3,340.3	$2,810.6	$2,151.1	$2,423.3
Electricity	$9,819.2	$11,905.2	$12,662.6	$13,461.6	$12,508.6	$11,613.8	$11,721.6
Total	$13,231.0	$18,457.6	$17,822.0	$18,817.8	$17,867.2	$15,718.5	$15,970.8
Industrial							
Coal	$147.2	$94.0	$102.6	$120.7	$127.1	$116.0	$94.2
Petroleum	$258.9	$435.0	$356.3	$426.2	$599.3	$522.4	$470.1
Distillate	$131.0	$229.8	$264.2	$269.0	$396.4	$364.4	$317.1
Residual	$39.7	$61.6	$32.9	$44.6	$141.0	$67.7	$75.3
Kerosene	$2.8	$26.6	$7.1	$61.8	$23.6	$21.3	$12.4
LPG	$85.4	$117.0	$52.2	$50.8	$38.3	$69.0	$65.3
Natural Gas	$557.4	$783.7	$756.5	$694.3	$641.2	$523.2	$574.6
Electricity	$1,720.7	$1,794.7	$1,219.8	$1,265.8	$1,088.8	$930.9	$1,179.5
Total	$2,684.2	$3,107.5	$2,435.3	$2,507.0	$2,456.4	$2,092.5	$2,318.4
Transportation							
Petroleum	$11,488.9	$18,259.5	$19,731.1	$23,337.0	$27,323.4	$28,453.0	$27,453.1
Distillate	$1,722.5	$3,473.1	$3,171.6	$3,788.7	$4,746.8	$4,647.3	$4,322.2
Residual	$135.4	$212.7	$660.6	$882.1	$497.4	$490.0	$614.7
Motor Gasoline	$9,321.3	$13,333.0	$14,582.9	$17,177.4	$19,986.0	$19,836.4	$19,051.0
Jet Fuel	$308.4	$1,235.4	$1,306.4	$1,473.3	$2,071.4	$3,445.6	$3,432.8
LPG	$1.3	$5.4	$9.6	$15.4	$21.8	$33.8	$32.6
Electricity	$302.0	$258.8	$431.4	$429.0	$415.1	$396.0	$391.1
Total	$11,790.9	$18,518.3	$20,162.5	$23,766.0	$27,738.5	$28,849.0	$27,844.2
Total							
Coal	$157.2	$104.1	$106.1	$121.2	$127.7	$116.0	$94.2
Petroleum	$14,639.9	$24,417.0	$25,268.6	$29,309.0	$34,159.0	$35,292.7	$33,467.5
Distillate	$4,064.8	$8,101.6	$7,038.1	$7,877.0	$9,517.0	$9,997.3	$8,936.5
Residual	$356.9	$749.7	$1,275.1	$1,605.6	$1,442.0	$1,053.9	$1,022.3
Motor Gasoline	$9,321.3	$13,333.0	$14,582.9	$17,177.4	$19,986.0	$19,836.4	$19,051.0
Kerosene	$132.8	$262.6	$153.5	$227.8	$171.3	$93.7	$83.5
Jet Fuel	$308.4	$1,235.4	$1,306.4	$1,473.3	$2,071.4	$3,445.6	$3,432.8
LPG	$455.7	$734.7	$912.6	$947.8	$971.3	$865.9	$941.5
Natural Gas	$7,881.2	$11,315.8	$10,639.7	$9,892.7	$9,041.8	$7,379.9	$8,195.7
Electricity	$19,807.4	$22,455.4	$23,481.8	$25,357.2	$23,703.0	$22,001.4	$22,834.9
Wood	$249.7	$308.1	$134.4	$136.2	$162.2	$165.0	$221.7
Total	**$42,735.4**	**$58,600.4**	**$59,630.6**	**$64,816.3**	**$67,193.8**	**$64,955.0**	**$64,814.0**

New York Out of State Energy Expenditure Estimates by Fuel Type in Nominal and Constant 2013 Dollars 1999–2013

Figure 5-3

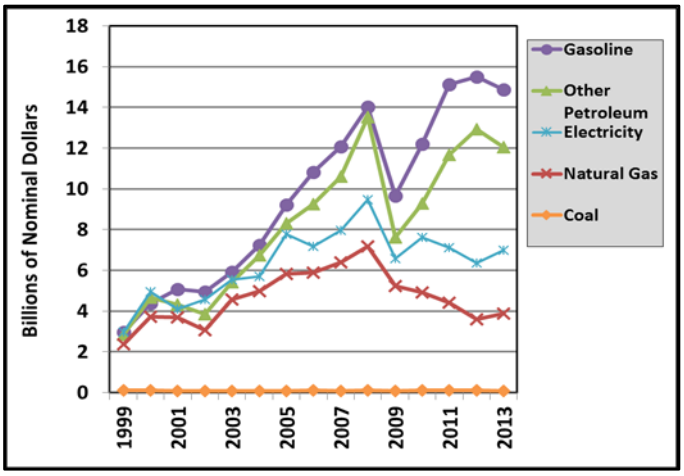

Table 5-3a. (in million nominal dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
1999	$ 95.6	$ 2,385.5	$ 2,969.8	$ 2,852.8	$ 2,982.2	$ 11,285.9
2000	$ 105.7	$ 3,722.0	$ 4,380.7	$ 4,678.3	$ 4,962.3	$ 17,849.0
2001	$ 93.4	$ 3,677.7	$ 5,075.4	$ 4,320.3	$ 4,097.3	$ 17,264.1
2002	$ 75.8	$ 3,072.6	$ 4,962.2	$ 3,834.6	$ 4,558.9	$ 16,504.1
2003	$ 68.1	$ 4,563.5	$ 5,913.9	$ 5,410.8	$ 5,531.0	$ 21,487.3
2004	$ 71.8	$ 4,991.0	$ 7,237.7	$ 6,740.9	$ 5,699.1	$ 24,740.4
2005	$ 84.8	$ 5,821.2	$ 9,221.8	$ 8,302.0	$ 7,766.2	$ 31,196.0
2006	$ 102.6	$ 5,886.1	$ 10,821.0	$ 9,242.1	$ 7,172.1	$ 33,223.8
2007	$ 93.8	$ 6,383.5	$ 12,085.1	$ 10,603.8	$ 7,955.4	$ 37,121.5
2008	$ 99.0	$ 7,182.5	$ 14,013.7	$ 13,510.8	$ 9,474.8	$ 44,280.8
2009	$ 83.1	$ 5,242.7	$ 9,654.7	$ 7,607.6	$ 6,570.7	$ 29,158.8
2010	$ 96.4	$ 4,930.1	$ 12,214.4	$ 9,276.1	$ 7,629.3	$ 34,146.3
2011	$ 104.8	$ 4,403.7	$ 15,122.9	$ 11,668.8	$ 7,124.8	$ 38,425.0
2012	$ 97.2	$ 3,596.3	$ 15,504.0	$ 12,938.3	$ 6,369.6	$ 38,505.4
2013	$ 80.1	$ 3,864.5	$ 14,870.4	$ 12,039.6	$ 6,983.7	$ 37,838.3

Table 5-3b. (in million constant 2013 dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
1999	$ 133.6	$ 3,335.7	$ 4,152.7	$ 3,989.0	$ 4,170.0	$ 15,781.0
2000	$ 142.9	$ 5,035.3	$ 5,926.4	$ 6,329.0	$ 6,713.1	$ 24,146.6
2001	$ 122.9	$ 4,837.6	$ 6,676.2	$ 5,683.0	$ 5,389.5	$ 22,709.1
2002	$ 98.1	$ 3,978.8	$ 6,425.7	$ 4,965.5	$ 5,903.4	$ 21,371.6
2003	$ 86.2	$ 5,777.8	$ 7,487.4	$ 6,850.4	$ 7,002.6	$ 27,204.5
2004	$ 88.5	$ 6,155.1	$ 8,925.7	$ 8,313.0	$ 7,028.3	$ 30,510.5
2005	$ 101.2	$ 6,943.6	$ 10,999.9	$ 9,902.8	$ 9,263.6	$ 37,211.1
2006	$ 118.5	$ 6,801.7	$ 12,504.1	$ 10,679.6	$ 8,287.7	$ 38,391.5
2007	$ 105.4	$ 7,172.1	$ 13,578.1	$ 11,913.8	$ 8,938.2	$ 41,707.5
2008	$ 107.1	$ 7,771.5	$ 15,162.7	$ 14,618.7	$ 10,251.7	$ 47,911.6
2009	$ 90.2	$ 5,692.9	$ 10,483.6	$ 8,260.8	$ 7,134.9	$ 31,662.3
2010	$ 103.0	$ 5,267.0	$ 13,049.1	$ 9,910.0	$ 8,150.6	$ 36,479.7
2011	$ 108.6	$ 4,560.7	$ 15,662.0	$ 12,084.7	$ 7,378.8	$ 39,794.7
2012	$ 98.6	$ 3,649.0	$ 15,731.1	$ 13,127.8	$ 6,462.9	$ 39,069.4
2013	$ 80.1	$ 3,864.5	$ 14,870.4	$ 12,039.6	$ 6,983.7	$ 37,838.3

6 New York State's Sources of Energy

New York State is the eighth largest energy user of all the states. Nevertheless, households, businesses, industries and electric utilities in New York State rely largely on fuels produced elsewhere. Eleven percent of the total primary energy requirements were met from in-state resources in 2013. Hydroelectric power is produced at various locations throughout New York State and in 2013, New York State produced more hydroelectric power than any other state east of the Rocky Mountains. New York is currently the 12th largest state in the United States in installed wind power capacity through the end of 2014 with more than 1,750 MW of installed wind capacity. Crude oil and natural gas production are found in the western region of the state. The "Other" category described in this section primarily consists of wood, waste, landfill gas, solar, geothermal, and ethanol.

6.1 Key Observations about New York State Sources of Energy in 2013

- In-state resources produced 10.9% of New York State's total primary energy requirement, including 6.4% from hydropower and 2.6% from biofuels including ethanol, waste, wood, and landfill gas, collectively. Wind, solar, and geothermal renewable resources met 1.1% of New York State's total primary energy requirement. Petroleum and natural gas production accounted for 0.7% of New York State's total primary energy requirement.
- Hydroelectric power and energy collectively from biofuels including ethanol, waste, wood, and landfill gas account for 58.7% and 24.4%, respectively, of New York State's in-state primary energy production. Wind, solar, and geothermal resources accounted for 10.4% of New York's in-state primary energy production while crude oil and natural gas constitute the remaining 6.5%.
- In-state crude oil and natural gas production represent 0.2% and 1.8%, respectively, of the State's use of these fuels. New York State consumers rely on external sources for 100% of refined petroleum fuel products because there are no petroleum refineries in the state.
- In-state production of natural gas decreased 11.2% from 2012 to 2013.
- In 2013, in-state natural gas production was 23.5 billion cubic feet, and accounted for 0.7% of total statewide primary energy use.
- Energy production from wind, solar, and geothermal resources increased 18.4% from 2012 to 2013 while collective production of biofuels including ethanol, waste, wood, and landfill gas increased 5.6%.

New York State Primary Energy Production by Fuel Type,[1] 1999–2013

Figure 6-1[6]

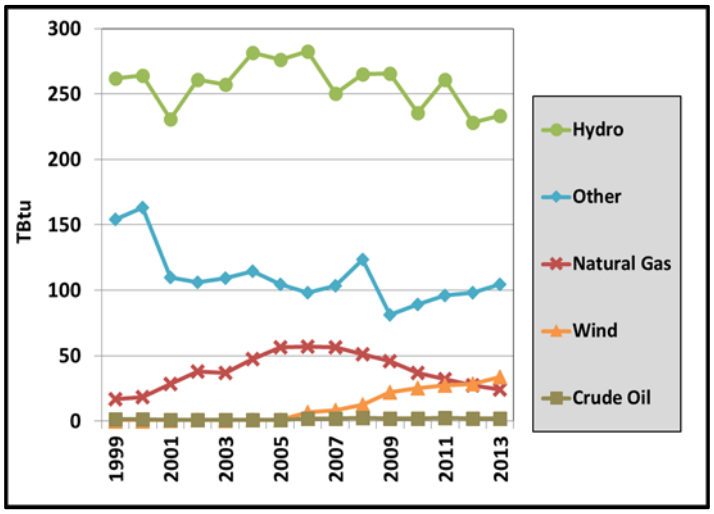

Table 6-1a. (in physical units)

Year	Hydro Electricity[2]	Natural Gas	Crude Oil	Ethanol
	GWh	Bcf	Mbbl	Mbbl
1999	26,810	16.8	206	0
2000	26,753	17.8	210	0
2001	23,152	28.0	166	0
2002	26,213	37.1	165	0
2003	25,798	36.0	144	0
2004	28,153	46.9	170	0
2005	27,583	55.2	197	0
2006	28,422	55.2	319	0
2007	25,557	54.9	387	100
2008	27,501	50.3	397	2,064
2009	27,945	44.8	324	1,189
2010	25,103	35.8	387	2,672
2011	28,355	31.1	391	4,011
2012	25,303	26.4	353	3,795
2013	26,397	23.5	313	3,991

Table 6-1b. (in trillion Btu)

Year	Hydro Electricity[2]	Natural Gas	Crude Oil	Biofuels[3,4,5]	Wind	Solar/ Geothermal[4]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1999	261.8	16.6	1.2	153.2	0.0	0.9
2000	264.3	18.3	1.2	162.2	0.1	0.9
2001	230.7	28.6	1.0	109.0	0.2	0.9
2002	260.8	37.7	1.0	105.1	0.8	0.9
2003	257.1	37.1	0.8	108.5	0.4	1.1
2004	281.6	47.2	1.0	113.2	1.2	1.2
2005	276.4	56.6	1.1	102.8	1.0	1.5
2006	282.4	57.2	1.9	96.1	6.5	1.8
2007	250.1	56.2	2.2	101.3	8.2	2.1
2008	265.3	51.4	2.3	120.8	12.3	2.5
2009	265.8	45.8	1.9	78.3	22.1	2.9
2010	235.7	36.6	2.2	85.3	25.3	3.7
2011	260.7	31.9	2.3	91.1	27.5	5.0
2012	228.0	27.2	2.0	91.8	28.4	6.4
2013	233.6	24.2	1.8	96.9	33.7	7.5

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1 Includes energy produced from resources indigenous to New York State.
2 Includes both conventional and pumped storage hydro.
3 Includes primarily wood, waste, landfill gas, and ethanol.
4 Consumption used as proxy.
5 Ethanol TBtu are based on biomass inputs (feedstock) for the production of fuel ethanol.
6 Other includes biofuels, solar, and geothermal.

