New York State Energy Research and Development Authority

Patterns and Trends
New York State Energy Profiles: 1998-2012

Final Report
November 2014

The New NY WORKS for Energy

nyserda
Energy. Innovation. Solutions.

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.

Core Values:

Objectivity, integrity, public service, partnership, and innovation.

Portfolios

NYSERDA programs are organized into five portfolios, each representing a complementary group of offerings with common areas of energy-related focus and objectives.

Energy Efficiency and Renewable Energy Deployment

Helping New York State to achieve its aggressive energy efficiency and renewable energy goals – including programs to motivate increased efficiency in energy consumption by consumers (residential, commercial, municipal, institutional, industrial, and transportation), to increase production by renewable power suppliers, to support market transformation, and to provide financing.

Energy Technology Innovation and Business Development

Helping to stimulate a vibrant innovation ecosystem and a clean energy economy in New York State – including programs to support product research, development, and demonstrations; clean energy business development; and the knowledge-based community at the Saratoga Technology + Energy Park® (STEP®).

Energy Education and Workforce Development

Helping to build a generation of New Yorkers ready to lead and work in a clean energy economy – including consumer behavior, youth education, workforce development, and training programs for existing and emerging technologies.

Energy and the Environment

Helping to assess and mitigate the environmental impacts of energy production and use in New York State – including environmental research and development, regional initiatives to improve environmental sustainability, and West Valley Site Management.

Energy Data, Planning, and Policy

Helping to ensure that New York State policymakers and consumers have objective and reliable information to make informed energy decisions – including State Energy Planning, policy analysis to support the Regional Greenhouse Gas Initiative and other energy initiatives, emergency preparedness, and a range of energy data reporting.

Patterns and Trends

New York State Energy Profiles:

1998–2012

Prepared by:

New York State Energy Research and Development Authority

Albany, NY

November 2014

Message from the President

Patterns and Trends provides a 15-year overview of New York State energy related data compiled by the Energy Analysis Program of the New York State Energy Research and Development Authority (NYSERDA). This annual report is prepared to assist individuals, businesses, and institutions in making informed energy decisions that will promote sustainable economic growth.

The data in the report is collected and reported by sector and end use for: 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.

New York continued a five-year trend of lower energy consumption in 2012, which was the lowest level of energy consumption in more than 25 years. New York consumers also experienced lower natural gas and electricity prices and less total expenditures as compared to the previous year. The energy industry in New York State continues to be resilient in the face of many challenges including energy price volatility, economic uncertainty, and the effects of climate change.

As part of its mission, NYSERDA is working to reduce New York's dependence on fossil fuels and to promote clean, renewable energy and energy efficiency measures. NYSERDA seeks new ways to make these solutions as affordable and environmentally friendly as possible. We hope you find this information useful, and we welcome any feedback on how ***Patterns and Trends*** 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

Table of Contents

Patterns and Trends - New York State Energy Profiles: 1998–2012 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 2012 calendar year. Historical data prior to 1998 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, New York 12203-6399; 518-862-1090 ext. 3416; or visit nyserda.ny.gov.

List of Tables and Figures

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 Btu.

New York State Energy Expenditures presents the estimated net energy expenditures by sector and fuel type in nominal dollars, as well as in 2012 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 2012 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 by sector by utility, conversion factors and a glossary of energy terms.

2012
NEW YORK STATE
ENERGY FAST FACTS

PRIMARY ENERGY CONSUMPTION

1.9% lower than 2011

Primary consumption (4.1% of U.S. total) (trillion Btu)		3,589.9
By sector:		
Residential	(15.0%)	537.5
Commercial	(10.3%)	370.0
Industrial	(3.8%)	136.5
Transportation	(28.7%)	1,031.5
Electric Generation	(42.2%)	1,514.4
By fuel type:		
Petroleum	(33.9%)	1,217.8
Natural gas	(35.1%)	1,261.0
Nuclear	(11.9%)	427.3
Hydro	(6.4%)	228.1
Net Imported Electricity	(6.6%)	236.0
Other[1]	(4.1%)	147.4
Coal	(2.0%)	72.3
Primary consumption per capita (million Btu)		183.4

NET ENERGY CONSUMPTION AND EXPENDITURES

	Net Energy Consumption (trillion Btu)		Estimated Expenditures (billion dollars)	
Total:	2,563.9			$63.9
By sector:				
Residential	(27.7%)	710.5	(28.0%)	$17.9
Commercial	(24.6%)	629.3	(24.3%)	$15.5
Industrial	(7.1%)	183.2	(3.3%)	$2.1
Transportation	(40.6%)	1,040.9	(44.4%)	$28.4
By fuel type:				
Petroleum	(47.3%)	1,212.6	(54.5%)	$34.8
Natural gas	(29.1%)	747.3	(11.4%)	$7.3
Electricity	(19.1%)	488.5	(33.9%)	$21.7
Other[1]	(3.6%)	91.9		
Coal	(0.9%)	23.6	(0.2%)	$0.1
Estimated energy expenditures leaving the state (billions)				$38.9

AVERAGE ENERGY PRICES

	2012	2011
Gasoline - all grades (gallon)	$3.65	$3.51
Heating oil (gallon)	$3.94	$3.55
Natural gas (thousand cubic feet)		
Residential	$12.87	$13.64
Commercial	$7.79	$9.28
Industrial	$6.87	$8.15
Electricity (kilowatt-hour)		
Residential	17.6¢	18.3¢
Commercial	15.1¢	15.8¢
Industrial	6.7¢	7.8¢

GREENHOUSE GAS EMISSIONS FROM FUEL COMBUSTION

Total (million metric tons of CO_2 equivalent)		171.9
By sector:		
Residential	(17.8%)	30.7
Commercial	(12.2%)	21.0
Industrial	(6.2%)	10.6
Transportation	(39.6%)	68.0
Electric Generation	(24.2%)	41.6
By fuel type:		
Petroleum	(56.7%)	
Natural gas	(39.2%)	
Coal	(4.1%)	
Greenhouse gas emissions per capita (metric tons of CO_2 equivalent)		8.8

[1]Ethanol (48.1 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 decreased 0.6% from 2011

Sales to ultimate consumers (gigawatt-hours)		143,163
By sector:		
Residential	(35.4%)	50,692
Commercial	(53.1%)	76,018
Industrial	(9.6%)	13,705
Transportation	(1.9%)	2,748
Generation (gigawatt-hours)		162,842
By fuel type:		
Nuclear	(25.0%)	40,775
Natural Gas	(36.5%)	59,462
Hydro	(15.5%)	25,303
Net Imported Electricity	(16.1%)	26,182
Coal	(2.8%)	4,551
Petroleum	(0.4%)	580
Other	(1.9%)	2,998
Wind	(1.8%)	2,992

PETROLEUM

Consumption increased 1.2% from 2011

Consumption (4.4% of U.S. total) (million barrels)		219.1
By sector:		
Residential	(12.1%)	26.8
Commercial	(6.8%)	14.5
Industrial	(1.8%)	3.9
Transportation	(78.9%)	173.1
Electric generation	(0.4%)	0.9
In-State production (thousand barrels)		353.0

NATURAL GAS

Consumption increased 0.5% from 2011

Consumption (4.8% of U.S. total) (billion cubic feet)		1,223.1
By sector:		
Residential	(29.3%)	357.7
Commercial	(22.1%)	270.2
Industrial	(6.1%)	74.6
Transportation	(1.8%)	21.5
Electric generation	(40.7%)	499.1
In-State production (billion cubic feet)		26.4

ADDITIONAL 2012 STATISTICS

Population (6.2% of U.S. total) (million)	19.6
Number of housing units (million)	8.1
Gross State Product (billion 2012 dollars)	$1,280.7
Motor vehicle registrations (million)	10.4
Vehicle miles of travel (billion miles)	128.2
Heating degree-days (decreased 7.5% from 2011)	5,174
Cooling degree-days (decreased 12.3% from 2011)	725

Note: Totals may not sum exactly due to rounding.

DATA SOURCE

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Albany, New York 12203-6399
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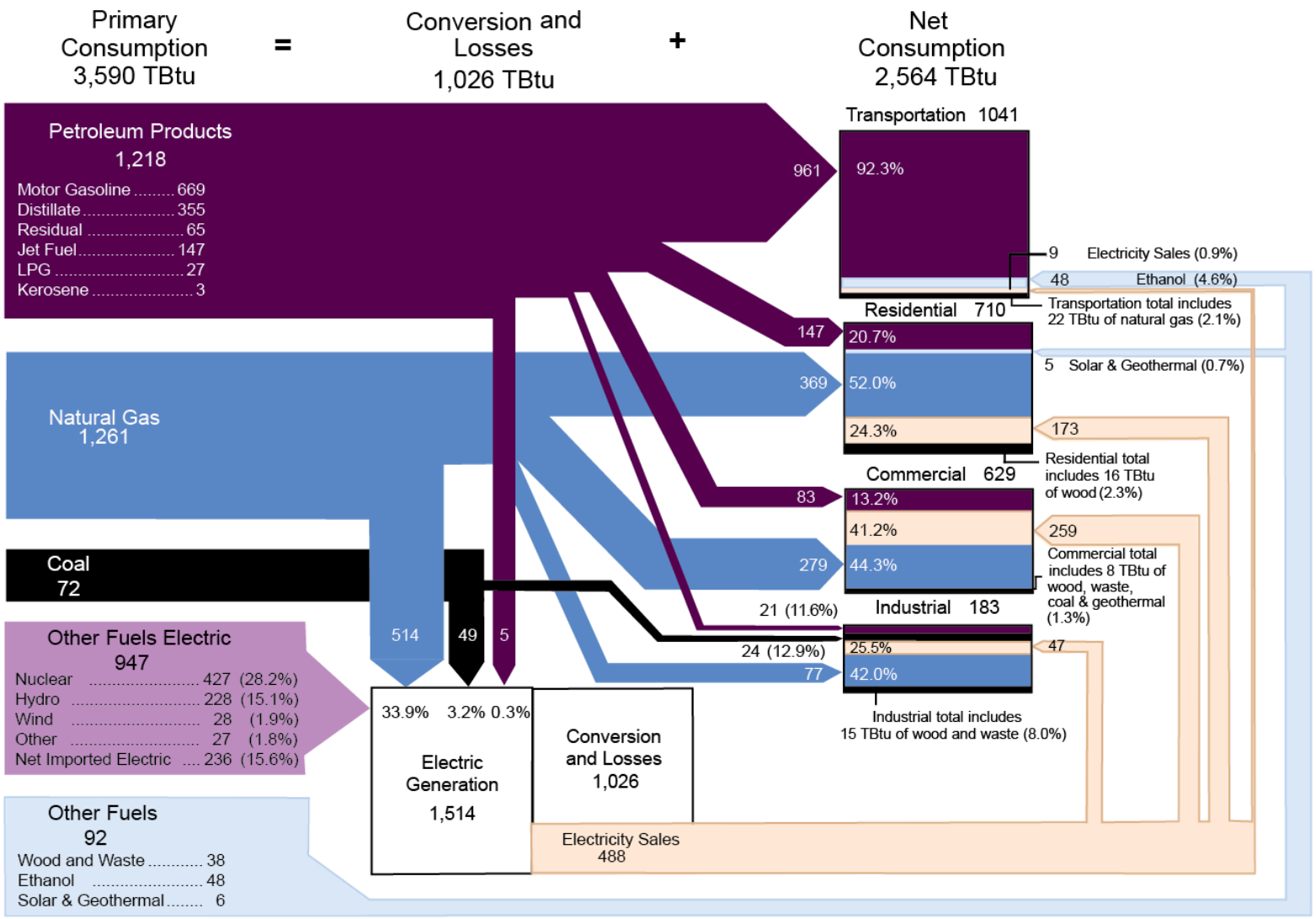
2012 New York State Energy Flow (TBtu)



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 2012 New York State Energy Data

- New York State is the second most energy-efficient state in the continental United States on a per-capita 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 8th nationally in energy consumption.
- Renewable resources accounted for 10.5% of New York State's primary energy consumption compared to 10.0% for the United States in 2012.
- Coal consumption represents 2.0% of New York State energy use compared to 19.7% nationally.
- Net energy demand in New York State differs from national demand in several respects (as shown in Tables 1-1 and 1-2):
    - Residential net energy use accounts for 27.7% of total energy demand in New York State, compared to 16.7% nationally.
    - Commercial net energy use accounts for 24.6% of total energy demand in New York State, compared to 13.1% nationally.
    - Industrial net energy use accounts for 7.1% of total energy demand in New York State, compared to 27.9% nationally.
    - Transportation net energy use accounts for 40.6% of total energy demand in New York State, compared to 42.2% nationally.
- In 2012, the United States' reliance on foreign oil as a proportion of total petroleum consumption was 40.0%, a decrease from 44.8% in 2011.

United States
Primary Consumption of Energy by Fuel Type and Sector, 2012

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

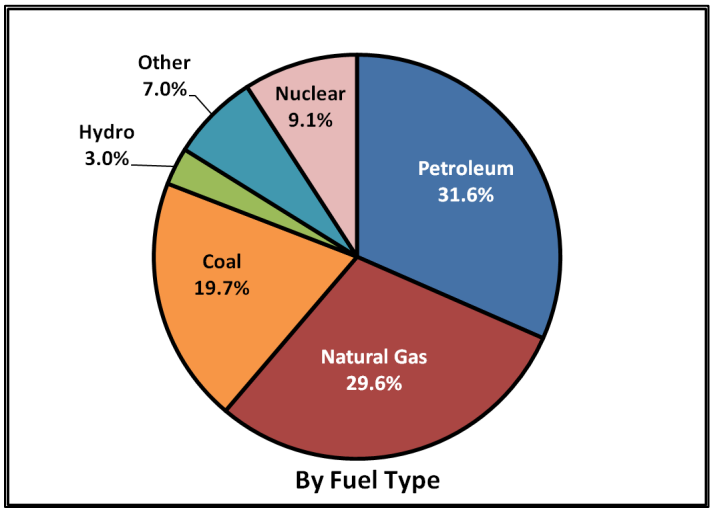


Figure 2-1b: United States Primary Consumption of Energy

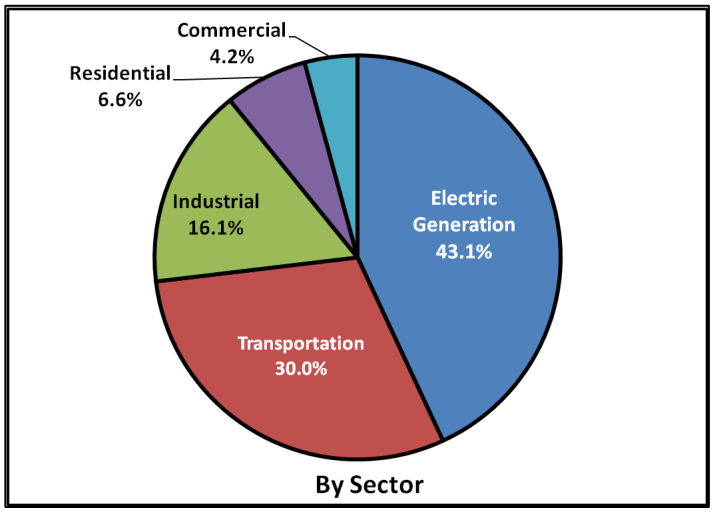


Table 2-1 (in trillion Btu)

	Residential TBtu	Commercial TBtu	Industrial TBtu	Transportation[1] TBtu	Net Consumption TBtu	Electric Generation[2] TBtu	Primary Consumption[3] TBtu
Coal	0	44	1,465	0	1,509	15,821	17,330
Natural Gas	4,252	2,969	8,820	780	16,821	9,313	26,134
Petroleum Products:	896	573	1,635	24,564	27,668	219	27,887
Distillate	487	358	1,283	5,796	7,924	53	7,977
Residual	0	31	70	671	772	77	849
Kerosene	8	1	2	0	11	0	11
LPG	402	138	280	37	857	0	857
Gasoline	0	45	0	16,293	16,338	0	16,338
Jet Fuel	0	0	0	2,927	2,927	0	2,927
Other[4]	646	131	2,265	1,159	4,201	641	4,842
Electric Sales	4,690	4,528	3,363	25	12,606		
Net Consumption	10,484	8,245	17,548	26,528	62,805		
				Hydro Electricity		2,606	2,606
				Nuclear Electricity		8,062	8,062
				Wind Electricity		1,339	1,339
				Primary Consumption		38,001	88,200

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, 2012

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

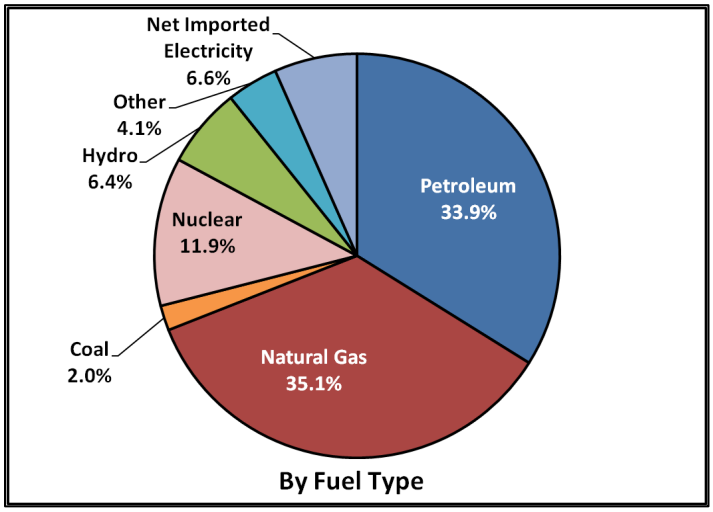


Figure 2-2b: New York State Primary Consumption of Energy

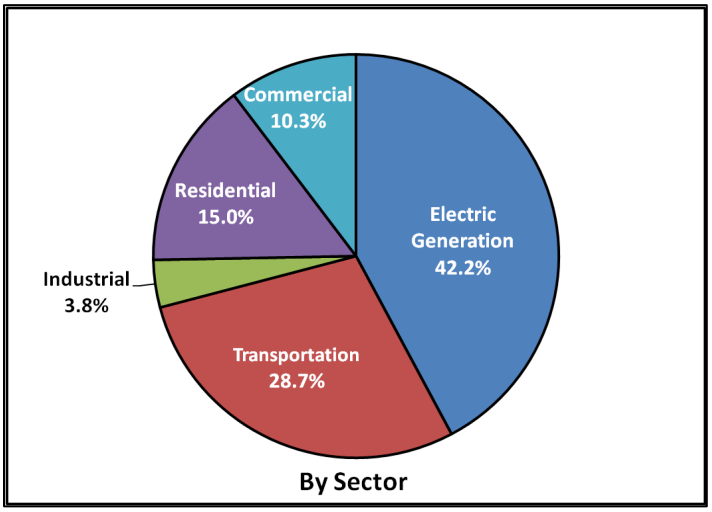


Table 2-2 (in trillion Btu)