7 Appendices

Appendix A-1

New York State Estimated Greenhouse Gas Emissions[1] from Fuel Combustion, 1990, 1999–2013

Figure A-1. Annual NYS GHG Emissions from Fuel Combustion

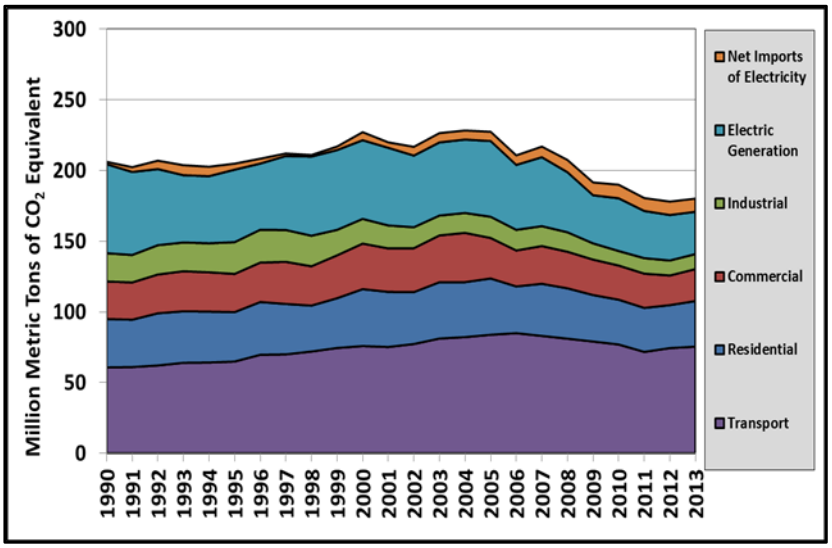

Table A-1. GHG Emissions by Sector (in million metric tons carbon dioxide equivalent)[2,3,4]

Year	Residential	Commercial	Industrial	Transportation	Electric Generation	Net Imports of Electricity[5]	Total[6]
1990	34.2	26.5	20.0	60.8	63.0	1.6	206.1
…….							
1999	35.2	30.3	18.0	74.5	56.4	2.5	217.0
2000	40.2	32.2	17.5	75.9	55.6	5.7	227.1
2001	39.0	30.8	16.2	75.2	54.9	3.8	219.9
2002	36.7	31.1	14.8	77.3	50.7	6.2	216.8
2003	39.8	33.1	14.1	81.2	51.7	6.6	226.5
2004	38.9	34.8	14.1	82.2	52.0	6.4	228.3
2005	39.8	28.6	15.0	83.9	53.6	6.6	227.4
2006	33.1	25.4	14.6	85.0	45.9	6.7	210.7
2007	36.9	26.7	14.1	83.0	48.8	7.5	216.9
2008	35.6	25.9	13.8	81.1	42.5	8.6	207.5
2009	32.9	25.1	11.5	79.1	34.0	9.0	191.6
2010	31.7	24.2	10.3	77.0	37.3	9.6	190.0
2011	31.1	24.2	11.0	71.7	33.4	9.1	180.5
2012	30.4	20.9	10.6	74.4	32.2	9.5	178.0
2013	32.3	22.6	10.6	75.4	29.9	9.3	180.1
% Change 1990-2013	**-5.7%**	**-14.8%**	**-46.9%**	**24.1%**	**-52.5%**	**468.6%**	**-12.6%**

1 Total Greenhouse Gas (GHG) emissions from fuel combustion include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).

2 Total GHG emissions are expressed in millions of metric tons of carbon dioxide equivalent. One ton equals approximately 2,204 pounds. "MM" equals one million. To convert emissions to short tons, multiply by a factor of 1.1023.

3 Emissions levels for 1990 form the basis of the U.S. greenhouse gas inventory and it was the base year for the United Nations Framework Convention on Climate Change's Kyoto Protocol. Data for 1991-1998 can be found by clicking on the table above.

4 All data is subject to revision. Additional information on GHG emissions can be found in the Climate Action Plan (http://www.dec.ny.gov/energy/80930.html) and New York State Energy Plan (http://www.nysenergyplan.com).

5 GHG emissions from Net Imports of Electricity are based on estimated emissions factors for neighboring electric service territories. These values are not based upon any environmental attribute tracking system or reporting data.

6 In 2013 GHG emissions from fuel combustion represented 84% of total GHG emissions.

Appendix A-2

New York State Estimated CO_2 Emissions by Fuel Type[1,2,3] from Fuel Combustion, 2013

Figure A-2. CO_2 Emissions from Fuel Combustion by Fuel Type[1,2]

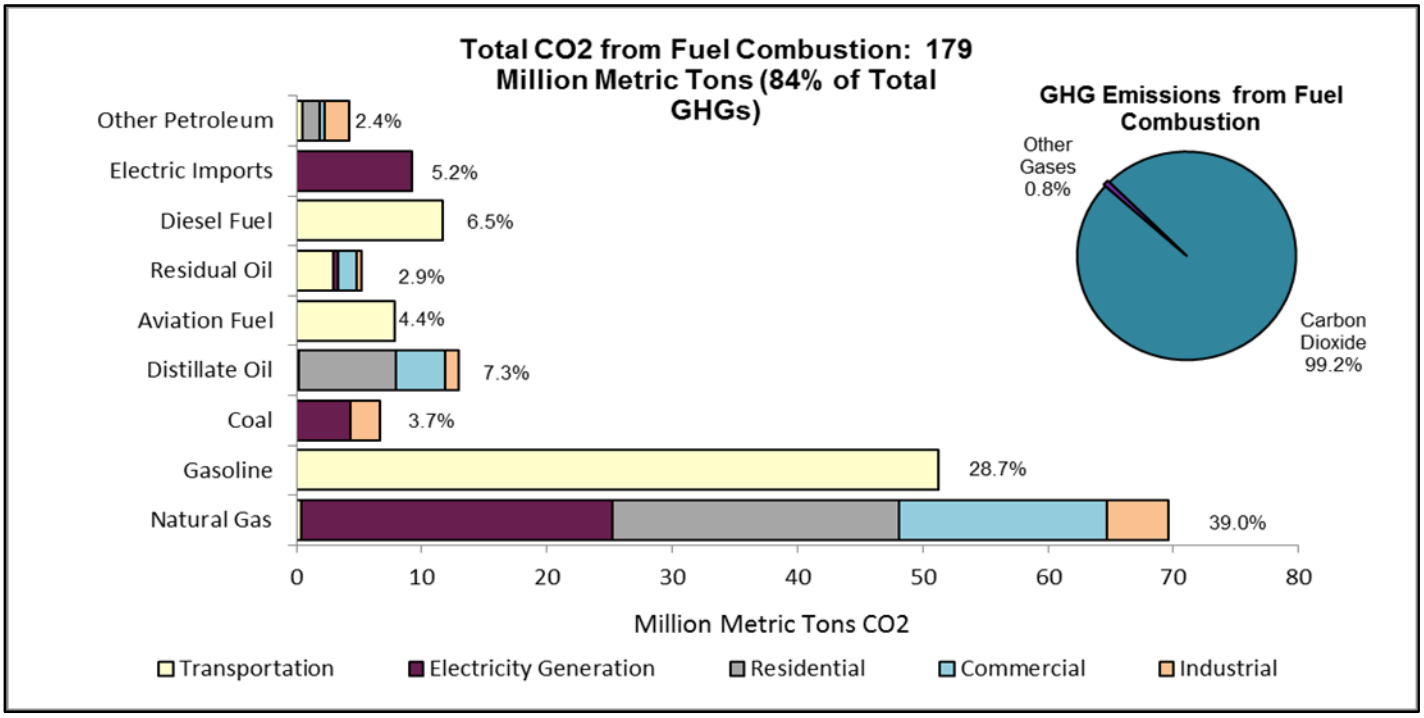

Table A-2. CO_2 Emissions from Fuel Combustion by Fuel Type (in million metric tons carbon dioxide)[4]

Fuel Type	Transportation	Electricity Generation	Residential	Commercial	Industrial	Total CO_2 Emissions	Percent of Total CO_2 Emissions
	(million metric tons CO_2)						(%)
Other Petroleum	0.43	N/A	1.38	0.42	1.97	4.20	2.4
Net Imports of Electricity	N/A	9.25	N/A	N/A	N/A	9.25	5.2
Diesel Fuel (Distillate)	11.67	N/A	N/A	N/A	N/A	11.67	6.5
Residual Oil	2.90	0.42	N/A	1.48	0.37	5.16	2.9
Jet Fuel	7.84	N/A	N/A	N/A	N/A	7.84	4.4
Heating Oil (Distillate)	N/A	0.21	7.76	3.94	1.07	12.99	7.3
Coal	N/A	4.36	0.00	0.00	2.29	6.65	3.7
Gasoline	51.27	N/A	N/A	N/A	N/A	51.27	28.7
Natural Gas	0.38	24.89	22.83	16.66	4.87	69.62	39.0

1 Emissions from fuel combustion by fuel type only include carbon dioxide (CO2) emissions. These emissions comprise 99% of total GHG emissions from fuel combustion.

2 In 2013 GHG emissions from fuel combustion represented 84% of total GHG emissions.

3 Additional information on GHG emissions can be found in the Climate Action Plan (http://www.dec.ny.gov/energy/80930.html) and New York State Energy Plan (http://www.nysenergyplan.com).

4 CO_2 emissions are expressed in millions of metric tons of carbon dioxide equivalent. One ton equals approximately 2,204 pounds. "MM" equals one million. To convert emissions to short tons, multiply by a factor of 1.1023.

Appendix B

New York State
Household Consumption and Expenditures by End Use, 2009[1]

Table B-1. Total Household Energy

	Households[2] (MM)	Average per household using the fuel	
		Consumption	Expenditure
Electricity	7.2	6,578 kWh	$1,161
Natural Gas	5.8	68 Mcf	$1,010
Fuel Oil	2.3	501 gallons	$1,275
Kerosene	0.2	235 Gallons	593
LPG[3]	2.5	243 gallons	$705
Wood	0.4	Q	Q

Table B-2. Space-Heating[4]

	Households[2] (MM)	Average per Household using the fuel as main heating source	
		Consumption	Expenditure
Electricity	0.5	1,440 kWh	$241
Natural Gas	4.1	59 Mcf	$873
Fuel Oil	2.1	461 gallons	$1,173
LPG[3,5]	0.2	847 gallons	$2,406

Table B-3. Water-Heating

	Households[2] (MM)	Average per Household using the fuel as water heating source	
		Consumption	Expenditure
Electricity	1.2	2,333kWh	$398
Natural Gas	4.4	20 Mcf	$299
Fuel Oil	1.3	120 gallons	$305
LPG[3]	0.2	175 gallons	$545

Table B-4. Electric Air Conditioning

	Households[2] (MM)	Average per Household	
		Consumption	Expenditure
Central Air	1.5	548 kWh	$105
Room/Wall	3.9		

1 Data in these tables represent site or delivered energy. Consumption and expenditures for biomass (e.g. wood), coal, solar, and outdoor propane grills are excluded. See RECS Terminology (http://www.eia.gov/consumption/residential/terminology.cfm) for further explanation of these terms.

2 The 7.2 million households represent New York single-family, mobile home, and multifamily housing units. Vacant housing units, seasonal units, second homes, military housing, and group quarters are excluded.

3 Propane

4 Some households may use multiple heating fuels. Averages include main (primary) and secondary space heating applications.

5 Propane usage and expenditure estimates for heating are from EIA's Short Term Energy and Winter Fuels Outlook for the Winter 2008-2009 period.
See Appendix D-1 and D-2 for estimate of number of households using the fuel as a primary heating source.
Q = Data not reported by the U.S. DOE's Energy Information Administration's Residential Energy Consumption Survey.