	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	23.6	0.0	23.6	48.7	72.3
Natural Gas	369.2	278.9	77.0	22.2	747.3	513.6	1,261.0
Petroleum Products[3]:	147.0	83.1	21.3	961.2	1,212.6	5.2	1,217.8
Distillate	127.8	50.1	14.6	160.7	353.2	2.3	355.5
Residual	0.0	26.6	3.6	31.4	61.6	2.9	64.5
Kerosene	2.1	0.3	0.8	0.0	3.2	0.0	3.2
LPG	17.1	6.1	2.3	1.1	26.5	0.0	26.5
Gasoline	0.0	0.0	0.0	669.5	669.5	0.0	669.5
Jet Fuel	0.0	0.0	0.0	146.7	146.7	0.0	146.7
Other[4]	21.3	7.9	14.6	48.1	91.9	27.0	119.0
Electric Sales	173.0	259.4	46.8	9.4	488.5		
Net Consumption	710.5	629.3	183.2	1,040.9	2,563.9		
					Hydro Electricity	228.1	228.1
					Nuclear Electricity	427.3	427.3
					Net Imported Electricity	236.0	236.0
					Wind Electricity	28.4	28.4
					Primary Consumption	1,514.4	3,589.9

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,
1998–2012

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
1998	104.9	89.3	8.3	6.76	7.3	5.50	4.5	3.23
1999	115.5	91.7	8.2	6.65	7.2	5.34	4.4	3.28
2000	147.5	137.6	8.2	7.81	7.3	6.69	4.6	4.71
2001	140.7	131.5	8.6	9.64	7.8	8.51	5.0	5.84
2002	132.6	119.3	8.4	7.87	7.8	6.64	4.9	4.58
2003	153.0	143.1	8.7	9.45	8.0	8.26	5.1	6.34
2004	182.2	162.5	8.9	10.71	8.2	9.40	5.2	7.18
2005	222.3	215.4	9.4	12.62	8.7	11.23	5.7	9.29
2006	252.0	248.1	10.4	13.66	9.5	11.87	6.1	8.97
2007	273.4	272.1	10.7	12.99	9.6	11.24	6.4	8.48
2008	317.2	337.6	11.3	13.83	10.4	12.16	6.8	10.29
2009	230.0	251.6	11.5	12.08	10.2	9.92	6.8	6.61
2010	273.1	296.7	11.5	11.39	10.2	9.41	6.8	6.31
2011	347.7	356.3	11.7	11.03	10.2	8.99	6.8	6.10
2012	359.8	396.5	11.9	10.68	10.1	8.21	6.7	5.02

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
1998	106.2	98.6	13.6	9.62	11.0	6.11	4.9	4.03
1999	118.7	100.8	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	143.2	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	275.9	278.1	17.1	15.77	15.9	11.85	8.7	11.46
2008	325.6	342.4	18.3	16.86	16.8	12.93	10.1	12.37
2009	235.3	260.5	17.5	15.10	15.5	10.75	9.0	9.55
2010	277.3	301.0	18.7	14.04	16.3	10.87	8.8	8.54
2011	350.6	354.9	18.3	13.64	15.8	9.28	7.8	8.15
2012	365.5	394.3	17.6	12.87	15.1	7.79	6.7	6.87

United States
Estimated Sources of Petroleum Products, 1998–2012

Figure 2-4: United States Petroleum Imports

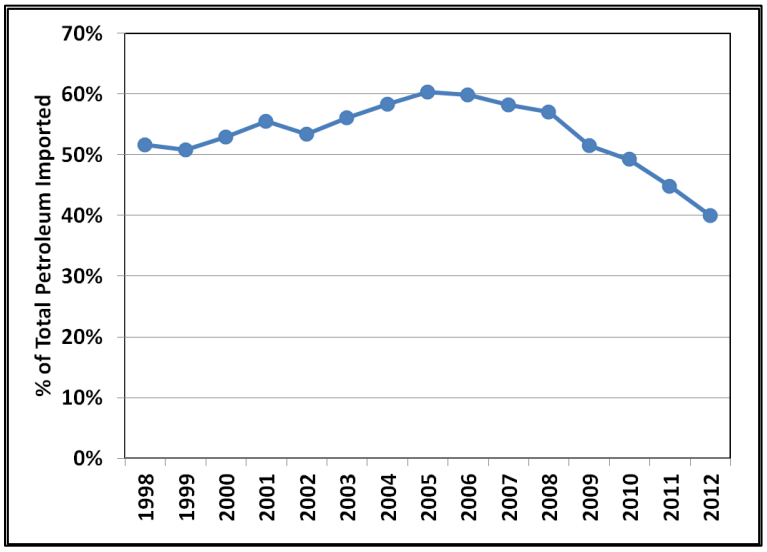


Table 2-4: United States Sources of Petroleum

Year	Total Domestic[1]	Total Foreign	OPEC[2]	Non-OPEC[3]
	%	%	%	%
1998	48.4	51.6	25.8	25.8
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

[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 Algeria.
[3] Non-OPEC: Largest contributors are Canada, Mexico, United Kingdom, Angola, Brazil and Russia.

United States and New York State Factors Influencing Energy Demand and Expenditures, 1998–2012

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/2012$	millions	millions	billions
1998	270,248	112,499	108,597	17,560	$ 12,803	185	211	2,645
1999	272,691	114,394	111,918	17,322	$ 13,320	187	216	2,707
2000	281,425	116,301	114,756	17,263	$ 13,719	191	221	2,764
2001	284,969	117,905	115,633	16,441	$ 13,775	191	230	2,813
2002	287,625	119,456	115,369	15,259	$ 14,013	195	230	2,874
2003	290,108	121,077	115,809	14,509	$ 14,365	196	231	2,909
2004	292,805	122,825	117,434	14,315	$ 14,922	199	237	2,982
2005	295,517	124,711	119,778	14,227	$ 15,395	201	242	3,009
2006	298,380	126,500	122,243	14,155	$ 15,782	203	244	3,034
2007	301,231	128,132	124,057	13,879	$ 16,034	206	247	3,049
2008	304,094	129,313	123,764	13,406	$ 15,697	208	248	2,993
2009	306,772	129,970	119,386	11,847	$ 15,430	210	246	2,976
2010	308,746	131,705	118,747	11,528	$ 15,750	210	242	2,985
2011	311,583	132,316	120,116	11,726	$ 15,855	212	253	2,965
2012	313,874	132,452	122,177	11,927	$ 16,245	212	254	2,969

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/2012$	thousands	thousands	billions
1998	18,756	7,455	7,536	781	$ 1,024,465	10,554	10,173	123.37
1999	18,883	7,572	7,686	773	$ 1,065,279	10,627	10,437	126.49
2000	18,977	7,689	7,889	749	$ 1,089,277	10,871	10,661	128.70
2001	19,083	7,724	7,888	707	$ 1,117,149	11,015	10,707	130.83
2002	19,138	7,760	7,811	651	$ 1,125,111	11,022	11,369	133.06
2003	19,176	7,799	7,798	612	$ 1,126,186	11,357	10,802	135.05
2004	19,172	7,836	7,859	596	$ 1,165,786	11,247	11,099	137.90
2005	19,133	7,878	7,947	579	$ 1,206,147	11,081	11,863	137.52
2006	19,105	7,915	8,042	566	$ 1,230,197	11,146	11,284	141.35
2007	19,132	7,952	8,172	552	$ 1,245,709	11,369	11,495	136.74
2008	19,212	7,986	8,251	532	$ 1,201,763	11,285	11,089	134.09
2009	19,307	8,018	8,070	476	$ 1,232,487	11,329	11,245	133.50
2010	19,378	8,108	8,100	457	$ 1,261,394	11,286	11,082	131.25
2011	19,503	8,120	8,220	459	$ 1,256,955	11,211	10,085	127.73
2012	19,576	8,124	8,339	459	$ 1,280,737	11,249	10,449	128.22

[1] Includes non-farm jobs only.
[2] Gross Domestic Product in billions of 2012 dollars.
[3] Gross State Product in millions of 2012 dollars.

Energy Consumption and Expenditure Indicators, State Comparisons, 2012

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	1,905	17	395	12	10,049	8	$5,042	15
Alaska	637	39	873	2	10,685	5	$10,484	1
Arizona	1,407	26	215	42	5,182	37	$3,474	48
Arkansas	1,064	31	361	17	8,944	13	$4,618	20
California	7,641	2	201	49	3,594	46	$3,589	46
Colorado	1,452	24	280	33	5,214	36	$3,749	41
Connecticut	730	35	203	47	3,006	49	$4,190	33
Delaware	274	48	298	27	4,511	41	$4,377	26
D.C.	169	50	267	36	1,513	51	$3,398	50
Florida	4,065	3	210	44	5,286	34	$3,461	49
Georgia	2,791	9	282	32	6,367	27	$4,049	35
Hawaii	280	47	202	48	3,866	45	$5,608	6
Idaho	519	42	325	21	8,916	14	$4,215	32
Illinois	3,864	5	300	26	5,487	32	$3,737	42
Indiana	2,786	10	426	10	9,078	12	$4,935	18
Iowa	1,450	25	471	5	9,256	10	$5,339	10
Kansas	1,127	30	390	13	8,107	19	$4,944	17
Kentucky	1,871	18	427	9	10,511	6	$5,125	14
Louisiana	3,909	4	849	3	15,549	1	$8,544	4
Maine	379	44	285	30	7,121	22	$5,270	11
Maryland	1,386	27	236	40	4,120	44	$3,839	39
Massachusetts	1,386	28	209	45	3,209	48	$3,960	38
Michigan	2,705	11	274	35	6,489	25	$3,978	37
Minnesota	1,824	19	339	18	6,116	28	$4,491	21
Mississippi	1,133	29	380	16	11,161	4	$5,132	13
Missouri	1,813	20	301	25	6,729	23	$4,340	27
Montana	392	43	390	14	9,295	9	$5,443	8
Nebraska	861	33	464	7	8,350	18	$5,440	9
Nevada	640	38	232	41	4,965	38	$3,624	45
New Hampshire	284	46	215	42	4,294	43	$4,447	23
New Jersey	2,272	14	256	37	4,296	42	$4,446	24
New Mexico	687	37	330	20	7,703	20	$4,285	29
New York	3,513	8	180	50	2,743	50	$3,327	51
North Carolina	2,483	12	255	38	5,489	31	$3,714	43
North Dakota	553	40	788	4	11,168	3	$10,049	2
Ohio	3,686	6	319	23	6,721	24	$4,269	30
Oklahoma	1,569	23	411	11	9,151	11	$5,168	12
Oregon	986	32	253	39	4,689	39	$3,825	40
Pennsylvania	3,631	7	284	31	5,765	30	$4,227	31
Rhode Island	182	49	173	51	3,522	47	$3,568	47
South Carolina	1,571	22	333	19	8,828	15	$4,458	22
South Dakota	376	45	451	8	8,602	16	$5,598	7
Tennessee	2,097	15	325	22	7,477	21	$4,436	25
Texas	12,282	1	471	6	8,395	17	$5,983	5
Utah	792	34	278	34	5,891	29	$3,706	44
Vermont	129	51	206	46	4,535	40	$5,041	16
Virginia	2,356	13	288	29	5,292	33	$4,292	28
Washington	2,057	16	298	27	5,261	35	$3,998	36
West Virgina	723	36	389	15	10,367	7	$4,757	19
Wisconsin	1,734	21	303	24	6,373	26	$4,170	34
Wyoming	547	41	949	1	13,072	2	$9,828	3
United States	94,971		303		5,884		$4,319	
NY as a % of U.S.	**3.7%**		**59%**		**47%**		**77%**	

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

Energy Consumption and Expenditure Indicators, State Comparisons for the Residential and Commercial Sectors, 2012

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	154	33	$1,870	18	149	27	$1,707	10
Alaska	177	8	$2,661	3	217	2	$2,808	1
Arizona	134	40	$1,532	41	148	31	$1,448	21
Arkansas	167	19	$1,605	39	167	8	$1,334	31
California	107	50	$1,401	49	110	46	$1,410	25
Colorado	151	36	$1,503	45	127	41	$1,116	47
Connecticut	157	28	$3,105	1	124	42	$1,763	8
Delaware	152	34	$2,189	9	144	34	$1,566	16
D.C.	116	47	$1,379	50	152	23	$1,689	11
Florida	127	45	$1,479	48	135	38	$1,418	24
Georgia	164	23	$1,939	14	149	28	$1,439	23
Hawaii	67	51	$2,159	10	64	51	$2,203	2
Idaho	173	11	$1,520	42	147	32	$1,106	49
Illinois	173	12	$1,664	35	148	30	$1,114	48
Indiana	185	3	$1,739	26	149	26	$1,231	40
Iowa	166	20	$1,794	22	154	21	$1,392	28
Kansas	178	7	$1,804	20	174	5	$1,455	19
Kentucky	186	2	$1,628	38	158	17	$1,251	39
Louisiana	171	14	$1,481	47	156	18	$1,263	38
Maine	112	49	$2,289	7	112	45	$1,833	7
Maryland	167	18	$2,063	13	170	6	$1,654	12
Massachusetts	145	39	$2,430	6	88	49	$1,203	41
Michigan	155	30	$1,911	15	166	9	$1,626	13
Minnesota	158	25	$1,675	32	137	37	$1,165	42
Mississippi	151	35	$1,719	29	155	20	$1,597	14
Missouri	181	5	$1,800	21	163	13	$1,314	33
Montana	166	21	$1,654	36	178	4	$1,536	17
Nebraska	183	4	$1,729	27	151	24	$1,134	45
Nevada	131	42	$1,600	40	106	47	$993	51
New Hampshire	132	41	$2,483	5	117	44	$1,750	9
New Jersey	155	32	$2,122	12	165	11	$1,848	6
New Mexico	128	44	$1,363	51	162	14	$1,400	27
New York	126	46	$2,212	8	132	39	$1,863	4
North Carolina	155	31	$1,672	33	161	15	$1,409	26
North Dakota	195	1	$1,882	16	183	3	$1,594	15
Ohio	168	17	$1,823	19	149	29	$1,306	35
Oklahoma	173	13	$1,709	31	165	10	$1,307	34
Oregon	146	38	$1,514	43	128	40	$1,132	46
Pennsylvania	156	29	$2,138	11	118	43	$1,163	43
Rhode Island	129	43	$2,522	4	103	48	$1,509	18
South Carolina	158	26	$1,760	24	158	16	$1,442	22
South Dakota	177	9	$1,774	23	164	12	$1,269	37
Tennessee	176	10	$1,667	34	151	25	$1,450	20
Texas	157	27	$1,712	30	155	19	$1,273	36
Utah	162	24	$1,484	46	137	36	$1,093	50
Vermont	115	48	$2,709	2	84	50	$1,858	5
Virginia	171	15	$1,876	17	169	7	$1,336	30
Washington	165	22	$1,508	44	142	35	$1,162	44
West Virgina	180	6	$1,750	25	154	22	$1,328	32
Wisconsin	151	37	$1,723	28	147	33	$1,367	29
Wyoming	170	16	$1,637	37	228	1	$2,032	3
United States	150		$1,777		142		$1,409	
NYS as % of U.S.	**84%**		**124%**		**93%**		**132%**	

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, 2012

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	4,428	7	$0.0252	9	100	28	$2,603	31
Alaska	5,424	4	$0.0150	22	244	1	$6,501	1
Arizona	800	41	$0.0081	39	90	38	$2,482	41
Arkansas	3,293	15	$0.0214	14	113	14	$3,060	13
California	821	40	$0.0061	44	106	20	$3,074	11
Colorado	1,526	31	$0.0089	37	91	37	$2,453	42
Connecticut	329	49	$0.0043	48	86	42	$2,506	39
Delaware	1,487	33	$0.0113	29	68	50	$1,925	50
D.C.	25	51	$0.0002	51	61	51	$1,473	51
Florida	616	43	$0.0054	45	95	31	$2,511	38
Georgia	1,645	30	$0.0105	32	113	15	$2,929	19
Hawaii	876	39	$0.0163	20	117	11	$3,390	8
Idaho	3,206	16	$0.0225	12	81	46	$2,290	46
Illinois	1,751	27	$0.0109	31	94	32	$2,551	34
Indiana	4,232	9	$0.0263	7	101	24	$2,721	26
Iowa	4,647	5	$0.0258	8	85	43	$2,321	45
Kansas	3,080	17	$0.0237	10	110	17	$2,859	23
Kentucky	4,521	6	$0.0267	6	123	8	$3,419	7
Louisiana	10,456	1	$0.0759	1	171	3	$3,869	4
Maine	2,235	22	$0.0177	18	100	27	$2,879	21
Maryland	395	47	$0.0041	49	109	18	$3,060	12
Massachusetts	595	44	$0.0072	40	91	36	$2,565	32
Michigan	1,692	29	$0.0131	27	92	34	$2,502	40
Minnesota	2,151	24	$0.0137	26	94	33	$2,606	30
Mississippi	4,148	10	$0.0237	11	180	2	$4,471	2
Missouri	1,381	34	$0.0111	30	97	29	$2,647	29
Montana	2,833	19	$0.0193	16	78	47	$2,156	48
Nebraska	3,734	12	$0.0222	13	104	23	$2,872	22
Nevada	1,251	35	$0.0100	34	97	30	$2,677	28
New Hampshire	535	45	$0.0067	43	77	48	$2,234	47
New Jersey	519	46	$0.0050	46	107	19	$2,836	24
New Mexico	2,703	20	$0.0123	28	113	13	$3,051	14
New York	265	50	$0.0024	50	101	26	$2,728	25
North Carolina	1,220	36	$0.0094	35	88	40	$2,519	37
North Dakota	5,664	3	$0.0484	2	166	4	$4,182	3
Ohio	2,235	23	$0.0150	23	91	35	$2,553	33
Oklahoma	3,361	14	$0.0195	15	133	7	$3,363	9
Oregon	1,166	37	$0.0085	38	87	41	$2,527	35
Pennsylvania	1,929	26	$0.0153	21	90	39	$2,520	36
Rhode Island	368	48	$0.0049	47	69	49	$1,973	49
South Carolina	2,976	18	$0.0172	19	114	12	$3,038	15
South Dakota	3,405	13	$0.0189	17	101	25	$2,706	27
Tennessee	2,250	21	$0.0148	24	112	16	$3,021	16
Texas	4,278	8	$0.0371	4	142	6	$3,533	6
Utah	1,727	28	$0.0091	36	123	9	$3,346	10
Vermont	672	42	$0.0104	33	82	44	$2,430	43
Virginia	983	38	$0.0070	42	105	22	$2,947	18
Washington	1,489	32	$0.0071	41	106	21	$2,960	17
West Virgina	3,951	11	$0.0297	5	122	10	$2,926	20
Wisconsin	2,097	25	$0.0142	25	81	45	$2,354	44
Wyoming	7,596	2	$0.0422	3	150	5	$3,624	5
United States	1,921		$0.0140		105		$2,849	
NYS as % of U.S.	**14%**		**17%**		**96%**		**96%**	

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,
2012

Figure 2-9a: Primary Consumption by Fuel Type, 2012

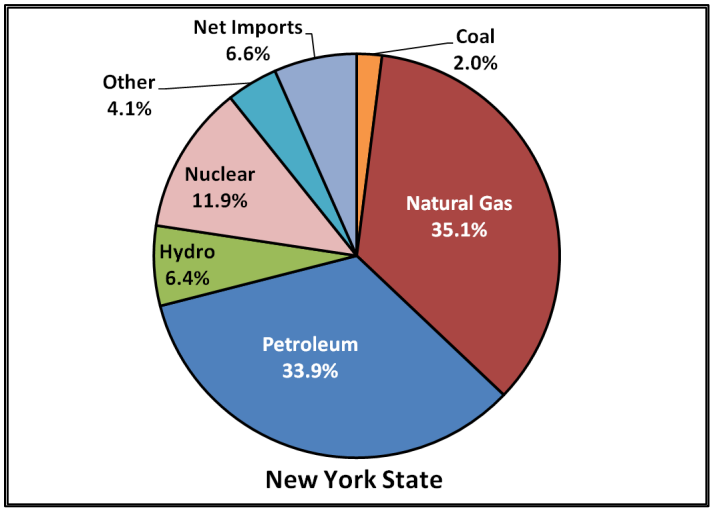


Figure 2-9b: Primary Consumption by Fuel Type, 2012

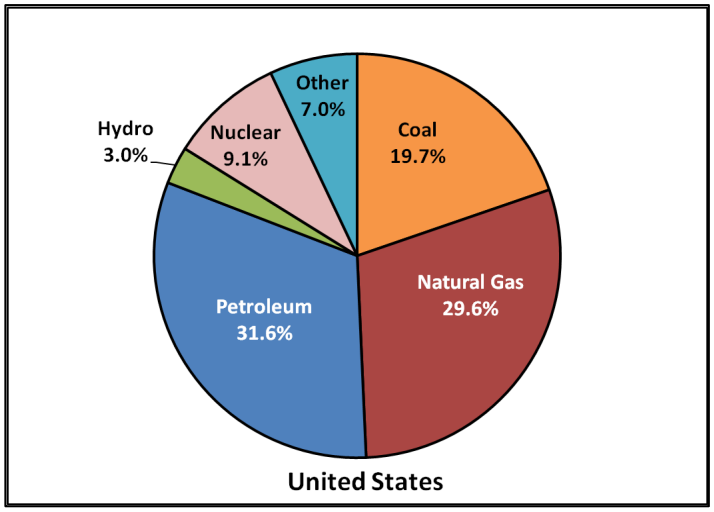


Figure 2-9c: Primary Consumption by Sector, 2012

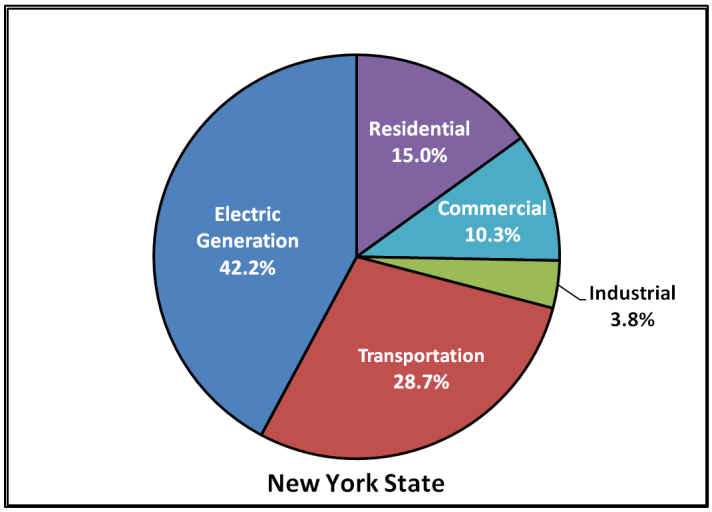
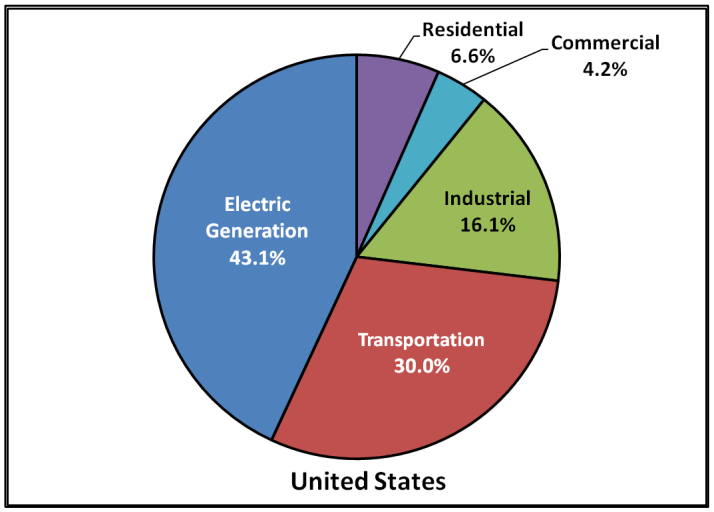


Figure 2-9d: Primary Consumption by Sector, 2012



United States and New York State
Selected Comparisons,
2012

Figure 2-10a: Electricity Generation by Fuel Type, 2012

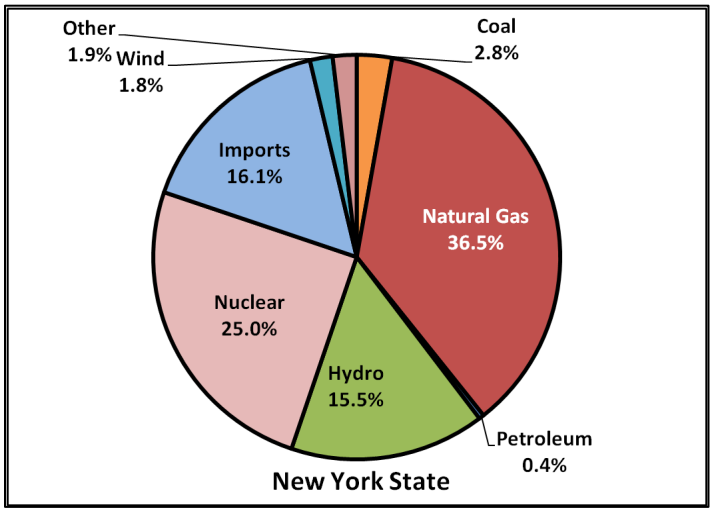


Figure 2-10b: Electricity Generation by Fuel Type, 2012

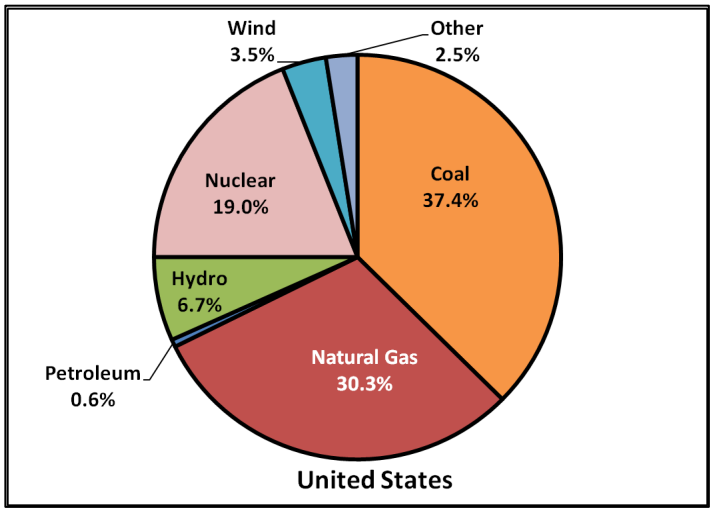


Figure 2-10c: Primary Consumption of Petroleum Products, 2012[1,2]

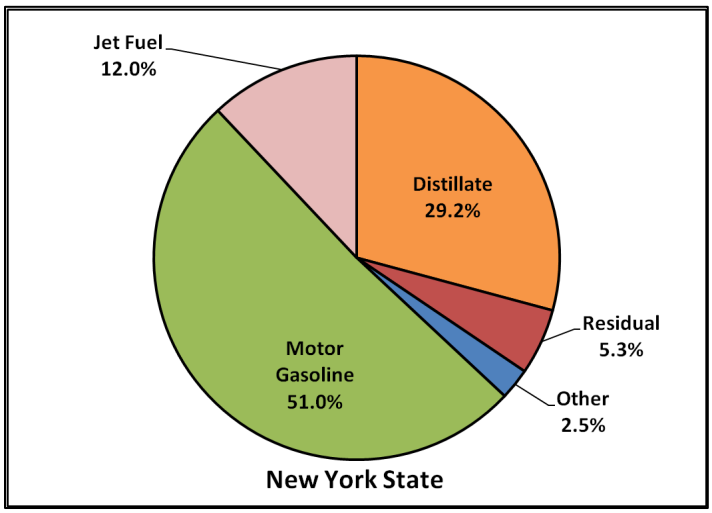
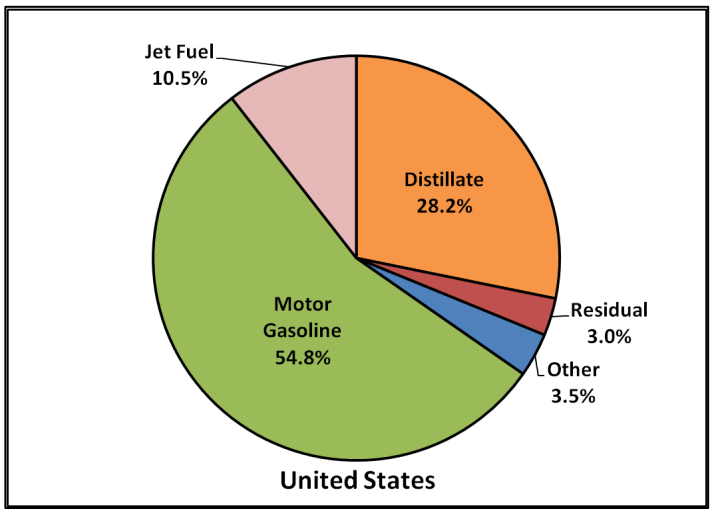


Figure 2-10d: Primary Consumption of Petroleum Products, 2012[1,2]



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,
2012

Figure 2-11a: Petroleum Consumption by Sector, 2012[1]

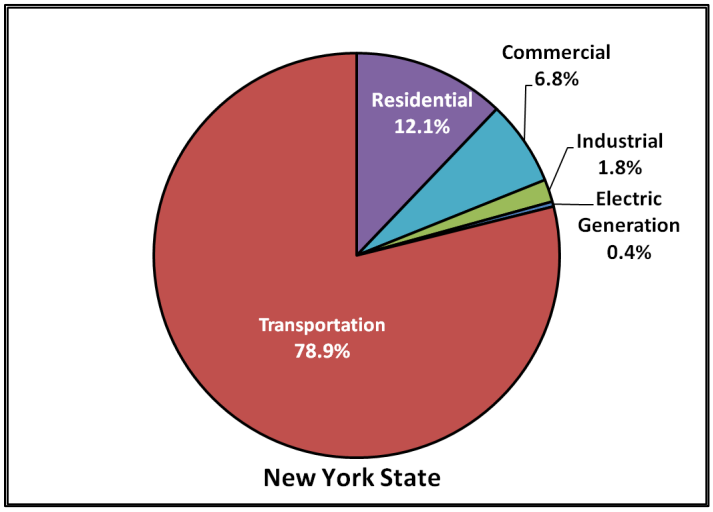


Figure 2-11b: Petroleum Consumption by Sector, 2012[1]

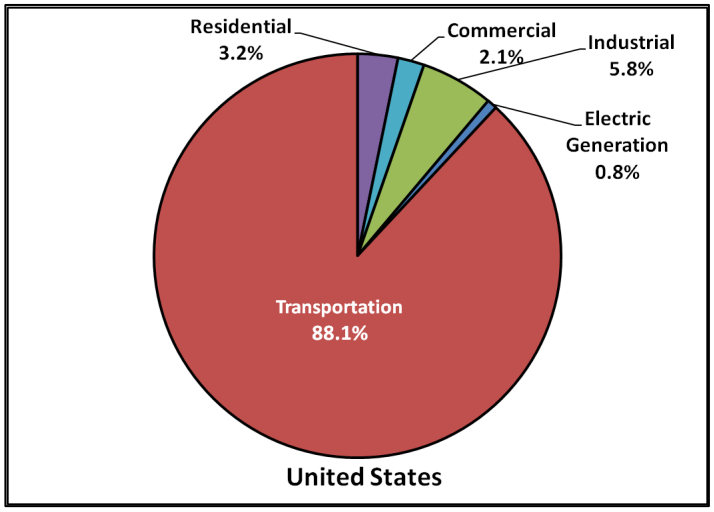


Figure 2-11c: Natural Gas Consumption by Sector, 2012

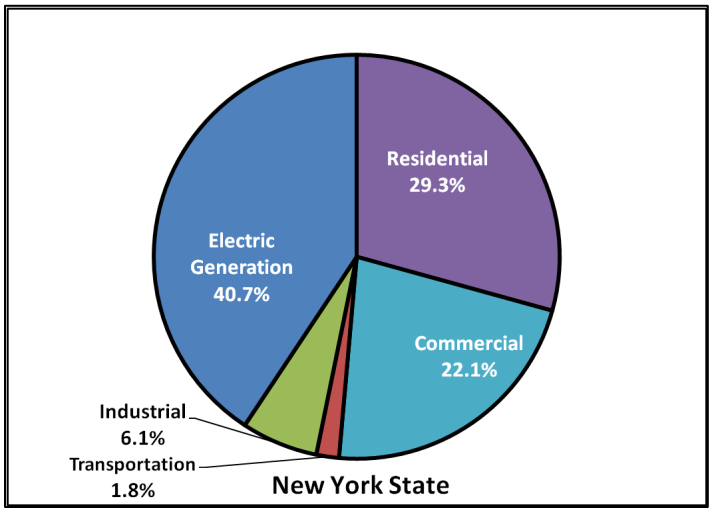
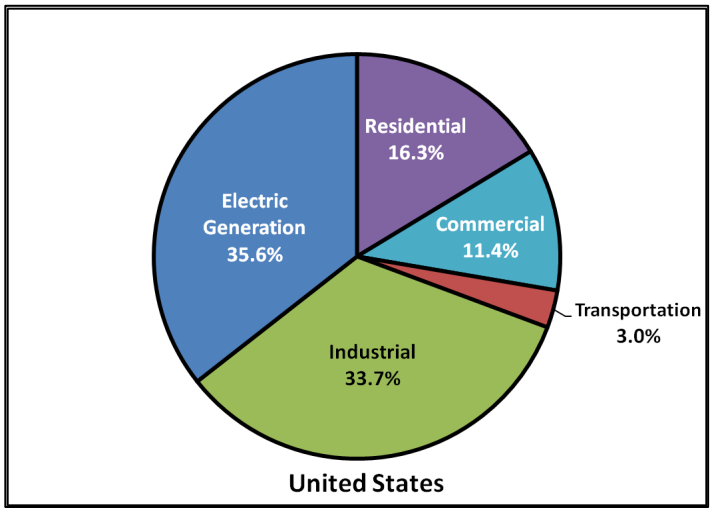


Figure 2-11d: Natural Gas Consumption by Sector, 2012



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

United States and New York State
Selected Comparisons,
2012

Figure 2-12a: Coal Consumption by Sector, 2012

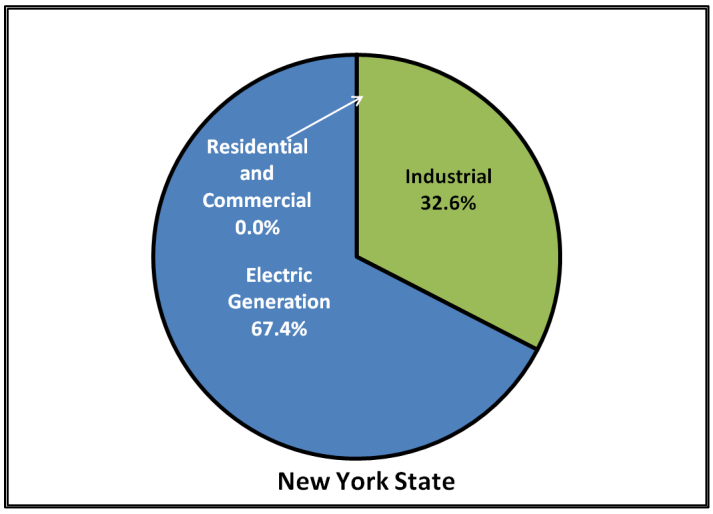


Figure 2-12b: Coal Consumption by Sector, 2012

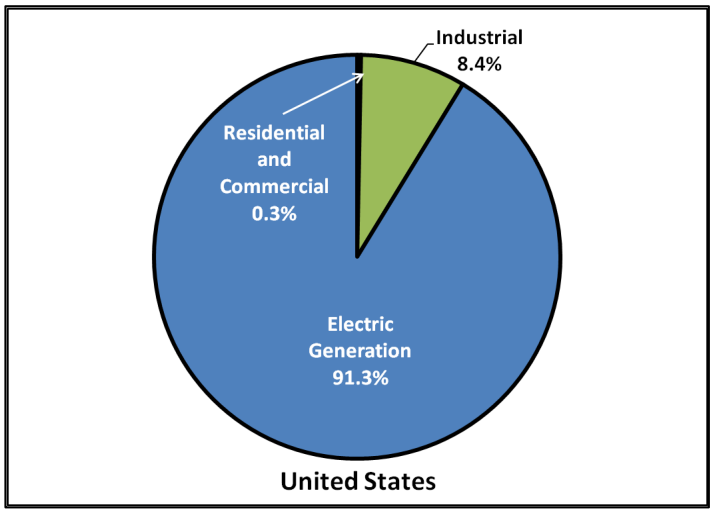


Figure 2-12c: Electricity Sales by Sector, 2012

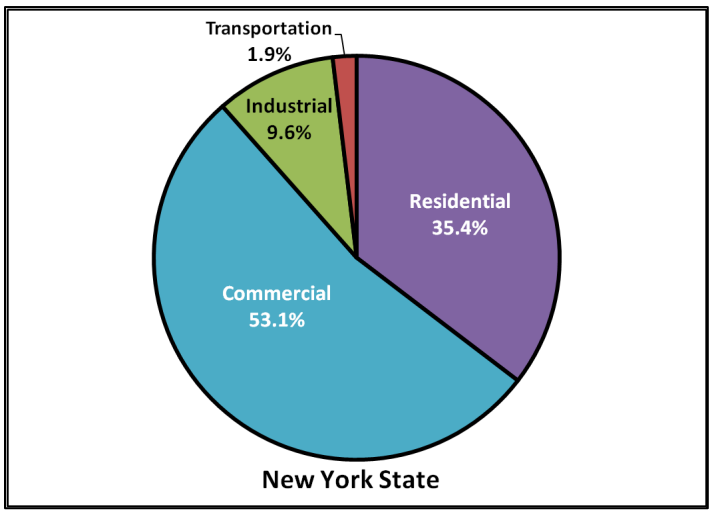
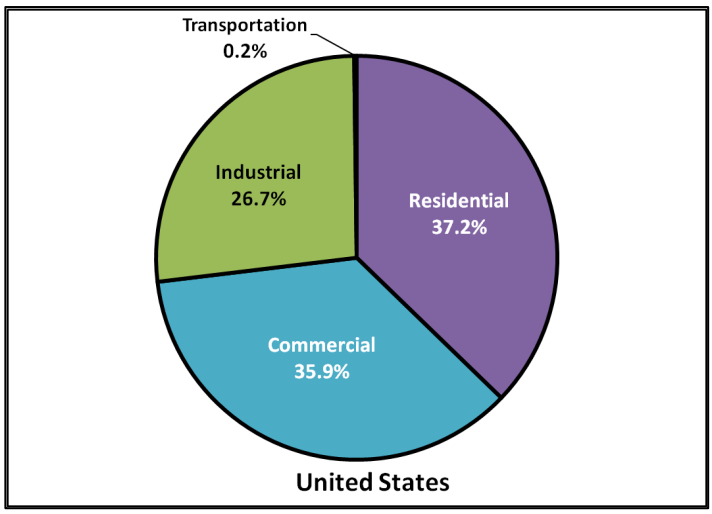