Appendix C

Estimated Annual Gasoline Sales by County in New York State, 2011–2013

Table C-1. (in thousand gallons)

County	2011	2012	2013
New York State	**5,548,356**	**5,424,144**	**5,373,436**
New York City	**1,017,301**	**978,064**	**969,927**
Rest of State	**4,531,054**	**4,446,079**	**4,403,509**
Albany	139,970	128,773	129,489
Alleghany	14,053	13,716	13,265
Broome	97,457	97,312	95,372
Cattaraugus	22,482	21,534	21,157
Cayuga	31,814	30,688	30,915
Chautauqua	42,880	40,877	39,060
Chemung	31,613	32,475	30,096
Chenango	21,506	21,239	20,337
Clinton	44,969	45,999	43,319
Columbia	34,637	33,185	32,491
Cortland	24,015	24,530	24,147
Delaware	21,597	20,706	20,821
Dutchess	116,805	111,016	105,397
Erie	350,019	339,391	334,764
Essex	17,436	16,502	17,440
Franklin	17,648	16,879	16,234
Fulton	25,062	22,308	22,582
Genesee	51,583	50,997	50,492
Greene	27,005	25,369	25,836
Hamilton	2,484	2,210	2,265
Herkimer	28,505	28,384	27,282
Jefferson	58,131	58,525	56,240
Lewis	11,508	10,728	11,344
Livingston	36,997	37,421	35,997
Madison	19,546	19,006	17,926
Monroe	285,532	280,692	277,120
Montgomery	38,849	37,296	38,070
Nassau	512,510	493,532	488,296
Niagara	76,670	74,715	77,069
Oneida	93,858	93,529	92,693
Onondaga	235,518	230,934	227,410
Ontario	63,635	63,340	63,235
Orange	171,226	169,837	166,581
Orleans	11,508	11,440	11,173
Oswego	54,580	52,459	50,913
Otsego	30,722	29,886	29,672
Putnam	45,229	45,606	47,772
Rensselaer	72,747	69,382	68,941
Rockland	51,195	51,405	50,306
St. Lawrence	34,393	34,032	33,811
Saratoga	119,967	117,032	116,203
Schenectady	70,968	70,320	66,933
Schoharie	13,887	13,261	13,007
Schuyler	8,312	8,440	8,150
Seneca	30,078	29,858	33,779
Steuben	52,352	50,977	48,187
Suffolk	606,315	626,796	638,550
Sullivan	24,446	24,104	22,425
Tioga	21,549	19,574	17,865
Tompkins	32,822	32,128	32,014
Ulster	98,043	91,536	85,565
Warren	46,612	44,655	44,855
Washington	16,802	16,304	17,185
Wayne	38,433	38,449	38,308
Westchester	258,768	250,777	249,311
Wyoming	16,104	16,488	16,482
Yates	7,702	7,525	7,360

Note: Individual county data for New York City are not available.

Estimated Annual Residential Energy Consumption by County in New York State, 1999–2013

Table C-2

Residential Energy Consumption	Natural Gas		Propane		Electricity		Distillate		Kerosene		Wood	
	Bcf		Mbbl		GWh		Mbbl		Mbbl		MCords	
County	2013	1999	2013	1999	2013	1999	2013	1999	2013	1999	2013	1999
Albany	9.2	8.8	54	51	1,426	1,179	138	251	3	21	14	38
Allegany	1.2	1.3	40	35	140	118	17	32	0	3	22	94
Bronx	23.8	15.4	438	168	2,711	2,558	412	1,661	9	136	81	2
Broome	3.2	6.1	21	75	494	570	474	183	10	15	0	73
Cattaraugus	2.0	2.1	85	69	354	272	29	58	1	5	28	134
Cayuga	1.8	1.8	88	70	250	215	58	101	1	8	19	64
Chautauqua	4.5	4.7	88	73	583	460	17	33	0	3	25	114
Chemung	3.1	3.1	28	26	277	229	26	44	1	4	12	45
Chenango	0.4	0.3	54	38	248	173	77	140	2	11	23	91
Clinton	0.4	0.1	25	14	736	727	149	230	3	19	24	62
Columbia	0.4	0.3	48	23	309	300	162	225	4	18	16	50
Cortland	1.0	1.0	30	26	196	146	32	59	1	5	11	49
Delaware	0.3	0.2	46	40	192	146	101	158	2	13	31	108
Dutchess	3.3	2.5	91	64	1,130	952	629	857	14	70	24	60
Erie	38.0	38.7	133	116	1,772	1,507	76	105	2	9	24	100
Essex	0.1	0.0	39	23	237	192	95	150	2	12	19	54
Franklin	0.1	0.0	33	14	206	220	128	179	3	15	21	76
Fulton	1.1	1.0	40	28	147	118	74	119	2	10	15	53
Genesee	1.7	1.6	61	44	168	185	38	62	1	5	9	31
Greene	0.1	0.1	44	24	195	178	127	180	3	15	15	48
Hamilton	0.0	0.0	12	10	9	12	11	22	0	2	4	18
Herkimer	1.4	1.3	39	23	257	198	83	130	2	11	16	63
Jefferson	2.1	1.8	111	62	588	456	95	152	2	12	24	99
Kings	53.2	41.4	224	417	2,924	2,455	1,088	2,284	24	187	4	5
Lewis	0.2	0.0	25	16	70	58	50	84	1	7	24	117
Livingston	1.4	1.2	79	59	293	233	32	65	1	5	14	56
Madison	1.4	1.2	62	39	282	241	72	125	2	10	16	61
Monroe	27.9	27.2	96	78	3,302	2,908	93	171	2	14	14	69
Montgomery	1.0	1.0	21	17	134	132	60	96	1	8	10	31
Nassau	27.9	21.7	89	93	2,125	1,848	2,250	3,700	49	304	8	8
New York	19.5	19.7	136	177	7,436	5,118	1,832	2,516	40	206	1	4
Niagara	8.1	7.9	107	73	576	526	70	130	2	11	10	37
Oneida	6.3	6.0	90	63	757	684	191	302	4	25	27	113
Onondaga	16.1	16.0	110	87	2,189	1,984	98	149	2	12	18	77
Ontario	3.0	2.6	112	87	502	363	47	82	1	7	16	66
Orange	7.0	6.0	124	99	1,003	830	489	645	11	53	20	43
Orleans	0.8	0.8	60	42	149	138	35	63	1	5	10	33
Oswego	2.3	2.2	175	163	353	319	83	150	2	12	36	115
Otsego	0.5	0.4	74	52	207	183	114	176	2	14	26	99
Putnam	0.3	0.1	27	23	607	644	284	345	6	28	8	26
Queens	46.9	41.5	221	315	2,748	2,608	1,467	2,575	32	211	3	2
Rensselaer	3.3	2.9	91	46	674	567	184	291	4	24	24	89
Richmond	15.1	13.4	33	35	387	345	130	272	3	22	1	1
Rockland	9.9	9.7	20	19	616	475	37	41	1	3	2	5
St. Lawrence	1.7	1.5	69	49	415	292	149	251	3	21	44	166
Saratoga	5.7	4.6	167	113	932	675	171	286	4	23	26	113
Schenectady	4.8	5.0	31	23	540	467	68	120	1	10	6	20
Schoharie	0.1	0.0	29	23	142	132	76	109	2	9	15	57
Schuyler	0.2	0.2	39	32	69	58	18	37	0	3	7	33
Seneca	0.7	0.7	57	46	118	96	24	39	1	3	5	17
Steuben	2.6	2.5	100	104	358	250	38	77	1	6	32	133
Suffolk	22.6	16.8	223	199	2,994	2,692	3,347	4,549	72	373	29	42
Sullivan	0.1	0.0	82	65	365	305	199	260	4	21	22	63
Tioga	0.7	0.7	53	39	161	157	76	119	2	10	16	66
Tompkins	2.1	2.1	85	57	519	452	45	72	1	6	15	72
Ulster	1.6	1.3	148	104	709	543	424	596	9	49	32	114
Warren	1.5	1.2	65	33	262	241	85	131	2	11	15	63
Washington	0.6	0.5	57	33	217	192	120	174	3	14	28	101
Wayne	2.3	2.2	100	74	369	311	64	108	1	9	20	86
Westchester	16.1	14.7	107	114	2,321	2,002	1,500	1,959	32	161	7	11
Wyoming	0.9	0.9	46	36	211	165	20	37	0	3	13	58
Yates	0.3	0.3	54	35	118	117	17	34	0	3	9	36
New York State	**416.2**	**370.7**	**5,135**	**4,299**	**50,778**	**42,919**	**18,199**	**28,347**	**394**	**2,327**	**1,113**	**3,832**

Estimated Annual Residential Energy Consumption by County in New York State (TBtu), 1999–2013