Figure 2-12d: Electricity Sales by Sector, 2012



United States and New York State Selected Energy Indicators, 1998–2012

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

Year	NYS	U.S.
	thousand Btu	thousand Btu
1998	3.74	7.42
1999	3.69	7.26
2000	3.72	7.20
2001	3.51	6.98
2002	3.51	6.97
2003	3.62	6.82
2004	3.57	6.71
2005	3.40	6.51
2006	3.16	6.31
2007	3.21	6.32
2008	3.29	6.33
2009	3.04	6.13
2010	2.98	6.22
2011	2.91	6.15
2012	2.80	5.85

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

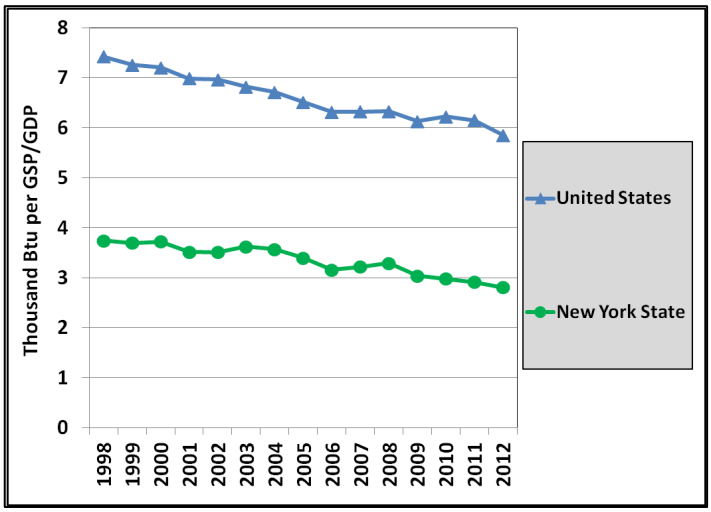
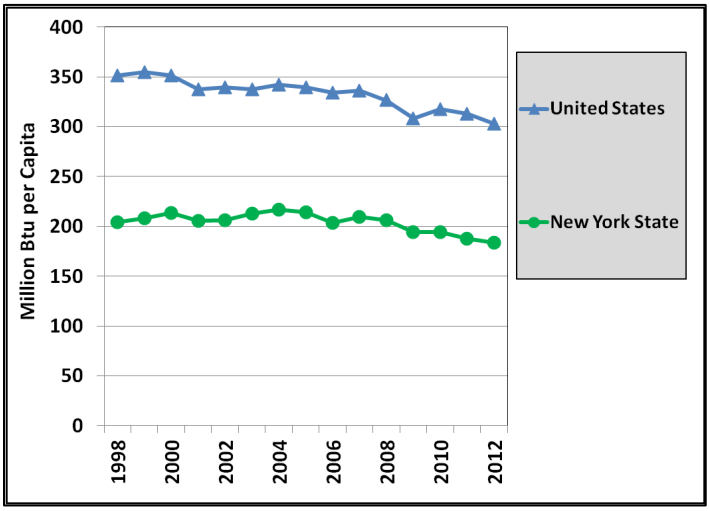


Table 2-13b:
Primary Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1998	204.29	351.61
1999	208.43	354.41
2000	213.59	351.11
2001	205.68	337.49
2002	206.15	339.47
2003	212.82	337.61
2004	217.01	342.09
2005	214.29	339.34
2006	203.30	333.90
2007	209.33	336.35
2008	205.99	326.52
2009	194.10	308.36
2010	193.96	317.44
2011	187.57	312.77
2012	183.38	302.68

Figure 2-13b: Primary Consumption per Capita

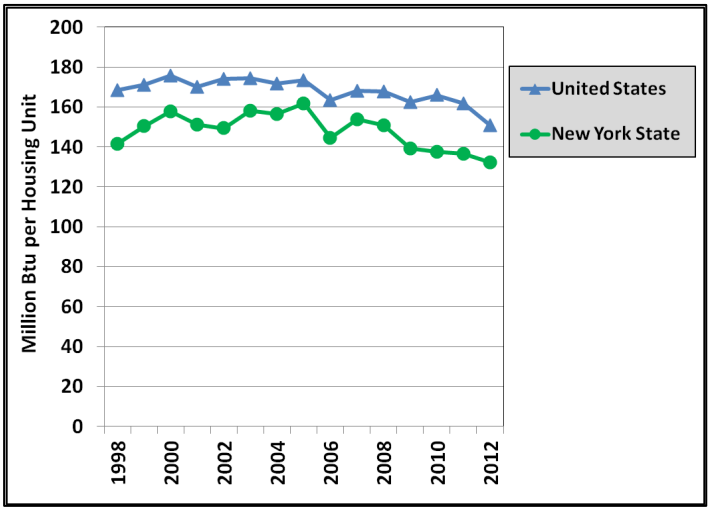


United States and New York State Selected Energy Indicators, 1998–2012

Table 2-14a:
Residential Consumption per Housing Unit

Year	NYS	U.S.
	MMBtu	MMBtu
1998	141.62	168.49
1999	150.34	170.96
2000	157.75	175.62
2001	151.12	169.98
2002	149.34	174.05
2003	158.28	174.48
2004	156.46	171.73
2005	161.63	173.41
2006	144.61	163.54
2007	153.79	168.12
2008	150.87	167.77
2009	139.15	162.43
2010	137.63	165.92
2011	136.46	161.82
2012	132.18	150.78

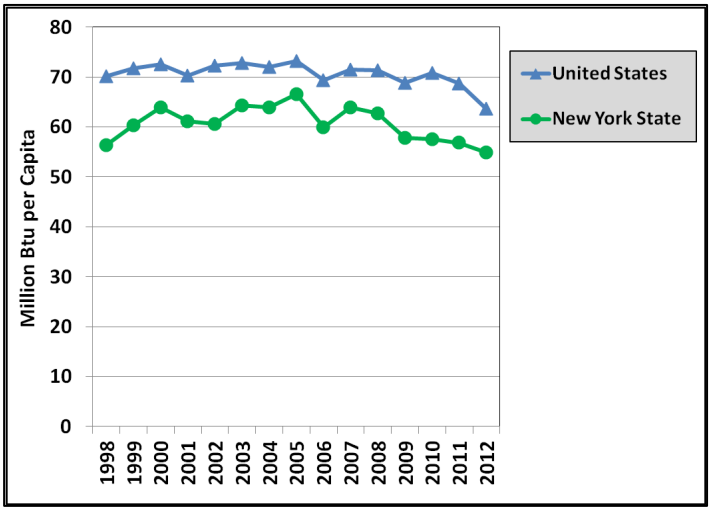
Figure 2-14a: Residential Consumption per Housing Unit



Tablet 2-14b:
Residential Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1998	56.29	70.14
1999	60.28	71.72
2000	63.91	72.58
2001	61.17	70.33
2002	60.56	72.28
2003	64.37	72.82
2004	63.95	72.04
2005	66.55	73.18
2006	59.91	69.33
2007	63.92	71.51
2008	62.71	71.34
2009	57.79	68.82
2010	57.59	70.78
2011	56.82	68.72
2012	54.85	63.63

Figure 2-14b: Residential Consumption per Capita



United States and New York State Selected Energy Indicators, 1998–2012

Table 2-15a:
Commercial Consumption per Non-Manufacturing Employee

Year	NYS	U.S.
	MMBtu	MMBtu
1998	161.39	147.03
1999	168.52	146.32
2000	169.40	149.67
2001	165.60	148.20
2002	170.08	150.35
2003	174.32	149.78
2004	180.30	150.37
2005	168.82	149.08
2006	160.76	144.88
2007	156.83	147.16
2008	159.89	148.71
2009	156.17	149.85
2010	155.58	152.05
2011	150.55	149.63
2012	140.80	142.44

Figure 2-15a: Commercial Consumption per Non-Manufacturing Employee

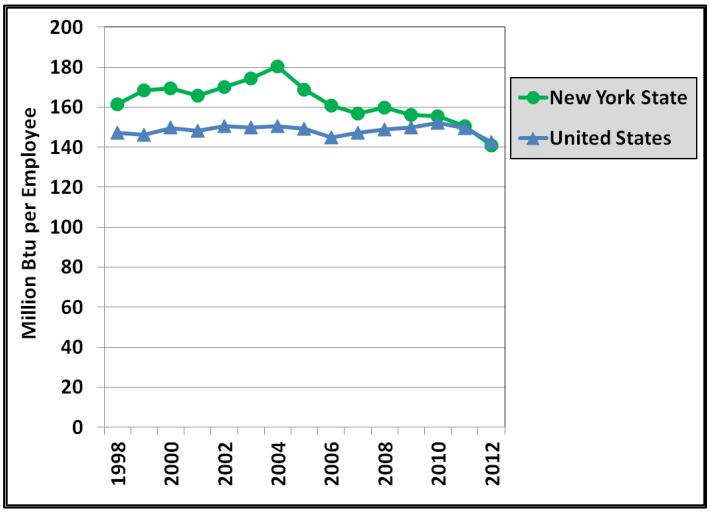
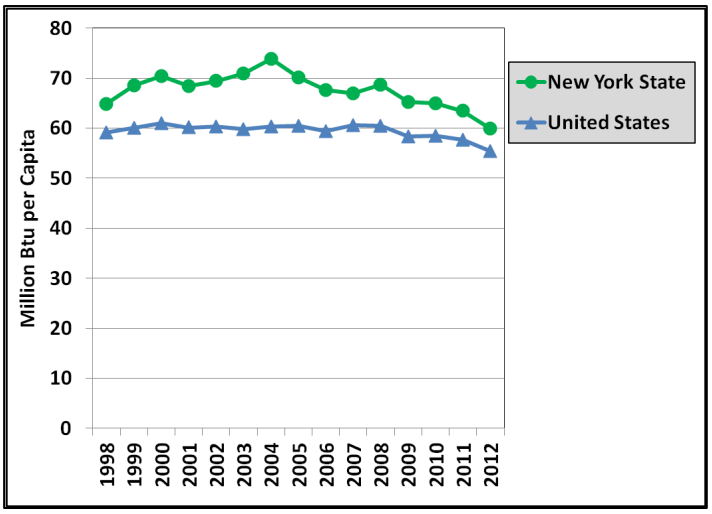


Table 2-15b:
Commercial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1998	64.85	59.08
1999	68.59	60.05
2000	70.42	61.03
2001	68.45	60.14
2002	69.42	60.31
2003	70.89	59.79
2004	73.91	60.31
2005	70.12	60.43
2006	67.67	59.36
2007	66.99	60.61
2008	68.66	60.53
2009	65.28	58.32
2010	65.03	58.48
2011	63.45	57.68
2012	59.98	55.45

Figure 2-15b: Commercial Consumption per Capita



United States and New York State Selected Energy Indicators, 1998–2012

Table 2-16a:
Industrial Consumption per Manufacturing Employee

Year	NYS	U.S.
	MMBtu	MMBtu
1998	768.0	1,984.2
1999	693.2	2,006.9
2000	710.6	2,008.0
2001	676.9	1,990.2
2002	703.8	2,140.5
2003	686.8	2,243.8
2004	681.3	2,341.6
2005	700.5	2,280.6
2006	602.8	2,289.0
2007	710.1	2,334.7
2008	609.9	2,339.4
2009	593.6	2,404.7
2010	625.7	2,649.4
2011	628.0	2,629.5
2012	612.9	2,587.8

Figure 2-16a: Industrial Consumption per Manufacturing Employee

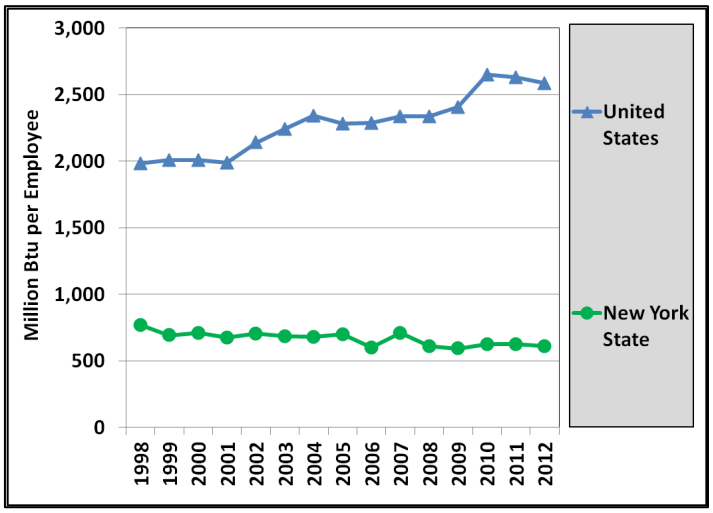
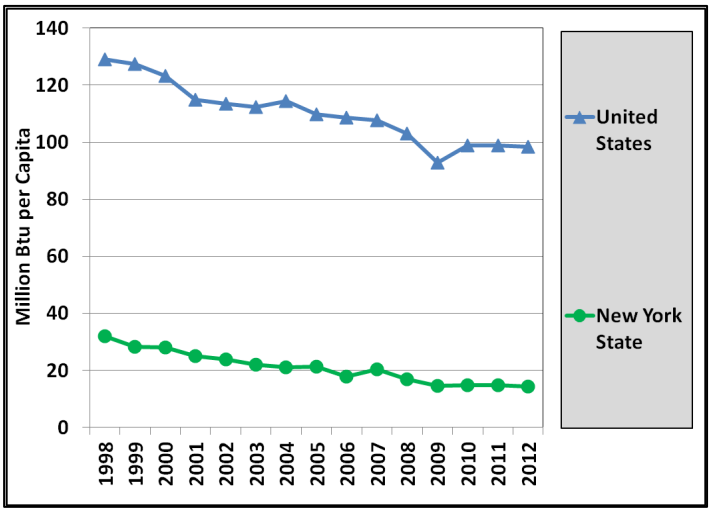


Table 2-16b:
Industrial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
1998	31.97	128.93
1999	28.37	127.48
2000	28.06	123.17
2001	25.07	114.82
2002	23.93	113.56
2003	21.92	112.22
2004	21.16	114.48
2005	21.21	109.79
2006	17.87	108.59
2007	20.47	107.57
2008	16.88	103.13
2009	14.63	92.86
2010	14.76	98.93
2011	14.77	98.96
2012	14.38	98.33

Figure 2-16b: Industrial Consumption per Capita



United States and New York State Selected Energy Indicators, 1998–2012

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

Year	NYS	U.S.
	Btu	Btu
1998	7,782	9,550
1999	7,641	9,585
2000	7,549	9,603
2001	7,439	9,339
2002	7,515	9,341
2003	7,902	9,254
2004	8,061	9,355
2005	7,847	9,422
2006	7,819	9,503
2007	8,108	9,549
2008	8,272	9,299
2009	8,157	9,109
2010	8,354	9,232
2011	8,022	9,187
2012	8,272	9,015

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

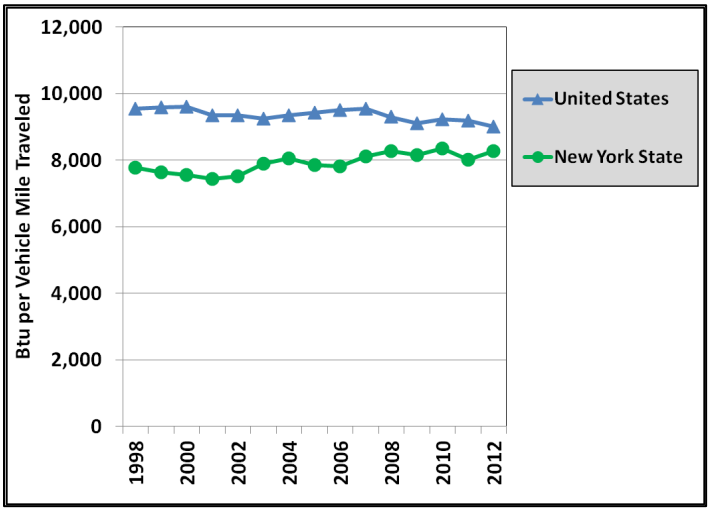
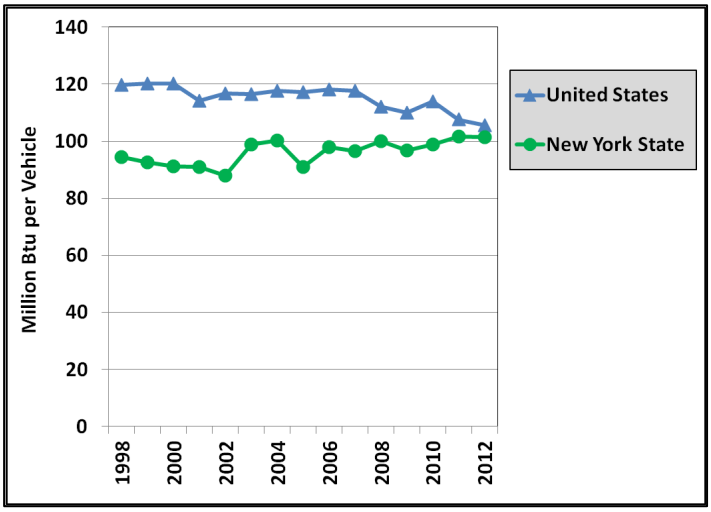


Table 2-17b:
Transportation Consumption per Registered Motor Vehicle

Year	NYS	U.S.
	MMBtu	MMBtu
1998	94.37	119.70
1999	92.60	120.13
2000	91.13	120.13
2001	90.90	114.24
2002	87.95	116.70
2003	98.79	116.53
2004	100.16	117.70
2005	90.96	117.16
2006	97.95	118.16
2007	96.45	117.75
2008	100.02	112.14
2009	96.84	110.06
2010	98.94	113.85
2011	101.60	107.56
2012	101.50	105.52

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 1998 through 2012.

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 is net of generation 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.