Table C-3

Residential Energy Consumption	Natural Gas (TBtu)		Propane (TBtu)		Electricity (TBtu)		Distillate (TBtu)		Kerosene (TBtu)		Wood (TBtu)		Solar (TBtu)	
County	2013	1999	2013	1999	2013	1999	2013	1999	2013	1999	2013	1999	2013	1999
Albany	9.5	9.0	0.2	0.2	4.9	4.0	0.8	1.5	0.0	0.1	0.3	0.8	0.2	0.0
Allegany	1.2	1.3	0.2	0.1	0.5	0.4	0.1	0.2	0.0	0.0	0.4	1.9	0.0	0.0
Bronx	24.7	15.9	1.7	0.6	9.2	8.7	2.4	9.7	0.1	0.8	1.6	0.0	0.2	0.1
Broome	3.3	6.3	0.1	0.3	1.7	1.9	2.7	1.1	0.1	0.1	0.0	1.5	0.1	0.0
Cattaraugus	2.1	2.2	0.3	0.3	1.2	0.9	0.2	0.3	0.0	0.0	0.6	2.7	0.0	0.0
Cayuga	1.9	1.8	0.3	0.3	0.9	0.7	0.3	0.6	0.0	0.0	0.4	1.3	0.0	0.0
Chautauqua	4.7	4.8	0.3	0.3	2.0	1.6	0.1	0.2	0.0	0.0	0.5	2.3	0.1	0.0
Chemung	3.2	3.2	0.1	0.1	0.9	0.8	0.2	0.3	0.0	0.0	0.2	0.9	0.0	0.0
Chenango	0.4	0.4	0.2	0.1	0.8	0.6	0.4	0.8	0.0	0.1	0.5	1.8	0.0	0.0
Clinton	0.4	0.1	0.1	0.1	2.5	2.5	0.9	1.3	0.0	0.1	0.5	1.2	0.0	0.0
Columbia	0.4	0.3	0.2	0.1	1.1	1.0	0.9	1.3	0.0	0.1	0.3	1.0	0.1	0.0
Cortland	1.0	1.1	0.1	0.1	0.7	0.5	0.2	0.3	0.0	0.0	0.2	1.0	0.0	0.0
Delaware	0.3	0.2	0.2	0.2	0.7	0.5	0.6	0.9	0.0	0.1	0.6	2.2	0.1	0.0
Dutchess	3.4	2.6	0.4	0.2	3.9	3.2	3.6	5.0	0.1	0.4	0.5	1.2	0.4	0.0
Erie	39.3	39.9	0.5	0.4	6.0	5.1	0.4	0.6	0.0	0.0	0.5	2.0	0.0	0.0
Essex	0.1	0.0	0.1	0.1	0.8	0.7	0.6	0.9	0.0	0.1	0.4	1.1	0.0	0.0
Franklin	0.1	0.0	0.1	0.1	0.7	0.7	0.7	1.0	0.0	0.1	0.4	1.5	0.0	0.0
Fulton	1.1	1.0	0.2	0.1	0.5	0.4	0.4	0.7	0.0	0.1	0.3	1.1	0.0	0.0
Genesee	1.7	1.6	0.2	0.2	0.6	0.6	0.2	0.4	0.0	0.0	0.2	0.6	0.0	0.0
Greene	0.1	0.1	0.2	0.1	0.7	0.6	0.7	1.0	0.0	0.1	0.3	1.0	0.1	0.0
Hamilton	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.4	0.0	0.0
Herkimer	1.4	1.3	0.2	0.1	0.9	0.7	0.5	0.8	0.0	0.1	0.3	1.3	0.3	0.0
Jefferson	2.2	1.9	0.4	0.2	2.0	1.6	0.5	0.9	0.0	0.1	0.5	2.0	0.0	0.0
Kings	55.1	42.6	0.9	1.6	10.0	8.4	6.3	13.3	0.1	1.1	0.1	0.1	0.7	0.2
Lewis	0.2	0.0	0.1	0.1	0.2	0.2	0.3	0.5	0.0	0.0	0.5	2.3	0.0	0.0
Livingston	1.5	1.3	0.3	0.2	1.0	0.8	0.2	0.4	0.0	0.0	0.3	1.1	0.0	0.0
Madison	1.4	1.2	0.2	0.1	1.0	0.8	0.4	0.7	0.0	0.1	0.3	1.2	0.0	0.0
Monroe	28.9	28.0	0.4	0.3	11.3	9.9	0.5	1.0	0.0	0.1	0.3	1.4	0.1	0.0
Montgomery	1.1	1.0	0.1	0.1	0.5	0.4	0.3	0.6	0.0	0.0	0.2	0.6	0.0	0.0
Nassau	28.9	22.3	0.3	0.4	7.2	6.3	13.0	21.5	0.3	1.7	0.2	0.2	0.1	0.0
New York	20.2	20.3	0.5	0.7	25.4	17.5	10.6	14.6	0.2	1.2	0.0	0.1	0.6	0.0
Niagara	8.4	8.2	0.4	0.3	2.0	1.8	0.4	0.8	0.0	0.1	0.2	0.7	0.0	0.0
Oneida	6.5	6.1	0.3	0.2	2.6	2.3	1.1	1.8	0.0	0.1	0.5	2.3	0.3	0.0
Onondaga	16.7	16.5	0.4	0.3	7.5	6.8	0.6	0.9	0.0	0.1	0.4	1.5	0.1	0.0
Ontario	3.1	2.7	0.4	0.3	1.7	1.2	0.3	0.5	0.0	0.0	0.3	1.3	0.0	0.0
Orange	7.2	6.2	0.5	0.4	3.4	2.8	2.8	3.8	0.1	0.3	0.4	0.9	0.2	0.0
Orleans	0.8	0.8	0.2	0.2	0.5	0.5	0.2	0.4	0.0	0.0	0.2	0.7	0.0	0.0
Oswego	2.4	2.3	0.7	0.6	1.2	1.1	0.5	0.9	0.0	0.1	0.7	2.3	0.0	0.0
Otsego	0.5	0.4	0.3	0.2	0.7	0.6	0.7	1.0	0.0	0.1	0.5	2.0	0.0	0.0
Putnam	0.3	0.1	0.1	0.1	2.1	2.2	1.6	2.0	0.0	0.2	0.2	0.5	0.0	0.0
Queens	48.5	42.7	0.8	1.2	9.4	8.9	8.5	15.0	0.2	1.2	0.1	0.0	0.3	0.1
Rensselaer	3.4	3.0	0.3	0.2	2.3	1.9	1.1	1.7	0.0	0.1	0.5	1.8	0.2	0.0
Richmond	15.6	13.8	0.1	0.1	1.3	1.2	0.8	1.6	0.0	0.1	0.0	0.0	0.0	0.0
Rockland	10.3	9.9	0.1	0.1	2.1	1.6	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0
St. Lawrence	1.8	1.5	0.3	0.2	1.4	1.0	0.9	1.5	0.0	0.1	0.9	3.3	0.2	0.0
Saratoga	5.9	4.7	0.6	0.4	3.2	2.3	1.0	1.7	0.0	0.1	0.5	2.3	0.1	0.0
Schenectady	5.0	5.1	0.1	0.1	1.8	1.6	0.4	0.7	0.0	0.1	0.1	0.4	0.0	0.0
Schoharie	0.1	0.0	0.1	0.1	0.5	0.5	0.4	0.6	0.0	0.1	0.3	1.1	0.0	0.0
Schuyler	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.1	0.7	0.0	0.0
Seneca	0.7	0.7	0.2	0.2	0.4	0.3	0.1	0.2	0.0	0.0	0.1	0.3	0.0	0.0
Steuben	2.7	2.6	0.4	0.4	1.2	0.9	0.2	0.4	0.0	0.0	0.6	2.7	0.0	0.0
Suffolk	23.4	17.3	0.9	0.8	10.2	9.2	19.3	26.5	0.4	2.1	0.6	0.8	0.2	0.0
Sullivan	0.1	0.0	0.3	0.3	1.2	1.0	1.1	1.5	0.0	0.1	0.4	1.3	0.0	0.0
Tioga	0.7	0.7	0.2	0.2	0.5	0.5	0.4	0.7	0.0	0.1	0.3	1.3	0.0	0.0
Tompkins	2.2	2.1	0.3	0.2	1.8	1.5	0.3	0.4	0.0	0.0	0.3	1.4	0.0	0.0
Ulster	1.6	1.3	0.6	0.4	2.4	1.9	2.4	3.5	0.1	0.3	0.6	2.3	0.4	0.0
Warren	1.6	1.3	0.2	0.1	0.9	0.8	0.5	0.8	0.0	0.1	0.3	1.3	0.1	0.0
Washington	0.7	0.5	0.2	0.1	0.7	0.7	0.7	1.0	0.0	0.1	0.6	2.0	0.2	0.0
Wayne	2.4	2.3	0.4	0.3	1.3	1.1	0.4	0.6	0.0	0.1	0.4	1.7	0.0	0.0
Westchester	16.7	15.1	0.4	0.4	7.9	6.8	8.7	11.4	0.2	0.9	0.1	0.2	0.2	0.0
Wyoming	0.9	0.9	0.2	0.1	0.7	0.6	0.1	0.2	0.0	0.0	0.3	1.2	0.0	0.0
Yates	0.3	0.3	0.2	0.1	0.4	0.4	0.1	0.2	0.0	0.0	0.2	0.7	0.0	0.0
New York State	**430.6**	**381.3**	**19.7**	**16.5**	**173.3**	**146.4**	**105.1**	**165.0**	**2.2**	**13.2**	**22.3**	**76.6**	**5.7**	**0.6**

Appendix D-1

Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2009 - 2013, 5-Year Estimates

Table D-1. (in housing units)

County	Total Occupied Units	Utility Gas	Bottled Tank or LP Gas	Electricity	Fuel Oil or Kerosene	Coal or Coke	Wood	Solar Energy	Other	No Fuel Used
New York State	7,234,743	4,019,230	236,289	711,860	1,986,090	19,540	146,856	2,077	66,647	46,154
New York City	3,070,298	1,794,686	46,678	288,685	861,376	2,199	2,015	880	37,514	36,265
Bronx	474,842	164,627	5,803	36,461	256,961	383	220	126	4,697	5,564
Kings	916,025	681,833	15,442	53,600	146,647	459	931	320	7,676	9,117
New York	736,192	272,154	10,245	148,678	269,309	798	170	289	18,854	15,695
Queens	778,630	532,679	13,510	44,677	175,418	428	551	145	5,906	5,316
Richmond	164,609	143,393	1,678	5,269	13,041	131	143	0	381	573
Rest of State	4,164,445	2,224,544	189,611	423,175	1,124,714	17,341	144,841	1,197	29,133	9,889
Albany	122,700	84,591	2,690	18,710	13,342	74	2,136	51	655	451
Alleghany	18,786	9,708	1,811	1,658	1,467	765	3,010	0	322	45
Broome	79,763	52,252	5,179	8,506	9,504	494	2,952	15	651	210
Cattaraugus	32,246	16,821	3,810	4,195	2,546	465	3,841	0	533	35
Cayuga	31,311	15,576	4,022	3,022	5,132	484	2,587	2	427	59
Chautauqua	54,863	37,820	3,993	7,002	1,515	136	3,430	20	851	96
Chemung	35,622	26,113	1,297	3,354	2,313	511	1,609	0	335	90
Chenango	19,829	3,172	2,521	3,068	7,030	357	3,346	13	303	19
Clinton	31,901	3,517	1,171	9,278	13,849	167	3,497	0	358	64
Columbia	25,280	3,242	2,069	3,550	13,700	97	2,174	15	393	40
Cortland	18,069	8,709	1,457	2,514	2,976	460	1,600	4	274	75
Deleware	19,844	2,352	2,007	2,218	8,607	203	4,102	25	320	10
Dutchess	107,830	28,274	4,209	13,837	56,641	257	3,338	132	946	196
Erie	380,152	337,807	6,387	22,539	7,129	346	3,561	14	1,488	881
Essex	15,919	1,019	1,631	2,654	7,861	96	2,464	9	168	17
Franklin	19,238	1,012	1,445	2,434	11,109	167	2,829	0	171	71
Fulton	22,611	9,257	1,852	1,819	6,731	69	2,194	7	654	28
Gennssee	23,884	13,874	2,711	1,998	3,278	191	1,294	3	477	58
Greene	18,365	1,089	1,932	2,267	10,816	59	2,011	22	169	0
Hamilton	1,854	62	422	89	790	0	462	0	29	0
Herkimer	26,815	11,621	1,774	3,089	7,321	228	2,268	78	334	102
Jefferson	45,011	18,958	5,341	7,519	8,917	71	3,580	5	460	160
Lewis	10,677	1,264	1,063	795	4,222	20	3,201	2	83	27
Livingston	24,092	11,713	3,518	3,471	2,821	217	1,910	0	408	34
Madison	26,565	11,270	2,758	3,306	6,225	494	2,128	0	325	59
Monroe	297,040	238,808	4,444	40,456	8,369	176	2,035	36	1,688	1,028
Montgomery	19,703	9,151	995	1,705	5,656	208	1,478	5	496	9
Nassau	441,955	222,448	3,820	24,217	188,565	134	999	27	990	755
Niagara	88,376	68,180	4,854	6,933	6,168	57	1,457	13	544	170
Oneida	91,075	54,597	4,218	9,379	17,374	297	3,918	96	753	443
Onondaga	184,855	138,179	5,089	26,864	8,872	888	2,612	45	1,614	692
Ontario	43,794	25,420	5,044	6,001	4,108	543	2,153	0	400	125
Orange	125,317	59,468	5,674	12,206	43,794	356	2,778	63	697	281
Orleans	15,725	6,637	2,628	1,732	2,971	64	1,364	0	262	67
Oswego	45,325	19,442	7,907	4,239	7,336	365	5,047	0	676	313
Ostego	24,078	4,267	3,310	2,465	9,980	147	3,605	0	277	27
Putnam	34,496	2,551	1,099	6,641	22,865	24	995	0	291	30
Rensselaer	64,242	29,310	4,368	8,623	17,309	45	3,609	69	739	170
Rockland	98,326	85,540	934	7,605	3,402	33	311	0	275	226
St. Lawrence	41,839	14,133	3,085	4,905	12,948	68	5,993	49	509	149
Saratoga	88,460	49,227	7,754	11,469	15,455	165	3,676	33	599	82
Schenectady	58,059	42,239	1,459	6,811	6,265	38	863	4	285	95
Schoharie	12,820	504	1,307	1,702	6,731	129	2,125	4	280	38
Schuyler	7,684	1,502	1,820	858	1,670	647	1,008	11	121	47
Seneca	13,429	5,953	2,524	1,398	2,077	650	659	0	115	53
Steuben	41,503	22,051	4,588	4,349	3,425	1,901	4,530	3	549	107
Suffolk	497,347	175,540	9,302	33,206	272,944	388	3,705	70	1,412	780
Sullivan	29,531	846	3,659	4,328	17,304	146	2,980	4	208	56
Tioga	20,202	5,949	2,346	1,906	6,635	880	2,237	0	233	16
Tompkins	38,409	19,383	4,248	6,882	4,436	598	2,295	15	471	81
Ulster	69,862	12,871	6,594	8,365	36,747	153	4,342	109	579	102
Warren	28,081	12,427	2,842	3,044	7,242	161	2,013	23	283	46
Washington	24,499	5,193	2,452	2,488	10,150	171	3,728	49	232	36
Wayne	36,399	18,931	4,362	4,269	5,483	341	2,701	0	262	50
Westchester	343,561	152,882	5,462	31,448	149,438	449	1,154	52	1,726	950
Wyoming	15,624	7,191	2,005	2,428	1,704	294	1,705	0	284	13
Yates	9,602	2,631	2,348	1,361	1,449	397	1,242	0	149	25

Appendix D-2

Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2013, 1-Year Estimates[1]

Table D-2. (in housing units)

County	Total Occupied Units	Utility Gas	Bottled Tank or LP Gas	Electricity	Fuel Oil or Kerosene	Coal or Coke	Wood	Solar Energy	Other	No Fuel Used
New York State	7,219,356	4,074,510	259,367	764,400	1,802,442	18,997	148,422	2,525	81,841	66,852
New York City	3,084,861	1,846,863	58,886	312,877	758,679	2,502	1,535	908	49,446	53,165
Bronx	481,143	179,561	7,303	38,717	242,066	321	155	338	5,333	7,349
Kings	925,489	708,931	19,848	67,864	103,757	132	427	325	9,219	14,986
New York	726,357	277,885	11,011	152,460	235,066	850	317	89	27,877	20,802
Queens	784,243	536,796	18,804	46,943	165,021	638	534	156	6,656	8,695
Richmond	167,629	143,690	1,920	6,893	12,769	561	102	0	361	1,333
Rest of State	4,134,495	2,227,647	200,481	451,523	1,043,763	16,495	146,887	1,617	32,395	13,687
Albany	123,251	86,440	2,377	19,169	11,549	27	2,082	24	1,022	561
Broome	76,714	48,798	6,041	7,864	10,184	323	2,391	0	795	318
Cattaraugus	32,271	17,522	3,687	4,634	2,271	182	3,470	0	445	60
Cayuga	30,784	15,431	3,621	3,511	4,728	394	2,672	13	378	36
Chautauqua	54,551	36,821	4,413	7,616	1,539	124	3,268	13	648	109
Chemung	35,838	26,564	1,185	3,040	2,499	420	1,765	0	219	146
Clinton	31,862	3,428	1,567	9,650	13,302	340	3,126	0	328	121
Dutchess	107,752	27,848	5,139	15,098	54,097	173	3,914	97	1,024	362
Erie	381,927	341,396	6,286	22,632	6,100	286	2,689	70	1,382	1,086
Jefferson	42,466	17,176	4,322	8,674	8,174	24	3,352	16	504	224
Livingston	23,853	11,665	4,130	2,744	2,990	388	1,497	0	401	38
Madison	26,518	11,284	2,508	3,540	5,882	292	2,596	0	309	107
Monroe	298,314	239,738	4,728	41,689	6,643	156	1,922	116	1,747	1,575
Nassau	438,588	231,131	3,945	25,033	173,713	144	1,539	40	1,358	1,685
Niagara	87,970	68,360	5,339	7,933	4,687	64	886	0	597	104
Oneida	89,648	51,419	4,654	10,995	16,040	245	4,747	264	731	553
Onondaga	184,316	132,047	5,600	32,505	7,441	1,228	2,526	72	1,986	911
Ontario	43,028	24,568	4,770	6,910	3,852	210	2,148	0	455	115
Orange	123,977	58,304	6,127	13,467	41,443	197	3,018	221	627	573
Oswego	45,327	20,228	7,864	4,360	6,485	438	4,496	0	1,176	280
Putnam	32,251	2,244	1,028	6,495	20,724	53	1,230	0	477	0
Rensselaer	63,981	29,325	4,606	9,373	15,451	53	4,023	26	1,109	15
Rockland	98,294	83,611	890	9,039	3,818	0	320	0	371	245
St. Lawrence	41,299	13,417	3,695	5,394	12,081	0	6,064	0	470	178
Saratoga	90,397	50,341	8,094	11,315	15,491	58	4,348	86	512	152
Schenectady	57,526	43,013	1,193	7,736	4,436	0	542	18	425	163
Steuben	41,241	21,136	5,568	3,857	3,344	2,274	4,521	13	429	99
Suffolk	496,958	182,396	11,169	33,739	262,239	383	4,449	0	1,585	998
Sullivan	27,508	774	3,497	4,858	15,197	74	2,974	0	134	0
Tompkins	37,524	19,917	4,840	6,419	3,682	286	1,840	0	481	59
Ulster	68,650	12,278	8,164	9,481	33,218	54	5,015	144	202	94
Warren	27,228	12,910	2,570	3,282	5,851	230	2,143	0	242	0
Wayne	35,349	18,171	4,185	4,318	4,985	308	3,218	0	120	44
Westchester	341,755	156,703	6,364	36,671	136,602	849	1,122	69	1,832	1,543

[1] Counties with populations of less than 65,000 were not part of the American Community Survey 1-Year Estimates.

Appendix D-3

New York State Population Estimates by County, 2003-2013

Table D-3

County	July 2003	July 2004	July 2005	July 2006	July 2007	July 2008	July 2009	July 2010	July 2011	July 2012	July 2013
New York State	19,175,939	19,171,567	19,132,610	19,104,631	19,132,335	19,212,436	19,307,066	19,398,228	19,502,728	19,576,125	19,487,053
Albany	301,085	302,173	302,791	303,997	303,858	303,739	304,733	303,991	304,712	306,012	305,279
Alleghany	50,165	50,311	49,768	49,359	49,079	49,177	48,969	48,964	48,804	48,243	48,618
Bronx	1,362,373	1,358,963	1,351,736	1,348,164	1,354,056	1,363,488	1,376,261	1,387,709	1,395,933	1,407,939	1,397,315
Broome	201,037	200,974	200,477	200,905	200,877	201,029	200,935	200,419	199,245	198,359	199,298
Cattaraugus	83,335	82,864	82,039	81,342	81,056	80,761	80,491	80,221	79,793	79,278	79,735
Cayuga	81,395	81,284	81,104	80,892	80,629	80,482	80,172	79,831	79,767	79,587	79,767
Chautauqua	137,587	137,174	136,139	135,640	135,481	135,229	135,197	134,830	134,270	133,403	134,156
Chemung	90,154	89,777	88,860	88,732	88,634	88,503	88,849	88,940	88,939	89,147	88,876
Chenango	51,393	51,297	51,154	51,391	51,463	51,326	50,639	50,333	50,228	49,904	50,121
Clinton	81,396	81,803	82,233	82,547	82,556	82,401	82,280	82,048	81,765	81,643	81,865
Columbia	63,304	63,646	63,717	63,427	63,430	63,253	63,023	63,015	62,606	62,485	62,674
Cortland	49,475	49,628	49,330	49,449	49,624	49,537	49,358	49,254	49,544	49,222	49,271
Deleware	47,930	48,283	48,377	48,271	48,450	48,363	48,182	47,840	47,621	47,091	47,491
Dutchess	290,781	292,859	294,362	294,712	295,319	296,267	296,887	297,735	298,227	297,162	297,385
Erie	941,846	938,333	931,745	925,564	921,887	920,571	919,334	918,817	919,209	918,922	919,230
Essex	39,334	39,295	39,321	39,490	39,373	39,435	39,478	39,288	39,404	38,971	39,181
Franklin	51,228	51,197	51,257	51,511	51,782	51,907	51,706	51,579	51,561	51,848	51,676
Fulton	55,081	55,233	55,301	55,328	55,489	55,584	55,558	55,445	55,234	55,002	55,165
Gennssee	60,412	60,224	60,068	59,919	59,930	59,895	59,932	60,040	60,037	59,896	59,872
Greene	48,416	48,755	49,142	49,513	49,537	49,467	49,372	49,124	49,003	48,685	48,928
Hamilton	5,181	5,158	5,093	4,987	4,969	4,893	4,858	4,828	4,819	4,787	4,813
Herkimer	64,080	64,332	64,292	64,029	64,343	64,404	64,381	64,434	64,616	64,528	64,428
Jefferson	110,246	109,924	113,486	113,650	115,059	115,033	115,023	116,605	118,294	120,941	118,073
Kings	2,472,999	2,459,094	2,445,809	2,436,132	2,441,324	2,460,361	2,487,751	2,509,591	2,541,018	2,568,435	2,539,789
Lewis	26,692	26,661	26,773	27,001	27,086	26,878	27,047	27,069	27,051	27,222	27,108
Livingston	65,130	65,484	65,322	65,357	65,460	65,637	65,420	65,387	64,982	64,939	65,087
Madison	71,010	71,397	71,471	72,042	72,709	73,075	73,169	73,396	72,906	72,342	72,839
Monroe	741,671	741,075	738,506	738,329	739,249	741,018	743,386	744,690	747,000	748,057	746,548
Montgomery	49,449	49,460	49,505	49,724	49,798	49,951	50,001	50,299	49,982	49,916	50,019
Nassau	1,339,761	1,337,964	1,332,318	1,324,905	1,322,048	1,325,129	1,332,088	1,341,048	1,345,260	1,348,283	1,343,765
New York	1,562,154	1,569,947	1,573,573	1,578,171	1,581,402	1,587,022	1,583,431	1,588,129	1,607,316	1,621,323	1,605,272
Niagara	218,072	217,737	216,818	216,148	215,791	215,793	216,043	216,497	215,691	214,845	215,465
Oneida	234,243	234,654	234,282	234,229	234,488	234,482	234,619	234,842	234,137	233,847	234,206
Onondaga	460,961	461,412	460,910	460,925	461,287	463,472	465,633	467,429	467,525	467,038	467,202
Ontario	102,625	103,385	104,259	104,644	105,216	106,302	107,214	108,063	108,569	108,607	108,311
Orange	358,727	362,934	364,522	366,908	368,464	370,201	372,079	373,443	374,259	374,135	373,902
Orleans	43,593	43,682	43,475	43,420	43,342	43,254	42,975	42,847	42,736	42,524	42,663
Oswego	123,120	123,340	122,640	122,354	122,213	122,366	122,055	122,147	122,050	121,566	121,797
Ostego	62,567	62,934	63,069	63,032	62,914	62,561	62,280	62,228	62,030	61,924	62,029
Putnam	98,964	99,468	99,575	99,357	99,454	99,537	99,666	99,733	99,911	99,636	99,718
Queens	2,214,608	2,198,516	2,185,222	2,173,862	2,177,351	2,193,623	2,217,166	2,234,935	2,257,837	2,275,889	2,256,400
Rensselaer	154,201	155,523	156,104	157,312	158,243	159,011	159,150	159,374	159,707	159,677	159,565
Richmond	455,939	456,846	457,028	457,577	459,642	463,701	466,965	469,691	471,026	470,811	470,223
Rockland	296,224	297,562	298,737	299,390	301,668	305,413	308,652	312,502	315,588	317,702	315,069
St. Lawrence	111,329	111,468	111,606	111,556	111,586	111,684	112,169	111,778	112,273	112,303	112,097
Saratoga	209,410	211,478	212,975	214,627	215,798	217,282	218,652	219,962	221,041	222,327	221,169
Schenectady	147,891	148,900	150,200	151,768	152,275	153,360	154,050	154,919	154,749	155,055	154,821
Schoharie	32,032	32,310	32,534	32,661	32,894	32,890	32,776	32,667	32,645	32,087	32,404
Schuyler	19,151	19,034	18,880	18,752	18,707	18,644	18,398	18,300	18,484	18,518	18,432
Seneca	35,212	35,312	35,177	35,223	35,469	35,370	35,286	35,253	35,410	35,436	35,359
Steuben	99,191	98,983	98,868	98,473	98,541	98,726	98,949	98,942	99,250	98,964	98,951
Suffolk	1,470,849	1,478,215	1,477,687	1,475,626	1,475,255	1,480,218	1,487,206	1,494,534	1,499,578	1,497,958	1,495,803
Sullivan	75,447	76,265	76,780	77,231	77,991	77,755	77,647	77,442	77,100	76,818	77,134
Tioga	51,895	51,631	51,611	51,536	51,565	51,498	51,236	51,041	51,012	50,413	50,789
Tompkins	99,049	99,531	99,433	99,651	99,910	100,383	101,497	101,677	101,847	102,713	102,270
Ulster	180,942	181,847	182,438	182,845	182,818	183,174	182,638	182,374	182,666	181,753	182,086
Warren	64,323	64,576	65,206	65,554	65,740	65,848	65,694	65,677	65,709	65,501	65,584
Washington	61,621	62,278	62,468	62,771	63,054	63,252	63,077	63,321	63,363	63,331	63,237
Wayne	94,001	93,860	93,727	93,595	93,539	93,739	93,643	93,739	93,275	92,992	93,224
Westchester	935,799	935,457	933,401	931,426	933,414	937,449	944,201	950,517	956,791	961,106	956,283
Wyoming	42,955	42,852	42,780	42,673	42,515	42,281	42,236	42,100	41,928	41,821	41,923
Yates	24,898	25,008	25,129	25,025	25,234	25,352	25,303	25,355	25,395	25,256	25,293

Appendix E

New York State Heating and Cooling Degree-Days, 1999–2013

Figure E-1

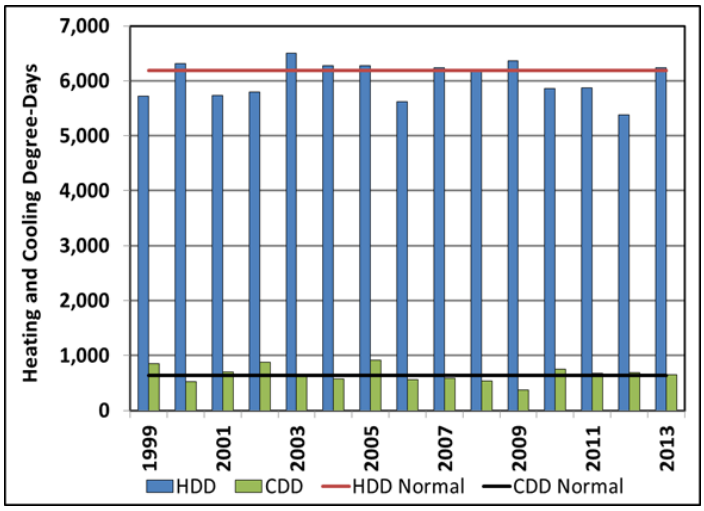

Table E-1 (monthly heating degree-days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1999	1,193	946	895	483	161	24	2	13	67	413	559	970	5,726
2000	1,255	1,002	720	556	209	58	11	17	140	381	729	1,238	6,316
2001	1,199	1,001	992	496	188	39	13	0	97	339	538	832	5,734
2002	971	868	827	462	299	40	3	6	46	445	725	1,099	5,791
2003	1,375	1,164	898	597	277	62	1	5	64	438	610	1,012	6,503
2004	1,441	1,103	818	500	148	57	3	15	49	384	675	1,080	6,273
2005	1,277	1,011	1,029	456	325	18	0	3	35	365	622	1,130	6,271
2006	951	997	886	487	254	53	1	15	136	442	571	828	5,621
2007	1,054	1,213	939	622	218	40	16	23	74	243	752	1,045	6,239
2008	1,085	1,053	930	450	315	22	1	18	107	455	743	1,031	6,210
2009	1,367	997	890	497	240	71	18	16	140	476	583	1,073	6,368
2010	1,183	1,021	715	386	175	35	6	5	91	394	693	1,153	5,857
2011	1,292	1,051	910	490	193	33	0	4	70	381	569	876	5,869
2012	1,038	894	601	508	146	51	0	7	117	347	775	889	5,373
2013	1,102	1,028	936	540	230	54	3	9	166	350	771	1,042	6,231
Normal*	1,207	1,055	892	516	232	46	1	13	105	397	679	1,038	6,181

Table E-2 (monthly cooling degree-days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1999	0	0	0	0	23	185	346	203	97	1	0	0	855
2000	0	0	0	0	37	125	128	156	81	1	0	0	528
2001	0	0	0	2	27	157	160	285	65	5	0	0	701
2002	0	0	0	27	16	135	307	276	99	17	0	0	877
2003	0	0	0	0	1	90	233	269	58	0	1	0	652
2004	0	0	0	0	35	103	197	174	70	0	0	0	579
2005	0	0	0	0	0	196	285	296	120	12	0	0	909
2006	0	0	0	0	24	104	251	170	14	0	0	0	563
2007	0	0	0	0	26	104	169	188	76	28	0	0	591
2008	0	0	0	0	3	144	224	96	65	0	0	0	532
2009	0	0	0	9	5	43	107	191	20	0	0	0	375
2010	0	0	0	0	42	142	295	196	75	1	0	0	751
2011	0	0	0	0	39	97	280	169	84	1	0	0	670
2012	0	0	0	4	44	105	271	203	59	2	0	0	688
2013	0	0	0	0	32	113	301	135	57	6	0	0	644
Normal*	0	0	0	0	18	119	233	200	64	3	0	0	637

* Note: Normal is a 30 year degree-day average value from 1981 to 2010.