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 2012 New York State Energy Consumption Data

- Total primary energy consumption was 3,590 TBtu, a 1.9% decrease from 2011.
- Primary consumption of natural gas (1,261 TBtu) exceeded petroleum (1,218 TBtu) for the second year in a row as the largest energy source for New York State energy consumption, representing 35.1% of total primary energy consumption.
- Cumulative heating degree-days were 7.5% lower in 2012 compared to 2011.
- Primary consumption of energy from natural gas, petroleum, and electricity imports increased 1.1%, 1.2% and 1.8%, respectively in 2012, while use of coal, hydropower, and nuclear power decreased 42.2%, 12.5%, and 4.4%, respectively.
- Total consumption of petroleum products was 1,218 TBtu, or 219 million barrels, representing 33.9% of total primary energy consumption.

- In 2012, statewide motor gasoline and residual fuel use decreased by 1.9% and 29.3%, respectively from 2011 levels. Statewide distillate oil use increased by 1.0% from 2011 to 2012. Total statewide petroleum fuels use increased by 1.2% from 2011 to 2012.
- Sales of natural gas totaled 1,223 billion cubic feet in 2012, which was 0.5% above the 1,217 billion cubic feet sold in 2011.
- Sales of natural gas by sector were 29.3% for the residential sector, 22.1% for the commercial sector, 6.1% for the industrial sector, 1.8% for the transportation sector, and 40.7% for the electric generation sector.
- Natural gas and nuclear power accounted for 36.5% and 25.0% of New York's electricity requirements in 2012, respectively.
- Energy used for electricity generation accounted for 42.2% of primary energy use.
- Sales of electricity to ultimate customers decreased by 0.6% between 2011 and 2012.
- Total residential net energy consumption was 710 TBtu, which was 3.0% lower than 2011 levels. The residential sector accounted for 27.7% of total net energy consumption.
- Total net energy consumption in the commercial sector was 629 TBtu, or 24.5% of total net energy consumption. The sector's total energy use decreased 7.1% below the 2011 level, while sales of electricity in the sector declined by 0.5%.
- Industrial net energy consumption was 183 TBtu, or 7.1% of total net consumption. The sector's total energy use decreased 3.4% from the 2011 level.
- Transportation energy consumption was 1,041 TBtu, or up 3.8% from 2011. The sector accounted for 40.6% of total net energy consumption in 2012.

New York State Primary Consumption of Energy by Fuel Type, 1998–2012

Figure 3-1

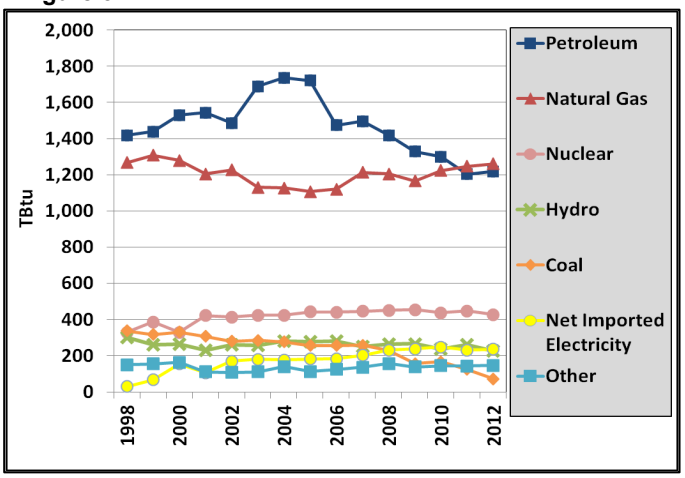


Table 3-1a (in physical units)

Year	Coal	Natural Gas	Petroleum Products[1]	Hydro	Nuclear	Net Imported Electricity
	Mtons	Bcf	Mbbl	GWh	GWh	GWh
1998	12,953	1,233	257,027	31,527	31,314	3,145
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	18,568
2007	11,058	1,187	268,768	25,557	42,453	20,708
2008	10,158	1,180	255,310	27,501	43,209	23,900
2009	7,032	1,143	238,927	27,945	43,485	25,009
2010	7,366	1,198	233,422	25,103	41,870	26,517
2011	5,603	1,217	216,505	28,355	42,695	25,202
2012	3,117	1,223	219,116	25,303	40,775	26,182

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
1998	337.4	1,267.1	1,417.4	302.1	328.5	30.1	149.1	3,831.7
1999	318.0	1,308.7	1,437.7	261.8	386.8	67.4	155.2	3,935.7
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	1,543.2	230.8	421.8	105.9	110.4	3,925.0
2002	280.6	1,227.2	1,485.8	260.9	413.7	170.1	107.1	3,945.3
2003	286.2	1,131.4	1,689.6	257.1	424.0	181.0	111.8	4,081.0
2004	276.5	1,126.6	1,735.7	281.7	423.8	176.6	139.6	4,160.3
2005	256.9	1,107.2	1,721.4	276.5	442.9	181.6	113.3	4,099.9
2006	256.3	1,120.2	1,474.7	282.5	440.6	184.6	125.1	3,884.0
2007	258.5	1,214.4	1,496.7	250.3	445.3	202.8	137.0	4,004.9
2008	229.0	1,205.1	1,418.2	265.4	451.6	230.6	157.6	3,957.6
2009	156.0	1,166.6	1,328.8	265.8	454.8	237.9	137.5	3,747.4
2010	167.1	1,224.5	1,299.1	235.7	437.6	249.0	145.5	3,758.6
2011	125.2	1,247.8	1,203.3	260.8	446.8	231.8	142.5	3,658.1
2012	72.3	1,261.0	1,217.8	228.1	427.3	236.0	147.4	3,589.9

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 non-fuel uses.

New York State Primary Consumption of Refined Petroleum Products, 1998–2012

Figure 3-2

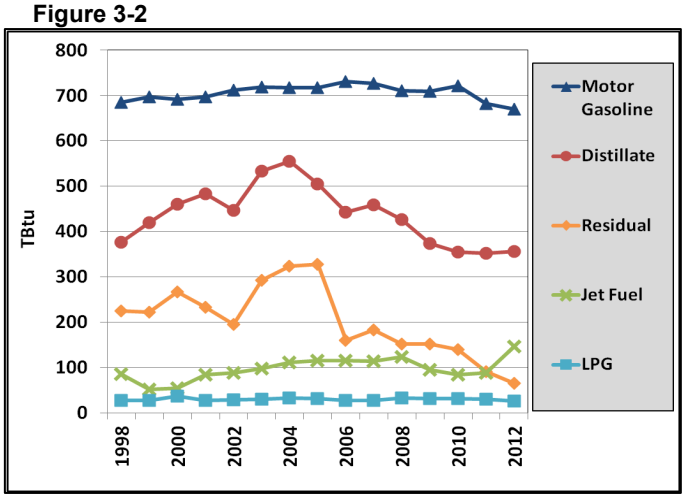


Table 3-2a (in thousand barrels)

Year	Distillate[1]	Residual	Kerosene	LPG	Motor Gasoline	Jet Fuel[2]	Total[3]
	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl
1998	64,515	35,732	3,358	7,306	131,469	15,038	257,027
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	233,422
2011	60,438	14,517	1,058	7,680	130,718	15,497	216,505
2012	61,030	10,262	569	6,983	128,275	25,877	219,116

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
1998	375.8	224.6	19.0	27.6	685.2	85.1	1417.4
1999	419.2	222.3	17.5	27.6	696.3	52.1	1437.7
2000	460.4	266.2	19.5	37.1	692.0	54.3	1530.0
2001	482.8	233.2	19.5	26.8	696.7	84.3	1543.2
2002	446.7	195.6	13.5	28.9	711.7	88.4	1485.8
2003	533.3	292.8	18.1	29.4	718.6	98.0	1689.6
2004	555.1	323.6	18.0	32.7	716.5	110.6	1735.7
2005	504.6	327.9	20.6	31.0	716.7	114.9	1721.4
2006	442.0	160.5	14.6	26.9	730.6	115.5	1474.7
2007	459.3	182.2	10.1	27.8	726.2	114.2	1496.7
2008	426.9	152.2	4.7	32.5	710.2	123.6	1418.2
2009	373.7	151.3	6.9	31.8	709.2	95.2	1328.8
2010	355.3	139.8	9.6	31.1	720.5	83.9	1299.1
2011	352.1	91.3	6.0	29.3	682.1	87.8	1203.3
2012	355.5	64.5	3.2	26.5	669.5	146.7	1217.8

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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, 1998–2012

Figure 3-3

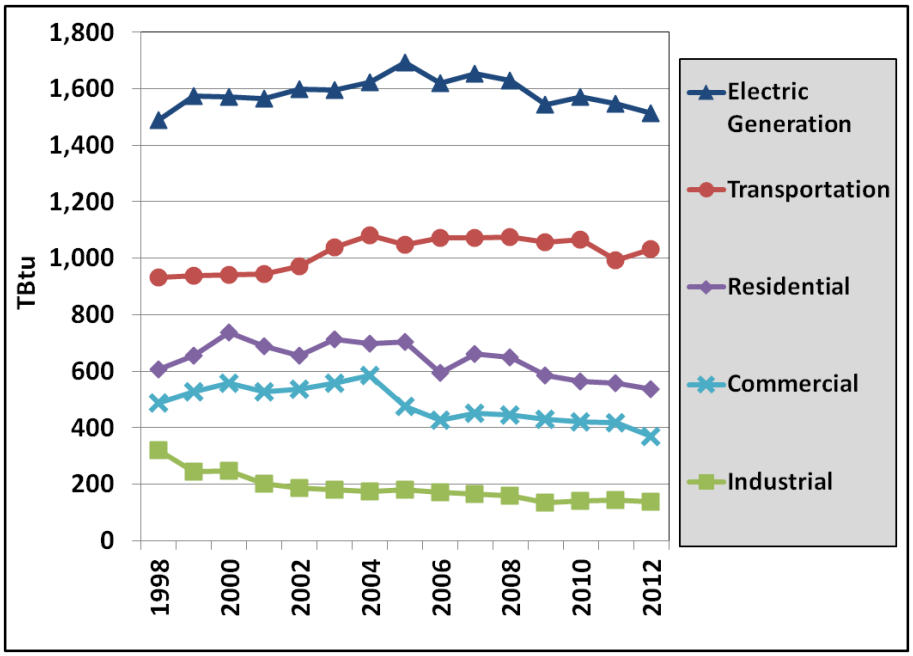

Table 3-3 (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Electric Generation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1998	606.2	486.5	320.1	931.4	1,487.6	3,831.7
1999	653.9	528.0	244.1	936.5	1,573.1	3,935.7
2000	736.9	557.3	246.6	941.1	1,571.3	4,053.3
2001	687.5	526.9	202.3	944.5	1,563.8	3,925.0
2002	655.6	535.3	185.4	971.3	1,597.7	3,945.3
2003	712.2	556.0	179.3	1,037.3	1,596.2	4,081.0
2004	695.9	585.0	174.4	1,082.0	1,623.0	4,160.3
2005	703.2	475.0	180.9	1,047.0	1,693.8	4,099.9
2006	592.8	426.7	170.8	1,073.3	1,620.4	3,884.0
2007	662.2	452.1	166.1	1,070.7	1,653.8	4,004.9
2008	650.1	443.4	158.2	1,076.2	1,629.7	3,957.6
2009	584.4	430.5	134.8	1,055.6	1,542.1	3,747.4
2010	562.6	420.8	139.6	1,064.7	1,570.8	3,758.6
2011	557.8	417.0	143.9	992.6	1,546.8	3,658.1
2012	537.5	370.0	136.5	1,031.5	1,514.4	3,589.9

New York State Primary Consumption of Energy for Electric Generation, 1998–2012

Figure 3-4

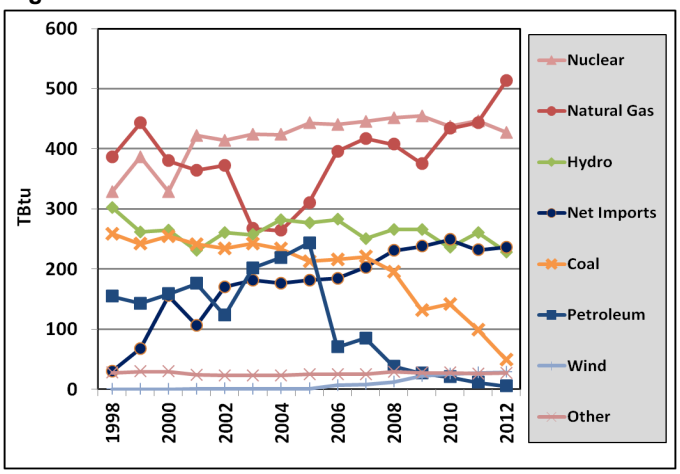

Table 3-4a (in physical units)

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
1998	9,928	377	1,390	23,295	24,685	29,316	2,211	31,314	3,145	0	2,754
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	18,568	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	23,900	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	25,202	2,828	2,830
2012	2,228	499	392	459	851	24,572	731	40,775	26,182	2,992	2,998

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
1998	258.6	386.3	8.1	145.1	154.5	302.1	328.5	30.1	0.0	27.5	1487.6
1999	241.8	443.0	12.9	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	175.9	230.8	421.8	105.9	0.2	24.0	1563.8
2002	234.3	372.5	13.0	108.4	122.8	260.9	413.7	170.1	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	219.0	281.7	423.8	176.6	1.2	23.0	1623.0
2005	213.0	310.6	9.2	220.4	243.2	276.5	442.9	181.6	1.0	24.9	1693.8
2006	215.8	395.5	3.6	61.3	70.1	282.5	440.6	184.6	6.5	24.7	1620.4
2007	220.6	416.9	8.0	73.7	84.7	250.3	445.3	202.8	8.2	25.0	1653.8
2008	195.6	407.3	4.7	31.0	37.9	265.4	451.6	230.6	12.3	28.9	1629.7
2009	131.8	375.6	4.3	20.5	26.6	265.8	454.8	237.9	22.1	27.5	1542.1
2010	141.6	433.7	3.7	11.3	20.5	235.7	437.6	249.0	25.3	27.4	1570.8
2011	99.2	443.6	1.9	6.4	11.2	260.8	446.8	231.8	27.5	26.0	1546.8
2012	48.7	513.6	2.3	2.9	5.2	228.1	427.3	236.0	28.4	27.0	1514.4

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 2-5 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, 1998–2012

Figure 3-5

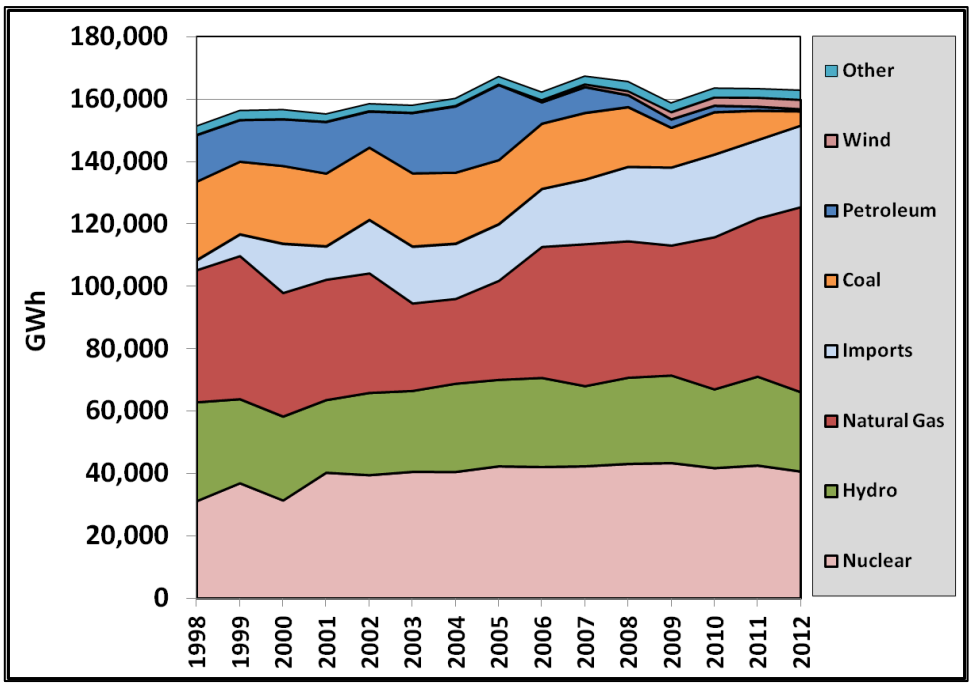

Table 3-5 (in gigawatt-hours)

Year	Coal	Natural Gas	Petroleum Products	Conv. Hydro	PS Hydro	Nuclear	Net Imports	Other[1,2]			Wind	Solar[3]	Total
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
1998	25,265	42,472	14,901	29,316	2,211	31,314	3,145	2,754			0	0	151,377
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	18,568	1,902	326	260	655	0	162,237
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	23,900	1,903	533	560	1,251	0	165,613
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	25,202	1,878	735	210	2,828	7	163,330
2012	4,551	59,462	580	24,572	731	40,775	26,182	1,897	736	311	2,992	53	162,842

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 photovoltaic and does not include customer-sited solar photovoltaic energy.