Appendix F-1

New York State Electricity Prices by Sector by Utility[1] in Nominal Dollars, 2001–2013

Table F-1a. Residential Sector Electricity Prices by Utility (Nominal Cents/kWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	9.94	18.08	13.69	13.89	12.32	14.78	11.23
2002	9.96	16.99	13.92	12.32	12.39	12.47	10.61
2003	10.39	19.37	14.66	12.37	12.26	13.95	10.72
2004	10.43	18.93	16.05	12.43	12.83	13.84	10.38
2005	12.61	21.07	17.50	13.59	12.74	15.20	10.58
2006	12.83	20.90	20.11	13.78	14.98	15.40	11.71
2007	14.00	21.58	19.08	13.40	15.56	16.60	11.46
2008	16.28	24.18	19.67	13.19	15.45	18.12	11.85
2009	15.81	23.58	18.56	11.90	14.95	17.63	11.52
2010	16.51	25.85	20.75	11.14	15.57	18.88	12.34
2011	15.96	25.59	19.81	10.83	15.16	18.60	12.07
2012	16.22	25.65	19.03	10.70	12.91	16.85	12.21
2013	16.86	26.99	20.65	11.68	14.18	19.46	13.31

Table F-1b. Commercial Sector Electricity Prices by Utility (Nominal Cents/kWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	7.24	15.69	11.62	11.66	10.73	11.53	9.28
2002	7.34	14.32	11.80	10.40	10.99	9.37	9.25
2003	7.61	16.36	12.50	11.28	11.79	10.89	9.78
2004	7.67	16.05	13.87	11.06	12.24	10.63	9.10
2005	10.11	18.61	15.82	12.22	13.12	12.27	9.58
2006	10.12	18.37	18.75	12.25	14.35	12.09	11.23
2007	11.26	19.27	17.76	12.05	15.38	13.53	11.00
2008	13.28	21.20	18.59	12.46	16.84	14.70	11.36
2009	12.12	19.64	17.39	9.23	12.66	13.01	10.12
2010	12.64	20.38	19.27	10.21	13.69	14.31	11.88
2011	12.13	20.70	18.12	9.62	13.13	13.64	11.39
2012	12.47	20.04	17.23	9.40	10.69	12.29	11.72
2013	13.21	20.61	18.62	11.52	12.06	14.61	13.04

Table F-1c. Industrial Sector Electricity Prices by Utility (Nominal Cents/kWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	5.24	14.35	N/A	7.19	5.10	8.42	6.67
2002	5.00	13.03	N/A	6.49	4.85	6.06	6.67
2003	7.50	15.08	N/A	7.70	14.12	7.88	6.79
2004	7.16	14.81	N/A	6.58	13.27	7.28	7.10
2005	10.05	17.41	N/A	7.34	17.44	8.88	7.33
2006	7.66	16.82	N/A	7.25	18.31	8.54	8.17
2007	8.53	18.02	N/A	6.81	17.05	9.85	7.99
2008	12.47	19.56	N/A	7.19	20.44	11.94	8.26
2009	10.52	18.05	N/A	5.53	15.36	7.59	6.47
2010	11.15	18.92	N/A	6.04	15.00	8.08	8.90
2011	10.01	18.65	N/A	5.84	15.47	7.04	8.50
2012	10.27	17.26	N/A	5.47	10.58	5.80	9.36
2013	10.69	18.30	N/A	5.98	8.10	8.03	11.71

[1] Annual average electricity prices by sector by utility are based on bundled electricity sales.

Appendix F-2

New York State Electricity Customers by Sector by Utility, 2001–2013

Table F-2a. Residential Sector Electricity Customers by Utility

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	237,756	2,676,565	923,730	710,050	1,382,740	143,613	284,898
2002	239,249	2,683,349	936,810	715,299	1,369,959	142,212	281,565
2003	243,689	2,691,906	967,606	708,149	1,357,582	131,739	278,996
2004	245,088	2,626,379	977,980	706,360	1,348,800	130,148	282,578
2005	248,409	2,625,628	981,532	696,362	1,349,917	131,200	264,873
2006	246,921	2,527,297	988,501	701,371	1,343,802	137,776	258,345
2007	248,621	2,403,262	989,705	679,298	1,308,819	138,326	264,226
2008	244,470	2,312,650	991,385	653,965	1,271,407	138,899	261,889
2009	240,551	2,280,223	995,350	636,962	1,245,334	140,244	259,569
2010	237,920	2,288,286	997,361	611,712	1,224,605	132,344	256,607
2011	235,742	2,263,566	997,520	587,353	1,199,358	128,238	249,138
2012	225,159	2,161,397	998,404	576,672	1,174,731	120,892	245,761
2013	217,523	2,113,173	996,217	574,429	1,165,012	117,183	246,295

Table F-2b. Commercial Sector Electricity Customers by Utility

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	38,157	422,659	106,563	80,008	145,892	22,579	26,639
2002	38,698	429,641	107,888	82,376	146,566	22,459	26,570
2003	44,571	445,078	115,170	85,555	141,499	20,713	28,457
2004	44,092	423,526	112,431	95,739	137,116	19,659	28,225
2005	44,673	410,162	112,638	89,068	124,672	20,037	23,527
2006	42,938	390,897	117,700	86,541	123,449	21,335	23,640
2007	43,399	391,071	117,844	81,786	117,655	21,622	24,108
2008	42,761	391,694	117,966	76,284	109,098	21,563	23,916
2009	40,613	391,850	118,095	75,082	104,171	20,769	22,832
2010	39,196	388,876	118,320	71,547	101,607	19,322	22,285
2011	37,576	371,054	117,917	68,473	98,730	18,672	21,372
2012	35,638	349,340	117,568	67,874	98,886	17,759	20,516
2013	34,217	341,327	116,388	69,136	97,955	16,935	20,991

Table F-2c. Industrial Sector Electricity Customers by Utility

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	918	360	N/A	2,394	1,589	99	882
2002	1,027	388	N/A	2,376	1,469	95	900
2003	1,026	298	N/A	2,284	1,218	80	809
2004	981	305	N/A	2,191	1,071	73	744
2005	988	324	N/A	1,858	890	78	618
2006	959	259	N/A	1,644	874	78	493
2007	1,181	247	N/A	1,415	817	73	472
2008	1,027	238	N/A	1,215	768	71	438
2009	905	223	N/A	1,056	755	67	406
2010	864	184	N/A	939	748	57	364
2011	834	130	N/A	853	702	52	325
2012	789	97	N/A	796	655	48	333
2013	799	85	N/A	758	630	47	314

Appendix F-3

New York State Electricity Sales by Sector by Utility, 2001–2013

Table F-3a. Residential Sector Electricity Sales by Utility (MWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	1,805,621	12,049,882	8,143,069	5,288,097	9,833,764	1,102,118	2,044,601
2002	1,882,605	12,510,162	8,489,702	5,544,411	10,119,984	1,092,398	2,156,036
2003	1,978,211	12,440,663	8,997,588	5,574,081	10,232,341	1,038,020	1,996,897
2004	2,002,612	12,672,846	9,182,520	5,607,088	10,168,685	986,418	2,144,358
2005	2,146,753	13,689,872	9,705,553	5,732,108	10,749,792	1,070,489	2,223,030
2006	2,004,577	12,589,959	9,277,824	5,648,612	10,247,534	1,035,081	1,982,798
2007	2,087,392	12,312,008	9,508,007	5,659,267	10,139,717	1,131,165	2,096,566
2008	2,003,545	11,719,706	9,511,752	5,297,114	9,636,989	1,130,272	2,013,088
2009	1,916,310	10,952,005	9,211,446	5,107,334	9,360,771	1,076,295	1,987,238
2010	1,958,837	11,518,155	9,971,612	5,120,503	9,542,752	1,115,190	2,035,226
2011	1,944,957	11,403,660	9,848,964	4,983,887	9,366,973	1,024,674	1,999,343
2012	1,800,614	10,717,525	9,734,394	4,847,889	9,036,230	954,763	1,926,700
2013	1,760,152	10,273,410	9,533,155	4,949,765	9,012,097	927,165	1,921,297

Table F-3b. Commercial Sector Electricity Sales by Utility (MWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	1,488,291	19,222,099	9,002,154	2,882,701	9,897,376	1,249,859	1,702,176
2002	1,534,091	18,594,627	9,026,264	2,918,363	8,984,374	1,227,141	1,645,668
2003	1,935,048	17,766,204	9,593,209	2,474,015	8,075,084	1,296,082	1,618,227
2004	1,890,480	16,803,719	9,666,377	3,177,619	6,964,019	1,128,642	1,385,608
2005	1,800,725	15,271,507	9,198,576	2,714,119	5,887,419	1,137,834	1,096,937
2006	1,520,755	13,230,007	8,824,667	2,532,073	5,075,399	1,132,730	896,507
2007	1,615,260	12,743,413	8,968,607	2,446,765	4,690,828	1,188,901	930,697
2008	1,575,834	12,678,840	8,542,369	2,279,549	4,135,314	1,152,066	845,892
2009	1,296,801	12,324,277	8,305,275	2,002,202	4,016,265	981,477	710,800
2010	1,183,268	12,417,399	8,854,183	1,774,115	3,873,456	833,035	656,602
2011	1,052,215	11,082,390	8,770,670	1,581,403	3,452,903	696,076	611,724
2012	900,176	9,788,179	8,660,966	1,522,028	3,232,094	600,631	575,652
2013	849,055	9,743,737	8,498,832	1,438,211	3,289,630	571,385	601,602

Table F-3c. Industrial Sector Electricity Sales by Utility (MWh)

Year	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric
2001	1,305,399	561,692	N/A	2,848,457	10,069,048	472,266	1,471,716
2002	1,000,051	468,108	N/A	2,891,026	9,185,488	288,227	1,380,190
2003	552,664	403,022	N/A	3,313,581	2,627,485	241,796	1,196,974
2004	478,489	372,432	N/A	2,176,117	2,444,673	252,275	823,202
2005	328,119	365,733	N/A	1,814,690	1,881,205	432,001	748,081
2006	511,237	267,531	N/A	1,745,002	1,589,350	305,037	640,682
2007	1,047,884	245,799	N/A	1,608,935	1,634,915	340,473	611,790
2008	147,781	230,395	N/A	1,236,259	1,345,912	281,966	588,797
2009	105,727	200,427	N/A	843,134	1,155,161	249,428	396,034
2010	95,294	200,770	N/A	585,294	1,490,309	218,641	342,545
2011	92,979	130,979	N/A	480,602	1,254,034	166,921	230,243
2012	71,566	113,525	N/A	372,349	1,514,576	113,440	111,154
2013	101,993	98,951	N/A	323,235	1,084,851	90,127	70,842

Appendix F-4

New York State Natural Gas Prices by Sector by Utility in Nominal Dollars, 2001–2013

Table F-4a. Residential Sector Natural Gas Prices by Utility (Nominal Dollars per Thousand Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	11.95	11.11	14.09	8.46	12.71	12.77	8.04	10.32	10.71	10.64	8.02
2002	11.05	10.89	12.60	8.63	11.88	8.21	8.10	8.79	8.56	9.66	6.12
2003	12.61	11.77	13.35	9.21	12.80	11.51	9.68	10.43	10.84	10.83	7.61
2004	12.91	12.30	14.05	10.64	13.35	11.97	11.95	11.06	12.26	11.56	9.44
2005	15.30	14.27	16.80	11.97	15.16	14.51	13.59	13.05	14.54	13.51	11.02
2006	13.15	16.23	18.72	14.91	16.11	15.70	14.04	14.35	17.95	14.32	12.30
2007	16.12	16.46	20.05	13.40	16.47	14.36	13.88	13.12	17.95	13.86	13.33
2008	17.21	18.25	21.40	14.95	17.07	15.39	14.56	14.08	18.26	14.95	13.84
2009	14.36	17.44	20.24	12.04	15.69	13.40	13.65	12.81	17.39	12.66	12.04
2010	13.66	16.89	19.98	12.25	14.22	10.85	12.44	11.81	15.64	11.89	11.94
2011	13.10	17.72	18.49	11.33	13.90	10.89	12.70	12.14	15.33	11.63	12.84
2012	11.84	16.39	17.78	11.33	13.11	10.34	12.35	11.26	14.52	11.34	13.22
2013	11.61	15.35	17.96	11.70	12.66	9.62	11.07	10.50	13.82	10.38	12.73

Table F-4b. Commercial Sector Natural Gas Prices by Utility (Nominal Dollars per Thousand Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	6.92	8.54	11.01	7.36	9.13	11.68	11.10	9.00	10.12	9.24	7.86
2002	5.70	8.08	8.24	10.07	8.48	7.09	8.47	7.55	8.15	8.37	5.62
2003	7.74	9.22	10.53	9.68	10.21	10.24	9.54	9.77	10.40	9.50	7.23
2004	7.74	9.22	10.53	9.68	10.21	10.24	9.54	9.77	10.40	9.50	7.23
2005	14.02	12.31	10.42	11.13	13.01	13.15	12.30	11.78	13.81	12.05	10.43
2006	12.76	13.20	10.97	13.94	13.12	13.96	12.97	12.81	17.03	12.54	11.44
2007	13.83	13.13	11.21	12.38	13.92	13.24	12.82	12.23	16.97	12.26	12.00
2008	14.96	14.46	10.54	13.70	14.95	14.04	13.54	14.35	17.15	13.23	12.53
2009	11.79	12.85	9.68	10.47	12.98	12.66	12.38	11.50	16.10	11.11	10.18
2010	11.61	11.72	8.83	10.54	11.36	10.17	11.24	10.18	13.94	10.13	9.70
2011	11.22	12.08	7.80	9.68	11.86	9.63	11.17	10.55	13.69	9.68	10.56
2012	9.23	9.74	6.79	9.28	10.71	9.31	10.39	9.34	12.47	9.25	10.47
2013	9.83	9.49	7.46	9.95	11.12	8.79	9.36	8.79	12.01	8.48	10.09

Table F-4c. Industrial Sector Natural Gas Prices by Utility (Nominal Dollars per Thousand Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	N/A	8.20	11.01	8.73	N/A	6.04	8.34	8.25	8.66	8.93	6.35
2002	N/A	7.16	8.24	9.30	N/A	4.52	6.19	6.31	7.47	7.79	4.38
2003	N/A	8.65	9.78	8.84	N/A	6.67	6.89	7.92	10.08	8.95	6.70
2004	N/A	9.67	8.52	9.98	N/A	7.35	8.01	8.49	11.04	9.56	7.82
2005	12.56	11.67	10.19	11.97	N/A	9.34	9.64	10.61	14.19	11.30	10.22
2006	10.43	12.03	10.70	12.83	N/A	10.64	10.57	11.24	16.24	11.74	13.94
2007	13.33	12.45	10.79	0.74	N/A	10.78	11.03	10.71	16.85	11.42	11.57
2008	14.75	14.00	10.35	0.65	N/A	12.14	12.06	11.55	16.40	12.42	11.38
2009	10.66	11.92	9.49	0.69	N/A	11.89	11.07	9.26	15.36	10.62	7.81
2010	9.59	10.16	8.31	N/A	N/A	7.35	9.22	8.36	12.69	9.42	7.81
2011	9.41	10.44	7.56	N/A	N/A	8.81	8.36	9.20	11.97	8.74	8.55
2012	7.50	7.94	6.71	N/A	N/A	7.42	7.85	8.12	10.55	8.11	8.58
2013	8.65	7.69	7.18	N/A	N/A	8.05	8.36	7.80	10.83	7.51	7.36

Appendix F-5

New York State Natural Gas Customers by Sector by Utility, 2001–2013

Table F-5a. Residential Sector Natural Gas Customers by Utility

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	1,194,700	59,401	934,197	16,957	437,775	484,199	221,432	504,368	108,867	265,692	13,589
2002	1,190,825	57,247	936,163	13,636	445,735	487,084	222,481	508,353	110,223	267,760	13,623
2003	1,140,775	58,158	919,562	17,064	461,842	486,322	222,655	512,652	111,060	269,182	13,764
2004	1,108,132	59,132	928,106	17,064	460,013	485,786	223,262	516,042	112,452	270,515	13,779
2005	1,120,046	60,489	934,272	17,061	466,673	484,083	223,977	521,491	112,760	271,828	13,819
2006	1,133,240	61,623	1,004,285	16,987	472,250	472,042	226,301	522,562	113,810	272,655	13,630
2007	1,139,533	62,605	1,045,956	13,468	477,395	479,539	227,350	526,036	114,657	273,882	13,714
2008	1,146,761	63,403	947,502	13,517	480,968	481,568	229,176	530,636	115,837	275,075	13,651
2009	1,147,105	63,570	936,894	13,531	488,324	482,209	229,805	534,864	116,773	276,202	13,782
2010	1,158,412	64,129	939,586	13,621	491,658	483,378	231,286	538,042	117,367	278,398	13,833
2011	1,165,043	64,538	942,468	13,699	495,067	483,214	231,032	540,759	117,963	280,057	13,829
2012	1,168,014	64,811	944,233	13,790	499,683	485,321	230,355	544,544	118,250	275,602	13,891
2013	1,170,112	65,652	944,930	13,744	503,537	487,184	231,138	549,251	118,997	282,576	13,955

Table F-5b. Commercial Sector Natural Gas Customers by Utility

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	53,377	9,055	110,741	1,167	52,490	32,483	27,603	43,190	10,676	21,052	1,637
2002	54,139	9,202	112,497	853	52,688	32,846	28,311	42,789	10,836	21,166	1,639
2003	49,159	9,445	131,466	1,014	54,811	32,635	29,300	43,937	10,956	21,586	1,683
2004	46,781	9,647	113,292	896	55,533	32,596	29,469	44,249	11,051	21,910	1,672
2005	44,997	9,925	120,593	942	56,463	33,830	29,709	44,678	11,284	21,920	1,667
2006	42,579	10,111	144,164	854	57,062	33,784	29,197	44,622	11,369	21,837	1,606
2007	44,129	10,326	138,194	1,004	57,810	33,555	28,849	44,587	11,506	21,745	1,621
2008	40,479	10,477	121,107	1,009	58,274	33,448	28,949	44,527	11,492	21,886	1,638
2009	41,012	10,515	121,391	997	58,557	33,006	29,681	44,553	11,605	22,133	1,652
2010	41,634	10,544	122,432	1,015	58,600	33,452	29,237	44,624	11,599	22,121	1,651
2011	41,619	10,608	122,435	1,011	58,610	33,669	29,241	44,729	11,635	22,227	1,653
2012	42,372	10,639	123,369	1,023	58,714	34,213	29,160	44,438	11,600	21,672	1,658
2013	42,201	10,811	123,942	1,119	59,145	34,365	29,849	44,426	10,693	22,437	1,666

Table F-5c. Industrial Sector Natural Gas Customers by Utility

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	N/A	326	N/A	14	NA	621	557	420	151	944	22
2002	N/A	306	46	20	NA	614	707	263	123	934	26
2003	N/A	310	50	22	NA	594	696	256	85	918	24
2004	N/A	301	55	22	NA	595	708	251	74	909	22
2005	827	299	56	22	NA	584	707	256	54	899	22
2006	784	288	54	24	NA	550	712	261	44	882	20
2007	4,686	279	48	65	NA	536	679	266	37	844	21
2008	4,318	278	51	61	NA	530	691	254	34	817	22
2009	3,960	264	48	61	NA	507	673	255	29	795	20
2010	3,622	259	46	64	NA	500	654	251	26	771	20
2011	4,053	253	48	69	NA	490	626	252	20	754	21
2012	3,428	251	48	74	NA	493	615	234	20	704	21
2013	3,864	245	48	40	NA	491	618	214	20	727	21

Appendix F-6

New York State Natural Gas Sales by Sector by Utility, 2001–2013

Table F-6a. Residential Sector Natural Gas Sales by Utility (Thousands of Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	102,120,337	4,795,240	57,686,818	1,937,445	43,107,315	51,451,481	23,548,121	50,200,628	13,561,854	25,590,401	1,651,892
2002	93,469,187	4,532,247	56,302,042	2,257,768	43,288,372	53,961,437	23,023,804	50,484,960	13,431,071	26,660,957	1,700,114
2003	102,810,514	5,481,660	63,541,291	2,443,213	48,060,582	57,547,581	26,145,284	56,790,120	15,241,430	29,138,087	1,892,484
2004	100,665,586	5,221,078	60,778,620	2,278,749	47,513,520	54,012,135	24,081,191	53,499,850	14,595,438	27,761,486	1,810,512
2005	115,537,612	5,281,512	63,139,582	2,261,427	47,900,565	52,012,592	22,923,669	52,800,970	14,540,752	27,522,045	1,709,592
2006	100,274,035	4,706,716	56,736,051	1,954,727	40,747,217	45,242,454	22,262,944	46,300,112	12,408,540	23,792,865	1,544,755
2007	114,790,070	5,096,201	64,811,179	1,577,079	46,734,896	51,096,390	22,597,022	50,426,803	14,063,169	26,905,379	1,637,226
2008	114,361,703	5,177,388	64,012,350	1,548,918	46,045,565	49,736,341	22,560,524	49,217,415	13,534,947	26,008,326	1,526,556
2009	116,866,117	5,172,705	68,572,443	1,551,414	49,790,606	49,436,369	22,393,807	49,495,113	13,624,669	25,898,594	1,561,775
2010	115,923,885	4,801,800	66,361,919	1,507,436	47,017,488	47,028,315	21,016,652	47,255,952	13,143,178	24,532,494	1,433,322
2011	114,278,210	5,169,336	67,669,693	1,551,226	45,916,727	48,404,009	22,056,507	49,169,706	12,822,600	24,776,372	1,470,567
2012	105,503,651	4,313,937	63,773,119	1,349,081	41,989,650	42,456,512	19,202,699	42,725,481	11,973,412	22,634,509	1,345,518
2013	120,933,109	5,105,811	75,285,607	1,633,969	49,708,948	50,022,164	21,887,095	49,304,610	13,852,723	26,551,423	1,489,597

Table F-6b. Commercial Sector Natural Gas Sales by Utility (Thousands of Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	40,813,612	5,669,213	150,549,950	293,201	31,193,858	23,355,735	18,783,788	52,569,158	8,534,407	13,717,701	1,500,005
2002	64,513,969	5,666,435	155,227,127	233,179	32,984,243	24,540,505	19,098,324	33,716,274	9,573,069	14,803,904	1,535,988
2003	59,783,795	6,520,998	124,436,043	442,147	37,361,851	26,439,835	20,511,057	36,210,476	9,846,233	15,761,703	1,681,397
2004	104,492,970	6,758,422	103,118,736	413,702	37,592,278	24,763,564	19,254,845	34,784,872	10,173,167	15,725,888	1,656,104
2005	23,639,768	6,922,263	100,876,566	399,222	38,078,179	24,867,632	19,147,953	34,280,833	9,381,699	16,198,409	1,569,371
2006	20,433,656	6,146,520	100,157,951	344,939	34,749,225	23,212,163	18,824,609	31,044,836	8,685,109	14,598,152	1,411,278
2007	23,538,806	6,831,285	107,971,314	3,825,808	38,376,948	24,550,581	19,147,510	33,440,139	9,343,318	16,050,463	1,543,703
2008	23,476,784	6,875,202	114,868,103	3,630,921	38,551,191	24,290,662	19,306,644	32,439,363	8,766,876	16,065,214	1,549,673
2009	23,514,866	6,825,707	105,843,424	3,371,142	40,412,920	23,679,495	19,287,748	31,959,519	8,139,808	15,672,828	1,604,818
2010	24,032,731	6,240,305	117,022,706	4,230,251	39,210,645	22,636,256	18,232,071	30,917,320	7,681,100	15,192,656	1,542,450
2011	23,910,078	6,848,017	117,773,526	4,311,718	39,091,054	23,473,746	18,873,779	31,692,046	7,505,653	15,616,426	1,489,503
2012	22,154,185	6,038,411	112,419,675	3,758,992	35,431,946	20,195,144	17,250,127	29,390,554	7,227,518	14,516,494	1,409,962
2013	24,537,368	6,831,337	127,189,550	724,314	39,108,241	23,809,465	19,079,252	32,929,075	7,874,346	16,682,282	1,579,863

Table F-6c. Industrial Sector Natural Gas Sales by Utility (Thousands of Cubic Feet)