New York State
Fossil Fuel[1] for Electric Generation Trends, 1998–2012

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

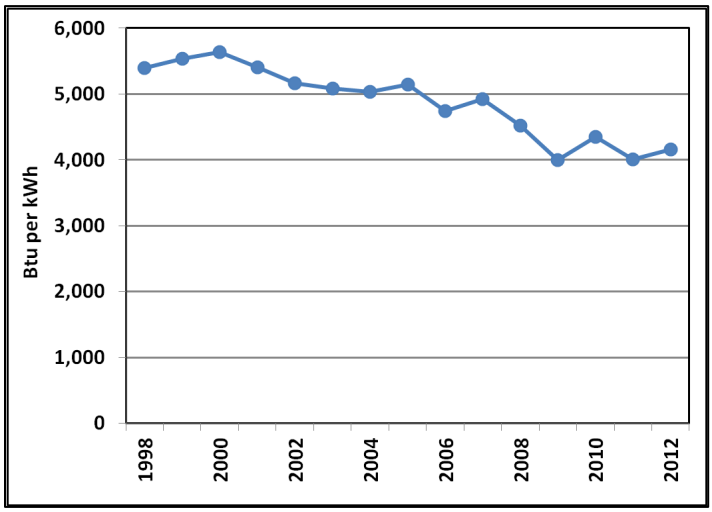

Figure 3-6b: Metric Tons Emitted of CO_2 Equivalent per GWh of in-State Generation

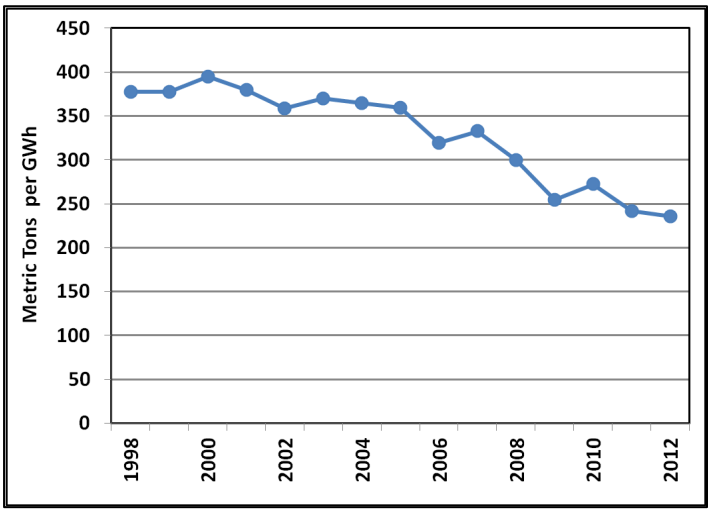

Table 3-6: Fossil Fuel Use for Electricity Trends

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}
1998	799	5,393	378
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	5,028	365
2005	767	5,143	359
2006	681	4,743	320
2007	722	4,925	333
2008	641	4,522	300
2009	534	3,992	254
2010	596	4,349	272
2011	554	4,010	242
2012	568	4,153	235

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

New York State Sales of Electricity to Ultimate Consumers, 1998–2012

Figure 3-7

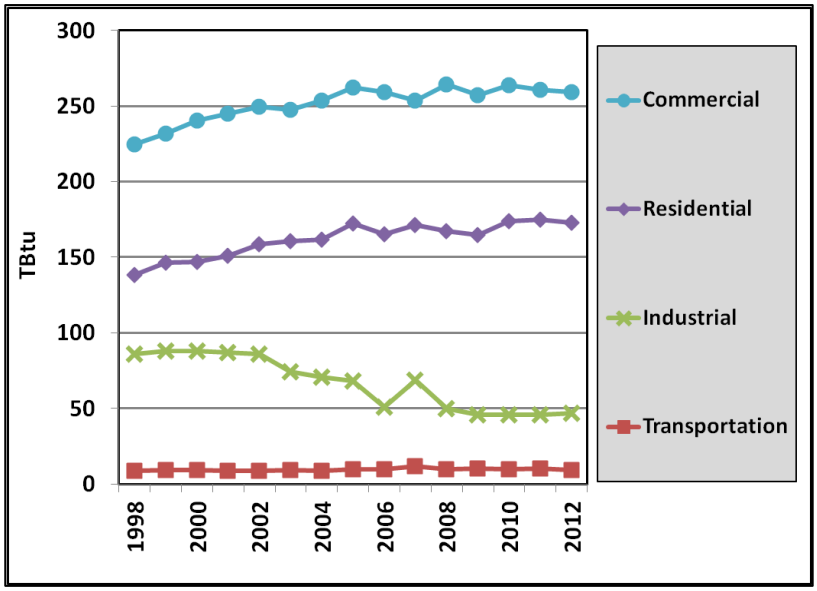

Table 3-7a (in gigawatt-hours)

Year	Residential	Commercial	Industrial	Transportation	Total
	GWh	GWh	GWh	GWh	GWh
1998	40,563	65,834	25,218	2,580	134,196
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

Table 3-7b (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu
1998	138.4	224.6	86.0	8.8	457.9
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

New York State Net Consumption of Energy by Sector, 1998–2012

Figure 3-8

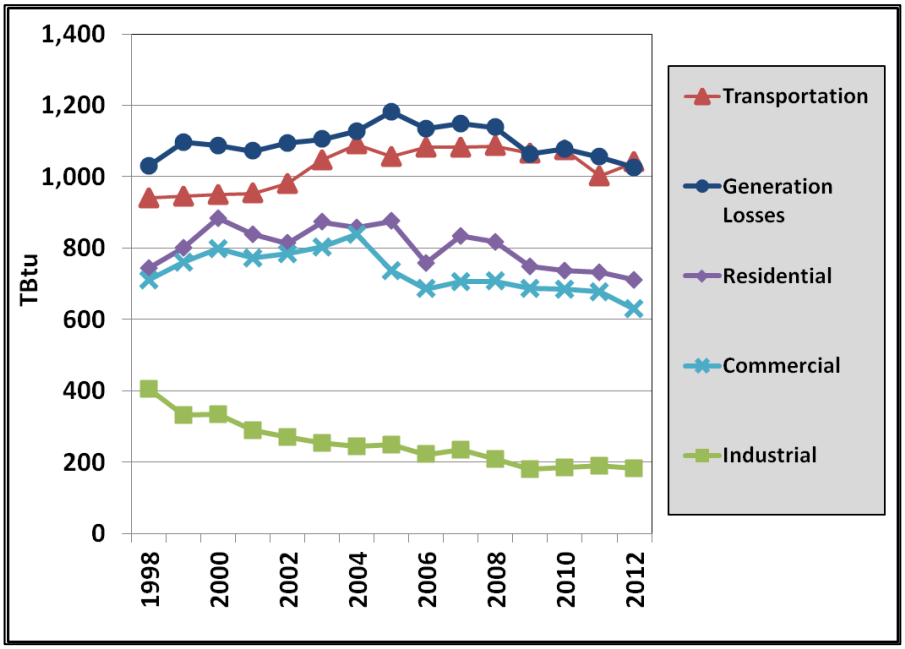

Table 3-8 (in trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Net Consumption	Generation Losses[1]	Primary Consumption
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1998	744.6	711.1	406.1	940.2	2,802.0	1,029.7	3,831.7
1999	800.3	759.9	332.3	945.6	2,838.2	1,097.5	3,935.7
2000	883.7	797.5	334.8	950.5	2,966.5	1,086.8	4,053.3
2001	838.4	772.1	289.2	953.5	2,853.2	1,071.8	3,925.0
2002	814.1	785.1	271.2	980.3	2,850.6	1,094.7	3,945.3
2003	873.0	803.4	253.5	1,046.5	2,976.3	1,104.7	4,081.0
2004	857.6	838.7	245.0	1,091.1	3,032.4	1,128.0	4,160.3
2005	875.6	737.2	248.9	1,056.7	2,918.4	1,181.5	4,099.9
2006	758.1	686.1	221.9	1,082.8	2,748.9	1,135.1	3,884.0
2007	833.6	705.7	235.0	1,082.3	2,856.7	1,148.2	4,004.9
2008	817.4	707.5	208.4	1,086.1	2,819.4	1,138.2	3,957.6
2009	749.0	687.6	180.5	1,065.9	2,683.1	1,064.3	3,747.4
2010	736.4	684.5	185.6	1,074.7	2,681.2	1,077.4	3,758.6
2011	732.7	677.7	189.7	1,002.7	2,602.8	1,055.3	3,658.1
2012	710.5	629.3	183.2	1,040.9	2,563.9	1,025.9	3,589.9

[1] Conversion and transmission losses.

New York State Net Residential Consumption of Energy by Fuel Type, 1998–2012

Figure 3-9

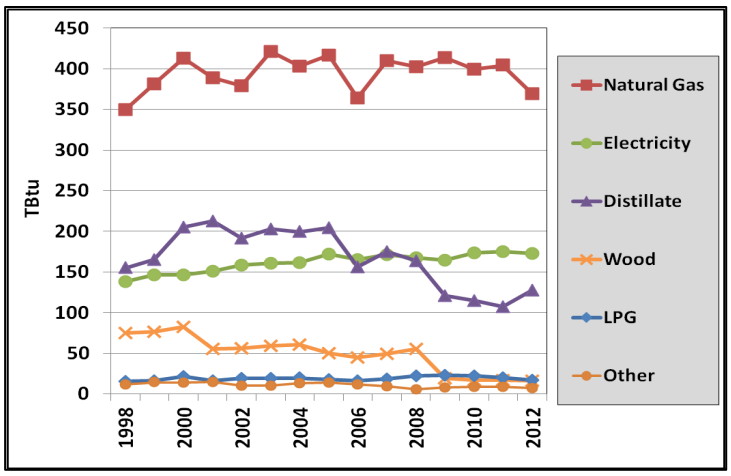

Table 3-9a (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Kerosene	LPG	Total Petroleum	Wood	Electricity
	Mtons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1998	16	340	26,637	1,866	3,962	32,465	3,734	40,563
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

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
1998	0.4	349.5	155.2	10.6	15.2	180.9	74.7	138.4	0.6	744.6
1999	0.6	381.3	165.1	13.2	16.5	194.8	76.6	146.4	0.6	800.3
2000	0.3	413.1	205.2	13.3	21.8	240.3	82.5	146.8	0.6	883.7
2001	0.3	388.8	212.6	13.6	16.5	242.7	55.1	150.9	0.6	838.4
2002	0.1	378.8	191.6	9.3	19.1	220.0	55.9	158.5	0.6	814.1
2003	0.3	421.0	203.2	9.3	18.9	231.4	58.9	160.8	0.7	873.0
2004	0.4	403.5	199.6	11.7	19.6	230.9	60.3	161.7	0.8	857.6
2005	0.3	416.9	204.2	12.5	17.9	234.6	50.4	172.4	1.0	875.6
2006	0.3	364.3	156.1	10.2	15.9	182.3	44.7	165.2	1.3	758.1
2007	0.3	409.9	175.3	7.5	18.3	201.1	49.4	171.4	1.5	833.6
2008	0.0	402.7	163.9	3.7	22.6	190.2	55.2	167.3	1.9	817.4
2009	0.0	413.6	120.9	5.5	22.8	149.2	19.3	164.6	2.2	749.0
2010	0.0	399.7	115.2	5.7	22.2	143.1	16.9	173.8	2.9	736.4
2011	0.0	404.3	107.5	4.1	20.3	131.9	17.3	174.8	4.3	732.7
2012	0.0	369.2	127.8	2.1	17.1	147.0	16.1	173.0	5.2	710.5

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

[2] Includes Solar Photovoltaic 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, 1998–2012

Figure 3-10

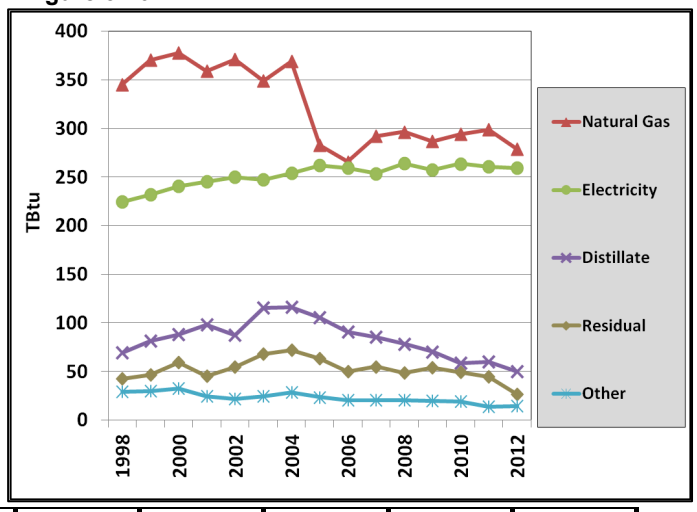

Table 3-10a (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Electricity
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1998	131	335	11,914	6,765	981	1,124	20,784	613	65,834
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

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
1998	3.3	345.3	69.4	42.5	5.6	4.3	121.8	12.3	3.6	224.6	0.2	711.1
1999	4.0	370.4	81.2	46.8	3.9	4.7	136.6	12.9	3.9	231.9	0.2	759.9
2000	2.3	377.7	88.1	59.3	5.4	6.2	159.0	13.8	4.3	240.3	0.2	797.5
2001	2.5	358.9	98.2	45.2	5.0	4.7	153.1	9.7	2.5	245.2	0.3	772.1
2002	1.0	371.3	87.6	54.6	2.8	5.4	150.3	9.9	2.5	249.8	0.3	785.1
2003	1.8	348.8	115.2	67.8	3.8	5.4	192.2	10.3	2.4	247.4	0.4	803.4
2004	3.6	368.9	116.0	71.9	4.2	7.3	199.4	10.1	2.5	253.8	0.4	838.7
2005	3.7	283.0	105.4	63.3	4.3	4.2	177.2	8.1	2.6	262.1	0.5	737.2
2006	3.2	265.7	90.9	49.9	2.0	4.4	147.2	7.5	2.6	259.4	0.5	686.1
2007	3.0	291.9	85.1	54.8	1.4	4.9	146.2	8.0	2.5	253.6	0.6	705.7
2008	1.7	296.4	78.3	48.3	0.7	6.3	133.7	8.4	2.5	264.1	0.6	707.5
2009	0.6	286.8	70.3	53.9	1.0	6.6	131.7	2.7	2.3	257.1	0.7	687.6
2010	0.1	294.1	58.5	49.3	0.9	6.6	115.3	2.7	2.3	263.7	0.8	684.5
2011	0.1	298.9	60.1	44.6	1.0	7.1	112.7	2.6	2.1	260.7	0.6	677.7
2012	0.0	278.9	50.1	26.6	0.3	6.1	83.1	2.3	4.9	259.4	0.8	629.3

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

New York State Net Industrial Consumption of Energy by Fuel Type, 1998–2012

Figure 3-11

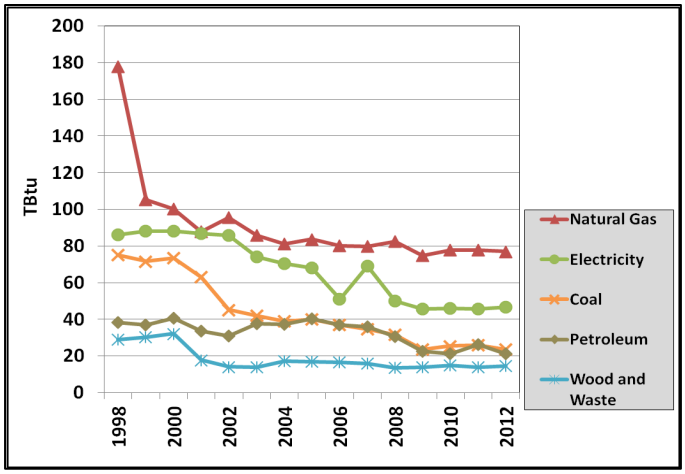

Table 3-11a (in physical units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Kerosene	LPG	Total Petroleum	Wood	Electricity
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh
1998	2,878	173	3,016	1,868	511	1,687	7,082	1,379	25,218
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	626	13,420
2012	889	75	2,502	578	144	656	3,880	662	13,705

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
1998	75.1	177.8	17.6	11.7	2.9	6.0	38.2	27.6	1.4	86.0	406.1
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	40.8	30.9	1.2	88.2	334.8
2001	63.1	87.9	17.4	9.7	1.0	5.5	33.6	17.2	0.6	86.8	289.2
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	17.8	10.0	5.0	4.9	37.7	13.4	0.5	74.2	253.5
2004	38.9	81.1	20.3	9.3	2.1	5.5	37.3	16.7	0.5	70.5	245.0
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	20.2	8.2	2.4	6.2	37.0	15.4	1.2	51.1	221.9
2007	34.6	79.8	21.1	9.2	1.2	4.4	35.9	14.7	1.3	69.0	235.0
2008	31.6	82.4	19.9	7.8	0.2	2.6	30.6	12.3	1.3	50.1	208.4
2009	23.6	74.8	17.1	3.0	0.4	2.0	22.6	11.6	1.5	45.8	180.5
2010	25.4	77.8	13.2	3.2	3.1	1.7	21.3	12.7	1.5	46.0	185.6
2011	25.9	77.7	16.4	7.8	0.9	1.2	26.3	12.5	1.5	45.8	189.7
2012	23.6	77.0	14.6	3.6	0.8	2.3	21.3	13.2	1.4	46.8	183.2

1 Distillate consumption estimates include biodiesel blended into diesel fuel.
2 Excludes non-fuel 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, 1998–2012

Figure 3-12

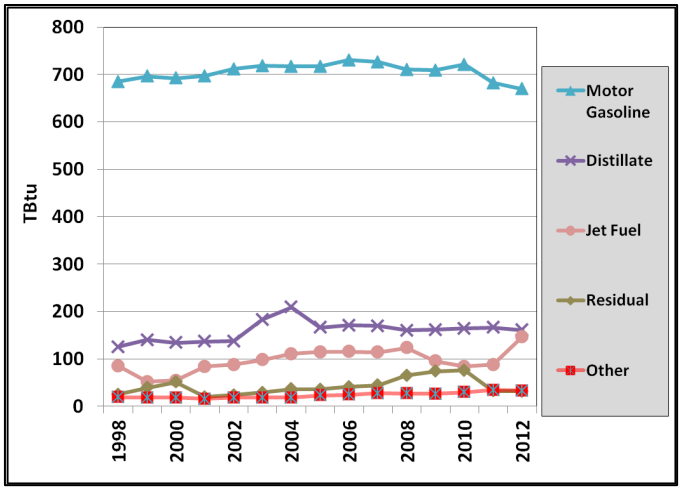

Table 3-12a (in physical units)

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
1998	8	21,558	4,024	131,469	15,038	533	172,231	391	2,580
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	179,913	13,459	2,922
2011	23	28,534	5,158	130,718	15,497	180	166,215	13,872	2,981
2012	21	27,591	4,988	128,275	25,877	291	173,142	13,880	2,748

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
1998	8.2	125.6	25.3	685.2	85.1	2.0	921.9	1.4	8.8	940.2
1999	8.8	140.0	39.2	696.3	52.1	0.1	926.5	1.2	9.1	945.6
2000	8.5	134.2	51.1	692.0	54.3	0.9	931.3	1.3	9.4	950.5
2001	6.2	137.0	20.2	696.7	84.3	0.1	937.9	0.4	9.0	953.5
2002	9.2	137.7	24.1	711.7	88.4	0.3	961.8	0.3	9.0	980.3
2003	8.6	183.1	28.8	718.6	98.0	0.2	1,026.9	1.9	9.2	1,046.5
2004	8.9	209.2	36.6	716.5	110.6	0.3	1,049.2	23.9	9.0	1,091.1
2005	13.1	166.3	35.7	716.7	114.9	0.3	1,026.0	7.9	9.7	1,056.7
2006	14.5	171.2	41.1	730.6	115.5	0.4	1,038.1	20.6	9.6	1,082.8
2007	16.0	169.8	44.4	726.2	114.2	0.2	1,028.8	25.9	11.6	1,082.3
2008	16.3	160.1	65.0	710.2	123.6	1.0	1,025.8	34.1	10.0	1,086.1
2009	15.8	161.2	73.8	709.2	95.2	0.4	998.7	41.1	10.3	1,065.9
2010	19.2	164.5	76.0	720.5	83.9	0.5	998.9	46.7	10.0	1,074.7
2011	23.3	166.2	32.4	682.1	87.8	0.7	921.2	48.1	10.2	1,002.7
2012	22.2	160.7	31.4	669.5	146.7	1.1	961.2	48.1	9.4	1,040.9

[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, 1998 through 2012. 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 2012 (real) dollars. To convert energy prices from nominal to constant 2012 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 2012 New York State Energy Price Data

- Residential sector statewide average nominal fuel prices:
  - Home heating oil increased by 11.1% from an average $3.55 per gallon in 2011 to $3.94 in 2012.
  - Natural gas declined by 5.6% from an average $13.64 per thousand cubic feet in 2011 to $12.87 in 2012.
  - Electricity decreased by 3.5% from 18.3¢ per kilowatt hour in 2011 to 17.6¢ in 2012.
- Commercial sector statewide average nominal fuel prices:
  - Distillate fuel prices averaged $3.54 per gallon in 2012, which was a 4.2% increase from 2011 prices.
  - Residual oil prices averaged $115.43 per barrel in 2012, which was a 5.5% increase from 2011 prices.
  - Electricity prices averaged 15.1¢ per kilowatt-hour, which was a 4.7% decrease from 2011 prices.
  - Natural gas prices averaged $7.79 per thousand cubic feet, which was a 16.1% decrease from 2011 prices.
- Industrial sector statewide average nominal fuel prices:
  - Residual oil prices averaged $115.43 per barrel in 2012, which was a 5.5% increase from 2011 prices.
  - Natural gas prices averaged $6.87 per thousand cubic feet, which was a 15.7% decrease from 2011 prices.
  - Electricity prices averaged 6.7¢ per kilowatt-hour, which was a 14.5% decrease compared to 2011 prices.
- The average retail price for all grades of gasoline was $3.65 per gallon, up 15¢ per gallon (4.2%) from the average price in 2011.