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2001	NA	3,183,823	3,417,491	2,944,262	NA	23,704,304	14,290,463	14,814,829	4,237,388	9,789,261	6,041,021
2002	NA	3,742,368	3,806,766	3,458,984	NA	24,511,914	13,898,251	21,582,762	3,258,726	9,769,719	6,333,967
2003	NA	3,389,385	2,918,090	2,252,866	NA	22,004,490	14,489,010	16,372,860	3,172,117	9,259,990	5,922,361
2004	NA	3,529,498	1,309,142	2,459,548	NA	19,999,889	13,826,712	16,375,021	3,073,290	9,232,935	6,005,971
2005	4,681,739	3,124,824	1,450,543	2,579,127	NA	19,256,530	13,055,526	17,545,390	2,998,646	8,596,533	5,729,590
2006	3,695,608	3,082,289	1,387,410	2,744,536	NA	16,765,059	12,561,249	20,317,350	2,609,417	7,285,819	5,867,328
2007	4,344,849	2,904,245	1,533,743	351,825	NA	17,166,469	13,254,378	20,702,752	2,634,811	7,275,270	5,679,517
2008	4,422,151	2,986,626	1,667,610	335,317	NA	16,281,691	13,738,991	23,288,620	2,555,073	8,232,866	5,124,100
2009	3,914,435	2,818,679	1,599,360	394,207	NA	13,919,024	13,155,488	21,348,072	2,393,060	7,199,927	3,546,097
2010	4,277,147	2,922,319	1,683,958	281,857	NA	14,671,958	12,666,131	23,650,683	2,449,858	6,997,760	3,710,287
2011	3,719,839	2,903,301	1,763,981	327,149	NA	14,145,338	12,642,551	24,440,223	2,281,148	6,967,304	3,804,853
2012	3,106,617	2,574,433	1,600,820	318,130	NA	13,929,041	12,593,956	25,622,385	2,358,225	6,547,576	3,378,195
2013	3,278,886	2,896,136	1,846,687	3,165,219	NA	14,379,125	13,160,028	26,295,858	2,327,030	6,826,401	3,426,489

Appendix G

Abbreviations

B	billion or 10^9
bbl	barrel
Bcf	Billion cubic feet
Btu	British thermal unit
cf	cubic foot
CO_2	carbon dioxide
gal	gallon
GDP	gross domestic product
GSP	gross state product
GWh	gigawatt-hour or million kWh
kWh	kilowatt-hour
LPG	liquefied petroleum gas
M	thousand or 10^3
Mcf	Thousand cubic feet
MM	million or 10^6
N/A	Not applicable
n.a.	Not available
OPEC	Organization of Petroleum Exporting Countries
T	trillion or 10^{12}

Conversion Factors

Approximate heat content of various fuels (2013)

Coal

Electric generation	19,174,000 Btu/ton
Other end use sectors	21,233,000 Btu/ton

Natural Gas

Electric generation	1,025 Btu/cf
Other end use sectors	1,028 Btu/cf

Wood 20,000,000 Btu/cord

Electricity Sales 3,412 Btu/kWh

Electricity Generation 8,849 Btu/kWh
(3- Year statewide weighted average annual heat rate for fossil-fueled power plants)

Petroleum Products (one barrel equals 42 gallons)

Distillate fuel oil	5,774,000 Btu/barrel
Ethanol	3,559,000 Btu/barrel
Jet fuel, kerosene-type	5,670,000 Btu/barrel
Kerosene	5,670,000 Btu/barrel
Motor gasoline	5,062,000 Btu/barrel
LPG (propane)	3,836,000 Btu/barrel
Residual fuel oil	6,287,000 Btu/barrel

Appendix H

Glossary

Anthracite coal - The highest ranked coal, used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter.

Barrel (bbl) - Liquid unit of volume measure equal to 42 U.S. gallons, commonly used in expressing quantities of petroleum or petroleum products.

Biofuels – Liquids derived from nonfossil biomass energy sources through chemical, thermal, and biological processes and used to produce thermal energy or electricity. Examples are fuel wood, waste wood, garbage, and crop waste. Different mixes of biofuels are used by each consuming sector. The residential sector burns wood for space heating. The transportation sector uses ethanol as an additive to motor gasoline and biodiesel blended with diesel fuel. Some electric generation uses wood or municipal waste as co-firing or primary fuels.

Bituminous coal - Often referred to as "soft coal," is more volatile than anthracite, and has a higher heat content than lignite. It has a heating value of 11,450-13,010 Btu per pound and is the most commonly used coal.

British thermal unit (Btu) - The quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit. Because different energy types use different standards of measurement, this unit provides a common denominator for quantifying all types of energy on an equivalent energy content basis. One Btu is equal to 252 calories of heat energy.

Coke - A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal. The volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

Combined heat and power (CHP) - Includes plants designed to produce both heat and electricity from a single heat source.

Commercial sector - The part of the energy-using sector of the economy that engages primarily in providing goods and services other than manufacturing. The commercial sector includes both private and public entities, and is made up of apartment and office buildings, governmental units, schools, institutions, churches, hotels, restaurants, and retail stores are included.

Constant Dollars - Values that have been adjusted to remove the effect of changes in inflation. The price paid for a product or service in the present value of the constant dollar year. Also referred to as real dollars.

Cord of wood - A cord of wood measures 4-feet by 4-feet by 8-feet, or 128 cubic feet.

Crude oil - A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs. Refined crude oil produces a number of different fuels, including residual fuel, motor gasoline, and distillate fuels.

Degree-days, cooling - A measure of temperature as it affects energy demand for space cooling. It is similar to heating degree-days, although the relationship is not as precise. If the average of a day's high and low temperature extremes is below 65 degrees Fahrenheit, then the cooling degree-days for that day are zero; otherwise, they are equal to the difference between the average and 65 °F.

Degree-days, heating - A measure of temperature as it affects energy demand for space heating. It is based on the fact that most buildings require no heat to maintain an inside temperature of at least 70 °Fahrenheit when the daily mean is 65 °F or higher. If the average of a day's high and low temperature extremes is more than 65 °F, the heating degree-days for that day are taken to be zero; otherwise, they are equal to the difference between the average and 65 °F. Note that a higher number of heating degree-days implies cooler temperatures.

Dekatherm - One dekatherm equals 10 therms or 1,000,000 Btu. Unit commonly used to measure amount of natural gas, based on its heat content in Btu rather than its volume in cubic feet.

Distillate fuel - A general classification for one of the petroleum fractions produced in conventional distillation operations. It includes diesel fuels and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.

Electric generation - Includes both publicly and privately owned generating plants in New York State.

End-use - Any ultimate consumption of any type of energy source including fossil fuels (petroleum, coal, natural gas) or electricity, whether generated by fossil fuel or other energy sources. End-users are often classified by economic sector, such as residential, commercial, industrial, and transportation.

Feedstock - The raw material furnished to a machine or industrial process. Fossil fuels sometimes are used as feedstocks for their chemical properties, rather than their energy value (e.g., oil used to produce plastics and synthetic fabrics).

Gallon (gal) - A unit of volume, the U.S. gallon contains 3.785 liters and is 0.083 times the imperial gallon. Also equal to 4 quarts (231 cubic inches), commonly used to measure petroleum products such as gasoline and heating oil. One U.S. gallon of water weighs 8.3 pounds.

Geothermal energy - Thermal energy generated and stored in the Earth. Water or steam extracted from geothermal reservoirs can be used for geothermal heat pumps, water heating, or electricity generation.

Gigawatt (GW) - One million kilowatts, or one billion watts.

Gigawatt-hour (GWh) - One million kilowatt-hours, or one billion watt-hours. Unit of measure for amount of electricity generated or used.

Hydro - A prefix used to identify a type of generating station, power, or energy output in which the prime energy source is water.

Industrial Sector - That section of the energy-using economy involved in or associated with either mining, construction, or manufacturing.

Jet fuel - Includes both naphtha- and kerosene-type jet fuels that meet standards for use in aircraft turbine engines. Some jet fuel is used for generating electricity in gas turbines.

Kerosene - A petroleum middle distillate with burning properties suitable for use as an illuminant when burned in wick lamps. Kerosene also is used in space heaters, cooking stoves, and water heaters and to reduce viscosity of distillate fuels during winter.

Kilowatt (kW) - One thousand watts. A unit of power, usually used for electricity.

Kilowatt-hour (kWh) - The amount of electrical energy involved with a one kilowatt demand over a period of one hour. One kilowatt-hour is equivalent to 3,412 Btu.

Liquefied petroleum gas (LPG) - Propane, propylene, butane and propane-butane mixtures produced at a refinery or natural gas-processing plant, including plants that fractionate raw natural gas-processing plant liquids. These are derived by refining and processing natural gas, crude oil, or unfinished oil.

Mcf - One thousand cubic feet. Measure of volume commonly used for natural gas.

Megawatt (MW) - One thousand kilowatts or one million watts.

Megawatt hour (MWh) - One thousand kilowatt-hours, or one million watt-hours.

Metric Ton - A unit of weight equal to approximately 2,204 pounds.

Motor gasoline - A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition engines. Leaded and unleaded refinery products are included.

Natural gas - An odorless, colorless, tasteless, non-toxic clean-burning fossil fuel, widely used to generate electricity and also used directly by end-use customers to provide space heat, water heating, and cooking.

Naphtha - A general term applied to a petroleum fraction with an approximate boiling range between 122 and 400 °F.

Net Energy Consumption - The energy actually consumed at the end-use location (e.g. building or vehicle), including electricity as well as the fuels burned to provide space heat, water heat, etc. “Net” energy accounts for electricity based on the heat content of energy at the plug (3,412 Btu per kWh), and excludes the heat losses incurred during generation, transmission, and distribution of electricity. Adding the heat losses associated with electricity use to “net” energy results in “primary” energy.

Nominal dollars - Values that have not been adjusted to remove the effect of changes in inflation. The price paid for a product or service at the time of the transaction.

Nuclear - The energy liberated by fission, fusion or radioactive decay.

Organization of Petroleum Exporting Countries (OPEC) - OPEC includes Algeria, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

Petroleum - A general term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oil and refined non-hydrocarbon compounds blended into finished petroleum products such as gasoline, diesel fuel, jet fuel, and heating oil.

Primary Energy Consumption - The total consumption of fuels, including the fuels used to generate electricity. “Primary” energy accounts for electricity based on the equivalent heat content of fuel at the generator. Subtracting the heat losses associated with electricity generation, transmission, and distribution from “primary” energy results in “net” energy.

Propane - A colorless, highly volatile hydrocarbon that is readily recovered as a liquefied gas at natural gas-processing plants and refineries. It is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation and industrial uses, including petrochemical feedstocks. Propane is the first product refined from crude petroleum. Propane is often used at customer locations where natural gas is not available, as it can be easily transported by truck and stored at the customer site.

Real dollars - Values that have been adjusted to remove the effect of inflation or changes in the purchasing power of the dollar. Also referred to as constant dollars because the adjustments equalize and make the cost of commodities comparable over time.

Refined petroleum - Products made from processing crude oil, unfinished oils, natural gas liquids and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha- and kerosene-type jet fuels, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt, road oil, still gas and miscellaneous products.

Residential sector - The part of the economy having to do with the places people stay or live. The residential sector is made up of homes, apartments, condominiums, etc including private households. Specifically included are the following end-uses: space heating and cooling, water heating, cooking, lighting, clothes drying, and refrigeration.

Residual fuel - The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as No. 5 and 6 fuel oil, heavy diesel oil, Navy Special Fuel Oil, Bunker C oil and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for production of electric power, space heating, vessel bunkering, and various industrial purposes.

Short Ton (Coal) - A unit of weight equal to 2,000 pounds. A long ton or metric ton is equal to 2,204 pounds.

Solar Electric – A technology that directly converts light energy radiated by the sun as electromagnetic waves (electromagnetic radiation) into electricity by means of solar electric (also known as photovoltaic or PV) panels or concentrating (focusing) collectors.

Solar Thermal – A technology that collects heat energy from the sun to heat water. Solar thermal energy is used for space heating; domestic hot water heating; and heating swimming pools, hot tubs, or spas.

Therm - 100,000 Btu.

Transportation Sector - An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use.

Trillion (T) - 1,000,000,000,000, or 10^{12}.

Ton - In the United States, Canada, and Union of South Africa, a unit of weight equal to 2,000 pounds, often used to measure amounts of coal and air emissions of various pollutants. The American ton is often called the "short." The metric or "long ton" equals 2,204 pounds.

Watt (W) - The unit of measure for electric power or rate of doing work. The rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor. It is analogous to horsepower or foot-pounds per minute of mechanical power. One horsepower is equivalent to approximately 746 watts.

Watt-hour (Wh) - An electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electrical circuit operating continuously for one hour.

Appendix I

Data Sources

State Energy Data System - U.S. Department of Energy, Energy Information Administration (U.S. DOE/EIA)

State Energy Price & Expenditure Report - U.S. DOE/EIA

Annual Energy Review - U.S. DOE/EIA

Electric Power Annual - U.S. DOE/EIA

Retail Motor Gasoline Price Report - U.S. DOE/EIA

Residential Energy Consumption Survey - U.S. DOE/EIA

Detailed Population Characteristics - U.S. Bureau of the Census

Detailed Housing Characteristics - U.S. Bureau of the Census

Heating and Cooling Degree-day Report - U.S. National Climatic Data Center

Employment and Earnings - U.S. Bureau of Labor Statistics

Survey of Current Business - U.S. Bureau of Economic Analysis

United States Highway Statistics - U.S. Federal Highway Administration

Motor Gasoline Reported by State - U.S. Federal Highway Administration

New York State, Gas and Mineral Resources - N.Y.S. Department of Environmental Conservation

Highway Statistics for New York State - N.Y.S. Department of Motor Vehicles

Motor Fuel Volume & Revenue Report - N.Y.S. Department of Taxation & Finance

Population & Housing Estimates - N.Y.S. Empire State Development

New York State Renewable Portfolio Standard Annual Performance Report – New York State Energy Research and Development Authority

Load & Capacity Data Report - New York Independent System Operator

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

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