New York State Residential Energy Prices in Nominal Dollars, 1998–2012

Figure 4-1

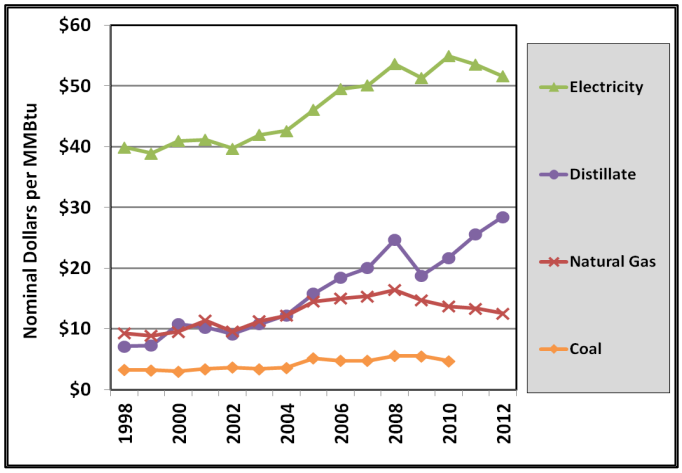

Table 4-1a (in physical units)

Year	Coal	Distillate[1]	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2012=1
1998	70.27	98.61	59.94	112.29	9.62	13.62	0.710
1999	76.65	100.83	73.58	114.08	9.12	13.27	0.726
2000	75.56	149.92	127.44	143.25	9.80	13.97	0.750
2001	85.19	141.74	117.99	150.58	11.70	14.04	0.771
2002	83.35	126.62	106.92	132.22	9.85	13.55	0.784
2003	76.07	149.51	134.60	151.73	11.61	14.31	0.801
2004	80.37	169.62	162.14	168.06	12.49	14.54	0.823
2005	115.73	219.13	214.92	188.07	14.92	15.72	0.851
2006	105.03	255.61	260.15	211.43	15.44	16.89	0.878
2007	105.05	278.07	289.85	244.32	15.77	17.10	0.903
2008	122.13	342.43	365.31	286.15	16.86	18.30	0.938
2009	121.99	260.46	281.21	259.39	15.10	17.50	0.934
2010	102.58	300.96	320.90	275.10	14.04	18.74	0.950
2011	N/A	354.91	379.76	312.45	13.64	18.26	0.980
2012	N/A	394.30	399.87	323.69	12.87	17.62	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	2012=1
1998	3.25	7.11	4.44	13.05	9.31	39.91	0.710
1999	3.21	7.27	5.45	13.25	8.87	38.90	0.726
2000	3.02	10.81	9.44	16.68	9.55	40.95	0.750
2001	3.42	10.22	8.74	17.50	11.37	41.14	0.771
2002	3.63	9.13	7.92	15.37	9.61	39.71	0.784
2003	3.42	10.78	9.97	17.56	11.28	41.94	0.801
2004	3.60	12.23	12.01	19.51	12.17	42.62	0.823
2005	5.18	15.80	15.92	21.82	14.51	46.08	0.851
2006	4.76	18.43	19.27	24.64	15.02	49.51	0.878
2007	4.76	20.05	21.47	26.75	15.36	50.11	0.903
2008	5.58	24.69	27.06	31.33	16.42	53.63	0.938
2009	5.53	18.78	20.83	28.40	14.73	51.28	0.934
2010	4.70	21.70	23.77	30.12	13.72	54.92	0.950
2011	N/A	25.59	28.13	34.21	13.35	53.52	0.980
2012	N/A	28.43	29.62	35.44	12.56	51.63	1.000

[1] Home heating oil

[2] To convert prices to 2012 dollars, divide the selected price by the deflator factor in the same row.

New York State Commercial Energy Prices in Nominal Dollars, 1998–2012

Figure 4-2

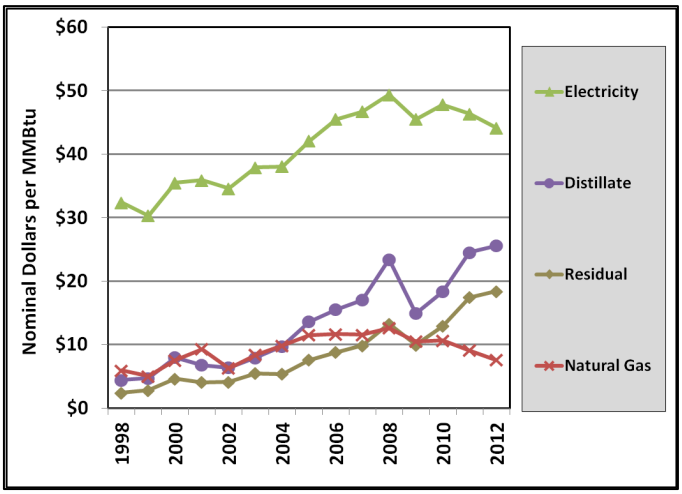

Table 4-2a (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2012=1
1998	31.79	60.89	14.96	59.94	81.92	6.11	11.04	0.710
1999	31.09	65.32	17.48	73.58	83.51	5.15	10.33	0.726
2000	37.12	110.40	28.92	127.44	106.66	7.73	12.10	0.750
2001	37.59	93.62	25.59	117.99	113.24	9.57	12.24	0.771
2002	44.55	88.35	25.90	106.92	101.68	6.42	11.79	0.784
2003	40.84	109.84	34.20	134.60	120.53	8.61	12.93	0.801
2004	43.39	134.81	33.70	162.14	134.47	10.10	12.98	0.823
2005	48.26	188.48	47.59	214.92	151.09	11.82	14.36	0.851
2006	66.82	215.39	55.26	260.15	166.73	11.98	15.51	0.878
2007	64.04	236.33	61.74	289.85	193.44	11.85	15.92	0.903
2008	104.18	324.54	83.43	365.31	233.36	12.93	16.84	0.938
2009	134.58	206.79	62.49	281.21	188.33	10.75	15.51	0.934
2010	137.13	254.50	81.10	320.90	215.82	10.87	16.31	0.950
2011	134.11	339.93	109.46	379.76	237.83	9.28	15.81	0.980
2012	N/A	354.35	115.43	399.87	220.48	7.79	15.06	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	2012=1
1998	1.37	4.39	2.38	4.44	9.52	5.91	32.36	0.710
1999	1.34	4.71	2.78	5.45	9.70	5.01	30.28	0.726
2000	1.60	7.96	4.60	9.44	12.42	7.53	35.46	0.750
2001	1.62	6.75	4.07	8.74	13.16	9.30	35.88	0.771
2002	1.92	6.37	4.12	7.92	11.82	6.26	34.55	0.784
2003	1.76	7.92	5.44	9.97	13.95	8.37	37.89	0.801
2004	1.87	9.72	5.36	12.01	15.61	9.84	38.04	0.823
2005	2.08	13.59	7.57	15.92	17.53	11.50	42.08	0.851
2006	2.88	15.53	8.79	19.27	19.43	11.65	45.46	0.878
2007	2.76	17.04	9.82	21.47	21.18	11.54	46.65	0.903
2008	4.49	23.40	13.27	27.06	25.55	12.59	49.35	0.938
2009	5.80	14.91	9.94	20.83	20.62	10.49	45.45	0.934
2010	5.91	18.35	12.90	23.77	23.63	10.63	47.80	0.950
2011	5.78	24.51	17.41	28.13	26.04	9.08	46.33	0.980
2012	N/A	25.55	18.36	29.62	24.14	7.60	44.13	1.000

[1] Home heating oil

[2] To convert prices to 2012 dollars, divide the selected price by the deflator factor in the same row.

New York State Industrial Energy Prices in Nominal Dollars, 1998–2012

Figure 4-3

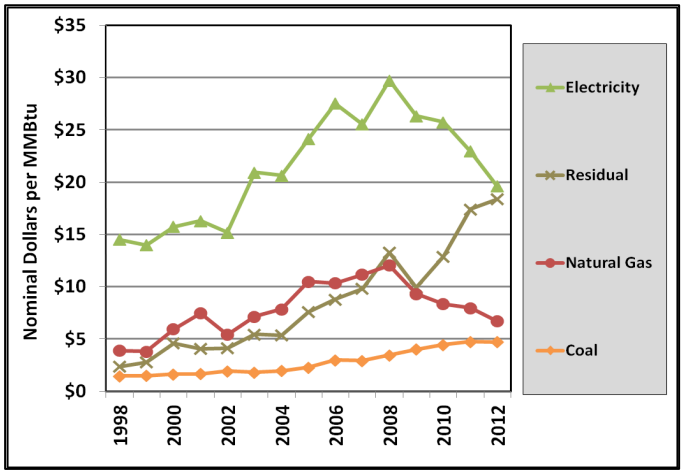

Table 4-3a (in physical units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	GDP Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2012=1
1998	29.75	57.97	14.96	54.14	81.66	4.03	4.94	0.710
1999	30.12	64.77	17.48	62.51	83.51	3.90	4.76	0.726
2000	33.43	105.27	28.92	111.51	108.81	6.10	5.37	0.750
2001	33.76	91.67	25.59	90.86	111.95	7.69	5.55	0.771
2002	38.86	88.48	25.90	81.41	105.90	5.54	5.18	0.784
2003	36.35	107.90	34.20	109.76	130.56	7.36	7.14	0.801
2004	39.16	127.46	33.70	137.97	147.39	8.04	7.04	0.823
2005	45.37	190.14	47.59	181.85	160.92	10.77	8.23	0.851
2006	59.20	218.85	55.26	213.17	177.71	10.62	9.39	0.878
2007	57.94	238.55	61.74	243.27	220.66	11.46	8.71	0.903
2008	67.81	327.17	83.43	306.86	264.41	12.37	10.14	0.938
2009	78.28	197.77	62.49	204.39	217.46	9.55	8.98	0.934
2010	87.13	263.51	81.10	251.24	249.07	8.54	8.78	0.950
2011	91.68	324.40	109.46	331.56	278.57	8.15	7.83	0.980
2012	90.29	341.87	115.43	346.55	273.09	6.87	6.69	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	2012=1
1998	1.45	4.18	2.38	4.01	9.49	3.90	14.49	0.710
1999	1.47	4.67	2.78	4.63	9.70	3.79	13.96	0.726
2000	1.63	7.59	4.60	8.26	12.67	5.95	15.75	0.750
2001	1.66	6.61	4.07	6.73	13.01	7.47	16.28	0.771
2002	1.92	6.38	4.12	6.03	12.31	5.40	15.17	0.784
2003	1.81	7.78	5.44	8.13	15.11	7.15	20.92	0.801
2004	1.96	9.19	5.36	10.22	17.11	7.84	20.63	0.823
2005	2.27	13.71	7.57	13.47	18.67	10.48	24.11	0.851
2006	2.97	15.78	8.79	15.79	20.71	10.33	27.53	0.878
2007	2.91	17.20	9.82	18.02	24.16	11.16	25.53	0.903
2008	3.44	23.59	13.27	22.73	28.95	12.04	29.71	0.938
2009	4.01	14.26	9.94	15.14	23.81	9.32	26.33	0.934
2010	4.44	19.00	12.90	18.61	27.27	8.35	25.74	0.950
2011	4.74	23.39	17.41	24.56	30.50	7.97	22.96	0.980
2012	4.70	24.65	18.36	25.67	29.90	6.70	19.62	1.000

[1] Home heating oil

[2] To convert prices to 2012 dollars, divide the selected price by the deflator factor in the same row.

New York State Transportation Energy Prices in Nominal Dollars, 1998–2012

Figure 4-4

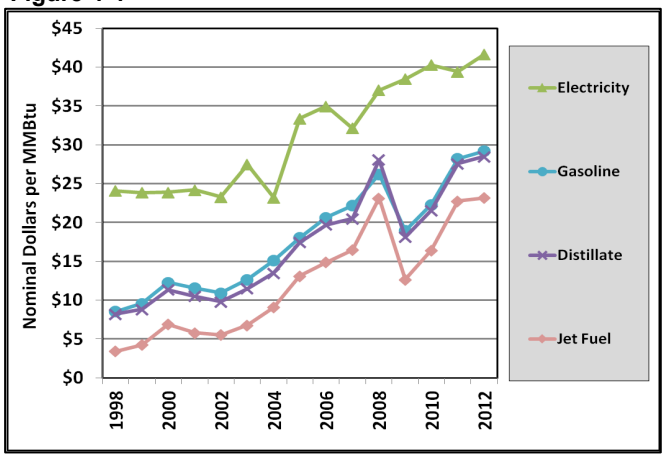

Table 4-4a (in physical units)

Year	Motor Gasoline	Distillate[1]	Jet Fuel[2]	Residual[3]	Electricity[4]	GDP Deflator[5]
	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/bbl	Cents/kWh	2012=1
1998	106.23	113.73	45.90	12.20	8.21	0.710
1999	118.74	122.05	57.11	15.53	8.14	0.726
2000	152.33	157.00	93.15	25.78	8.15	0.750
2001	143.15	145.90	78.17	19.93	8.25	0.771
2002	135.53	135.92	74.79	21.82	7.95	0.784
2003	156.95	159.22	91.26	28.48	9.38	0.801
2004	187.37	186.82	122.31	29.61	7.92	0.823
2005	224.37	242.15	176.85	42.63	11.40	0.851
2006	256.68	273.22	201.02	49.10	11.94	0.878
2007	275.93	284.32	222.21	49.35	10.97	0.903
2008	325.63	389.30	312.26	75.95	12.64	0.938
2009	235.31	251.31	170.64	51.80	13.13	0.934
2010	277.30	299.02	221.81	68.28	13.74	0.950
2011	350.60	382.51	307.40	93.11	13.45	0.980
2012	365.46	395.27	312.66	96.82	14.20	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	2012=1
1998	8.56	8.20	3.40	1.94	24.07	0.710
1999	9.57	8.80	4.23	2.47	23.85	0.726
2000	12.28	11.32	6.90	4.10	23.90	0.750
2001	11.54	10.52	5.79	3.17	24.18	0.771
2002	10.93	9.80	5.54	3.47	23.29	0.784
2003	12.66	11.48	6.76	4.53	27.49	0.801
2004	15.09	13.47	9.06	4.71	23.21	0.823
2005	18.06	17.46	13.10	6.78	33.40	0.851
2006	20.66	19.70	14.89	7.81	34.98	0.878
2007	22.21	20.50	16.46	7.85	32.14	0.903
2008	26.21	28.07	23.13	12.08	37.06	0.938
2009	18.94	18.12	12.64	8.24	38.47	0.934
2010	22.32	21.56	16.43	10.86	40.28	0.950
2011	28.22	27.58	22.77	14.81	39.41	0.980
2012	29.22	28.50	23.16	15.40	41.63	1.000

[1] Diesel
[2] Kerosene-based
[3] Bunker fuel
[4] Railroad use
[5] To convert prices to 2012 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 2012 dollars for the following selected years: 1998, 2003, and 2008 through 2012. 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 1998 through 2012 in both nominal and constant 2012 dollars.

5.1 Key Observations about 2012 New York State Energy Expenditures Data

- Cumulative heating degree-days were 7.5% lower in 2012 compared to 2011.
- In nominal dollars, New York State's 2012 estimated energy bill of $63.9 billion was down 1.3% from 2011, and 115.8% more than the $29.6 billion spent in 1998.
- In constant 2012 dollars, New York State's estimated energy bill decreased $2.1 billion (3.3%) from 2011, and was $22.2 billion (53.2%) greater than in 1998.
- New Yorkers spent $17.9 billion for household energy, which was a 2.4% decrease from the 2011 level in nominal dollars and 4.4% lower in constant 2012 dollars.
- The total commercial customer energy bill was $15.5 billion, which was 10.2% lower than 2011 in nominal dollars and 12.0% lower in constant 2012 dollars.
- Industrial customers paid $2.1 billion for energy, which was a 13.2% decrease from 2011 levels in nominal dollars and 15.0% lower in constant 2012 dollars.
- The annual energy bill for transporting people and goods was $28.4 billion, a 6.4% increase from 2011 levels in nominal dollars and 4.2% higher in constant 2012 dollars.
- From 2011 to 2012, statewide expenditures increased 5.7% for petroleum, and decreased 5.3% for electricity and 16.7% for natural gas in nominal dollars.
- In nominal dollars, New York State's 2012 out of state estimated energy bill of $38.9 billion increased 0.2% from 2011, and 305.0% more than the $9.6 billion spent in 1998.
- In constant 2012 dollars, New York State's out of state estimated energy bill decreased $0.7 billion (1.8%) from 2011, and was $25.4 billion (187.5%) greater than in 1998.

New York State Energy Expenditure Estimates by Fuel Type and Sector in Nominal Dollars, 1998–2012

Figure 5-1

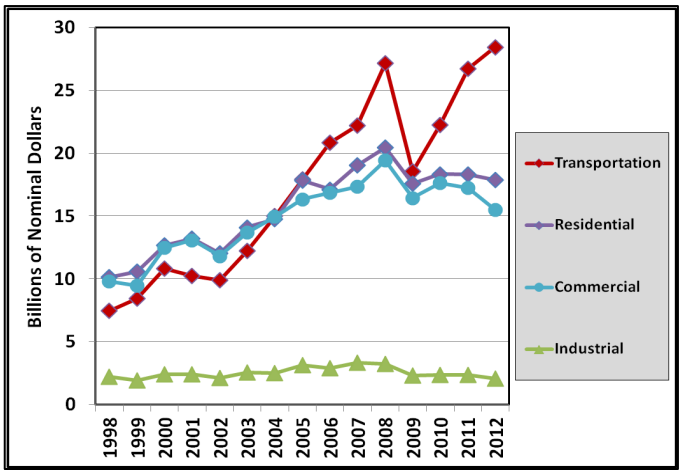

Table 5-1 (in million dollars)

	1998	2003	2008	2009	2010	2011	2012
Residential							
Coal	$1.3	$0.9	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$1,348.5	$2,614.9	$4,855.6	$3,032.5	$3,304.2	$3,561.6	$4,300.8
Distillate	$1,103.2	$2,190.0	$4,046.9	$2,270.5	$2,500.4	$2,750.8	$3,633.8
Kerosene	$47.0	$92.6	$101.3	$114.9	$134.6	$115.8	$61.4
LPG	$198.3	$332.3	$707.3	$647.1	$669.2	$694.9	$605.6
Natural Gas	$3,254.3	$4,749.2	$6,612.9	$6,092.8	$5,483.3	$5,397.7	$4,637.7
Electricity	$5,523.6	$6,742.2	$8,972.5	$8,441.5	$9,546.6	$9,356.9	$8,929.9
Total	$10,127.8	$14,107.3	$20,441.0	$17,566.7	$18,334.1	$18,316.2	$17,868.4
Commercial							
Coal	$4.6	$3.3	$7.7	$3.2	$0.5	$0.6	$0.0
Petroleum	$471.7	$1,394.3	$2,654.6	$1,739.6	$1,886.4	$2,459.6	$1,925.7
Distillate	$304.7	$912.6	$1,832.9	$1,047.6	$1,074.2	$1,472.0	$1,280.2
Residual	$101.2	$368.8	$641.2	$535.6	$635.5	$775.9	$489.0
Kerosene	$24.7	$37.6	$19.6	$20.0	$20.8	$26.8	$10.0
LPG	$41.1	$75.3	$160.8	$136.4	$155.9	$184.9	$146.5
Natural Gas	$2,040.5	$2,919.4	$3,732.1	$3,008.9	$3,126.7	$2,713.8	$2,120.0
Electricity	$7,268.9	$9,372.2	$13,035.4	$11,684.5	$12,603.2	$12,078.1	$11,446.1
Total	$9,785.6	$13,689.3	$19,429.8	$16,436.2	$17,616.7	$17,252.2	$15,491.9
Industrial							
Coal	$109.0	$75.9	$108.8	$94.5	$113.0	$122.7	$110.8
Petroleum	$169.9	$307.4	$654.3	$328.3	$398.9	$578.7	$514.9
Distillate	$73.4	$138.2	$468.5	$243.4	$251.7	$382.7	$359.2
Residual	$28.0	$54.2	$104.1	$30.3	$41.7	$136.2	$66.7
Kerosene	$11.6	$41.0	$5.2	$6.5	$57.8	$22.8	$21.0
LPG	$56.9	$74.0	$76.5	$48.1	$47.6	$37.0	$68.0
Natural Gas	$693.4	$613.8	$992.1	$696.7	$649.9	$619.1	$515.6
Electricity	$1,246.8	$1,552.1	$1,488.6	$1,205.3	$1,183.9	$1,051.3	$917.5
Total	$2,219.0	$2,549.2	$3,243.8	$2,324.8	$2,345.7	$2,371.8	$2,058.8
Transportation							
Petroleum	$7,253.0	$11,995.8	$26,780.1	$18,173.7	$21,848.9	$26,334.1	$28,055.9
Distillate	$1,029.7	$2,101.8	$4,494.0	$2,920.5	$3,547.2	$4,584.1	$4,580.5
Residual	$49.1	$130.5	$785.0	$608.4	$825.7	$480.3	$482.9
Motor Gasoline	$5,865.5	$9,097.7	$18,614.3	$13,432.9	$16,082.4	$19,248.5	$19,561.8
Jet Fuel	$289.4	$662.5	$2,858.3	$1,203.1	$1,379.1	$2,000.1	$3,397.3
LPG	$19.4	$3.2	$28.6	$8.9	$14.5	$21.0	$33.4
Electricity	$211.9	$252.2	$369.0	$397.0	$401.6	$400.8	$390.3
Total	$7,464.9	$12,248.0	$27,149.1	$18,570.8	$22,250.4	$26,734.9	$28,446.2
Total							
Coal	$114.9	$80.1	$116.5	$97.7	$113.4	$123.3	$110.8
Petroleum	$9,243.2	$16,312.4	$34,944.5	$23,274.1	$27,438.4	$32,934.0	$34,797.3
Distillate	$2,511.0	$5,342.6	$10,842.3	$6,482.0	$7,373.5	$9,189.6	$9,853.8
Residual	$178.3	$553.5	$1,530.2	$1,174.3	$1,502.9	$1,392.4	$1,038.7
Motor Gasoline	$5,865.5	$9,097.7	$18,614.3	$13,432.9	$16,082.4	$19,248.5	$19,561.8
Kerosene	$83.3	$171.3	$126.2	$141.4	$213.2	$165.4	$92.4
Jet Fuel	$289.4	$662.5	$2,858.3	$1,203.1	$1,379.1	$2,000.1	$3,397.3
LPG	$315.8	$484.8	$973.2	$840.4	$887.2	$937.9	$853.4
Natural Gas	$5,988.1	$8,282.4	$11,337.1	$9,798.4	$9,259.9	$8,730.6	$7,273.3
Electricity	$14,251.2	$17,918.8	$23,865.5	$21,728.3	$23,735.2	$22,887.2	$21,683.8
Total	**$29,597.4**	**$42,593.8**	**$70,263.6**	**$54,898.5**	**$60,547.0**	**$64,675.1**	**$63,865.3**

New York State Energy Expenditure Estimates by Fuel Type and Sector in Constant 2012 Dollars, 1998–2012

Figure 5-2

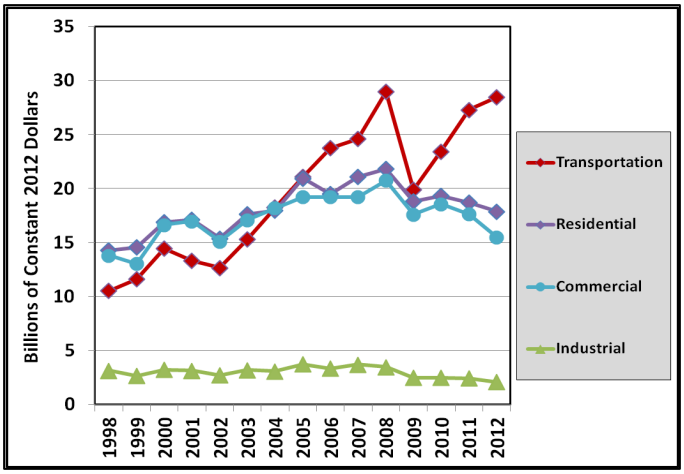

Table 5-2 (in million dollars)

	1998	2003	2008	2009	2010	2011	2012
Residential							
Coal	$1.9	$1.2	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$1,899.5	$3,262.9	$5,177.9	$3,245.3	$3,479.1	$3,635.3	$4,300.8
Distillate	$1,553.9	$2,732.6	$4,315.5	$2,429.9	$2,632.7	$2,807.8	$3,633.8
Kerosene	$66.2	$115.6	$108.1	$123.0	$141.7	$118.2	$61.4
LPG	$279.4	$414.6	$754.3	$692.5	$704.6	$709.3	$605.6
Natural Gas	$4,583.8	$5,926.0	$7,051.8	$6,520.4	$5,773.5	$5,509.4	$4,637.7
Electricity	$7,780.3	$8,412.9	$9,568.1	$9,033.9	$10,051.7	$9,550.5	$8,929.9
Total	$14,265.5	$17,603.0	$21,797.8	$18,799.6	$19,304.3	$18,695.3	$17,868.4
Commercial							
Coal	$6.4	$4.1	$8.2	$3.4	$0.5	$0.6	$0.0
Petroleum	$664.4	$1,739.9	$2,830.8	$1,861.7	$1,986.2	$2,510.5	$1,925.7
Distillate	$429.2	$1,138.7	$1,954.6	$1,121.1	$1,131.0	$1,502.5	$1,280.2
Residual	$142.6	$460.2	$683.7	$573.2	$669.1	$792.0	$489.0
Kerosene	$34.8	$46.9	$20.9	$21.4	$21.9	$27.4	$10.0
LPG	$57.8	$94.0	$171.5	$146.0	$164.2	$188.7	$146.5
Natural Gas	$2,874.1	$3,642.9	$3,979.8	$3,220.1	$3,292.1	$2,770.0	$2,120.0
Electricity	$10,238.7	$11,694.6	$13,900.6	$12,504.5	$13,270.1	$12,328.0	$11,446.1
Total	$13,783.5	$17,081.4	$20,719.4	$17,589.8	$18,548.9	$17,609.2	$15,491.9
Industrial							
Coal	$153.5	$94.7	$116.0	$101.2	$119.0	$125.2	$110.8
Petroleum	$239.4	$383.6	$697.7	$351.3	$420.0	$590.6	$514.9
Distillate	$103.4	$172.5	$499.5	$260.5	$265.0	$390.6	$359.2
Residual	$39.4	$67.6	$111.0	$32.4	$43.9	$139.0	$66.7
Kerosene	$16.4	$51.2	$5.6	$7.0	$60.9	$23.3	$21.0
LPG	$80.2	$92.3	$81.6	$51.4	$50.1	$37.8	$68.0
Natural Gas	$976.6	$765.9	$1,057.9	$745.6	$684.3	$631.9	$515.6
Electricity	$1,756.2	$1,936.7	$1,587.5	$1,289.9	$1,246.6	$1,073.1	$917.5
Total	$3,125.6	$3,180.9	$3,459.1	$2,488.0	$2,469.8	$2,420.9	$2,058.8
Transportation							
Petroleum	$10,216.3	$14,968.2	$28,557.7	$19,449.2	$23,005.0	$26,879.0	$28,055.9
Distillate	$1,450.4	$2,622.7	$4,792.3	$3,125.5	$3,734.9	$4,679.0	$4,580.5
Residual	$69.1	$162.9	$837.1	$651.1	$869.4	$490.2	$482.9
Motor Gasoline	$8,261.8	$11,352.1	$19,849.8	$14,375.7	$16,933.4	$19,646.9	$19,561.8
Jet Fuel	$407.6	$826.7	$3,048.0	$1,287.5	$1,452.0	$2,041.5	$3,397.3
LPG	$27.3	$4.0	$30.5	$9.5	$15.2	$21.4	$33.4
Electricity	$298.5	$314.7	$393.5	$424.9	$422.8	$409.1	$390.3
Total	$10,514.8	$15,282.9	$28,951.2	$19,874.1	$23,427.8	$27,288.2	$28,446.2
Total							
Coal	$161.8	$100.0	$124.2	$104.6	$119.4	$125.9	$110.8
Petroleum	$13,019.5	$20,354.5	$37,264.0	$24,907.6	$28,890.2	$33,615.5	$34,797.3
Distillate	$3,536.9	$6,666.5	$11,562.0	$6,937.0	$7,763.7	$9,379.8	$9,853.8
Residual	$251.1	$690.7	$1,631.8	$1,256.7	$1,582.4	$1,421.2	$1,038.7
Motor Gasoline	$8,261.8	$11,352.1	$19,849.8	$14,375.7	$16,933.4	$19,646.9	$19,561.8
Kerosene	$117.3	$213.7	$134.6	$151.3	$224.5	$168.8	$92.4
Jet Fuel	$407.6	$826.7	$3,048.0	$1,287.5	$1,452.0	$2,041.5	$3,397.3
LPG	$444.8	$604.9	$1,037.8	$899.4	$934.2	$957.3	$853.4
Natural Gas	$8,434.6	$10,334.8	$12,089.6	$10,486.1	$9,749.9	$8,911.3	$7,273.3
Electricity	$20,073.6	$22,359.0	$25,449.6	$23,253.3	$24,991.1	$23,360.8	$21,683.8
Total	**$41,689.5**	**$53,148.2**	**$74,927.5**	**$58,751.5**	**$63,750.7**	**$66,013.5**	**$63,865.3**

New York Out of State Energy Expenditure Estimates by Fuel Type in Nominal and Constant 2012 Dollars 1998–2012

Figure 5-3

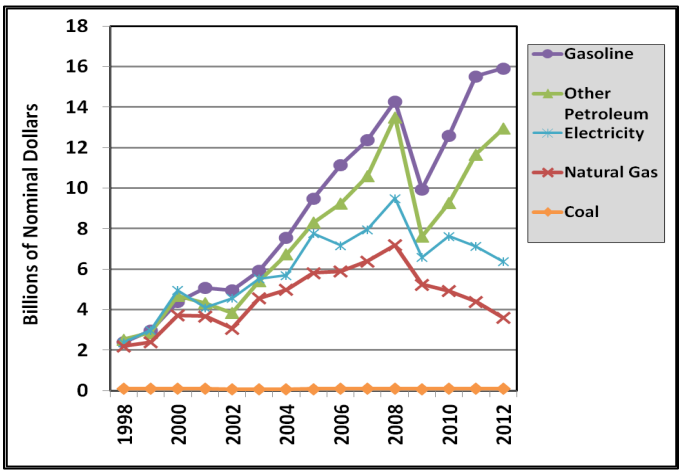

Table 5-3a (in million nominal dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
1998	$ 97.6	$ 2,200.5	$ 2,395.2	$ 2,533.3	$ 2,382.1	$ 9,608.7
1999	$ 95.6	$ 2,385.5	$ 2,968.7	$ 2,853.8	$ 2,982.2	$ 11,285.8
2000	$ 105.7	$ 3,722.0	$ 4,380.9	$ 4,679.2	$ 4,962.3	$ 17,850.1
2001	$ 93.4	$ 3,677.7	$ 5,071.5	$ 4,320.4	$ 4,097.3	$ 17,260.2
2002	$ 75.8	$ 3,072.6	$ 4,963.9	$ 3,834.3	$ 4,558.9	$ 16,505.4
2003	$ 68.1	$ 4,563.5	$ 5,913.8	$ 5,411.0	$ 5,531.0	$ 21,487.4
2004	$ 71.8	$ 4,991.0	$ 7,548.9	$ 6,742.7	$ 5,699.1	$ 25,053.5
2005	$ 84.8	$ 5,821.2	$ 9,496.2	$ 8,301.7	$ 7,766.2	$ 31,470.0
2006	$ 102.6	$ 5,886.1	$ 11,137.9	$ 9,243.7	$ 7,172.1	$ 33,542.4
2007	$ 93.8	$ 6,383.5	$ 12,380.1	$ 10,603.5	$ 7,955.4	$ 37,416.3
2008	$ 99.0	$ 7,182.5	$ 14,283.2	$ 13,507.0	$ 9,498.9	$ 44,570.7
2009	$ 83.1	$ 5,242.7	$ 9,942.9	$ 7,608.8	$ 6,590.1	$ 29,467.6
2010	$ 96.4	$ 4,930.1	$ 12,590.8	$ 9,274.1	$ 7,629.2	$ 34,520.7
2011	$ 104.8	$ 4,403.7	$ 15,529.1	$ 11,667.2	$ 7,124.8	$ 38,829.7
2012	$ 94.2	$ 3,596.3	$ 15,917.6	$ 12,939.5	$ 6,369.6	$ 38,917.1

Table 5-3b (in million constant 2012 dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
1998	$ 137.5	$ 3,099.5	$ 3,373.8	$ 3,568.3	$ 3,355.3	$ 13,534.4
1999	$ 131.7	$ 3,287.5	$ 4,091.2	$ 3,932.9	$ 4,109.8	$ 15,553.1
2000	$ 140.9	$ 4,962.6	$ 5,841.1	$ 6,238.8	$ 6,616.2	$ 23,799.5
2001	$ 121.1	$ 4,767.8	$ 6,574.7	$ 5,601.0	$ 5,311.7	$ 22,376.3
2002	$ 96.7	$ 3,921.3	$ 6,335.1	$ 4,893.4	$ 5,818.2	$ 21,064.8
2003	$ 85.0	$ 5,694.4	$ 7,379.2	$ 6,751.9	$ 6,901.5	$ 26,811.9
2004	$ 87.2	$ 6,066.2	$ 9,175.2	$ 8,195.3	$ 6,926.8	$ 30,450.7
2005	$ 99.7	$ 6,843.3	$ 11,163.7	$ 9,759.5	$ 9,129.9	$ 36,996.1
2006	$ 116.8	$ 6,703.5	$ 12,684.5	$ 10,527.3	$ 8,168.0	$ 38,200.1
2007	$ 103.9	$ 7,068.6	$ 13,708.8	$ 11,741.4	$ 8,809.2	$ 41,431.8
2008	$ 105.6	$ 7,659.3	$ 15,231.3	$ 14,403.6	$ 10,129.4	$ 47,529.1
2009	$ 88.9	$ 5,610.7	$ 10,640.8	$ 8,142.8	$ 7,052.6	$ 31,535.8
2010	$ 101.5	$ 5,190.9	$ 13,257.0	$ 9,764.9	$ 8,032.9	$ 36,347.3
2011	$ 107.0	$ 4,494.9	$ 15,850.4	$ 11,908.7	$ 7,272.3	$ 39,633.2
2012	$ 94.2	$ 3,596.3	$ 15,917.6	$ 12,939.5	$ 6,369.6	$ 38,917.1

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 2012. Hydroelectric power is produced at various locations throughout New York State and in 2012, 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 2013 with more than 1,600 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 2012

- In-state resources produced 10.5% of New York State's total primary energy requirement, including 6.4% from hydropower and 2.4% from biofuels including ethanol, waste, wood and landfill gas, collectively. Wind, solar, and geothermal renewable resources met 1.0% of New York State's total primary energy requirement. Petroleum and natural gas production accounted for 0.9% 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 60.3% and 22.8%, respectively, of New York State's in-state primary energy production. Wind, solar, and geothermal resources accounted for 9.2% of New York's in-state primary energy production while crude oil and natural gas constitute the remaining 7.7%.
- In-state crude oil and natural gas production represent 0.2% and 2.2%, 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 14.6% from 2011 to 2012.
- In 2012, in-state natural gas production was 26.4 billion cubic feet, and accounted for 0.8% of total statewide primary energy use.
- Energy production from wind, solar, and geothermal resources increased 7.5% from 2011 to 2012 while collective production of biofuels including ethanol, waste, wood, and landfill gas increased 1.3%.

New York State Primary Energy Production by Fuel Type,[1] 1998–2012

Figure 6-1[6]

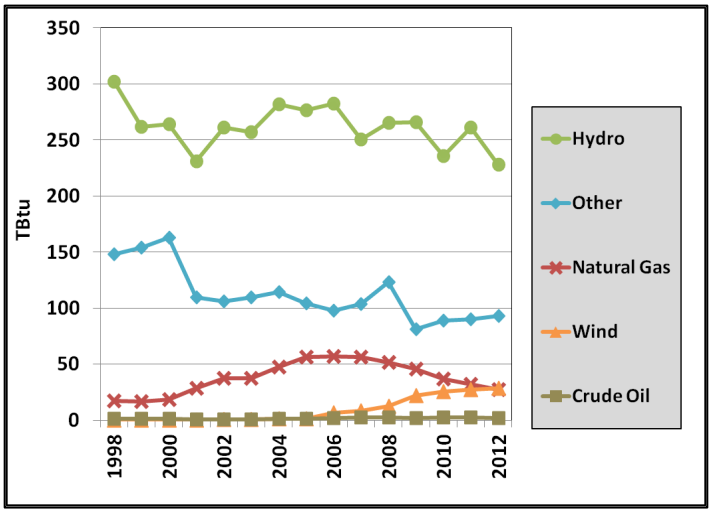

Table 6-1a (in physical units)

Year	Hydro Electricity[2]	Natural Gas	Crude Oil	Ethanol
	GWh	Bcf	Mbbl	Mbbl
1998	31,527	16.6	217	0
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

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
1998	302.1	17.2	1.3	146.9	0.0	0.8
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	230.8	28.6	1.0	109.0	0.2	0.9
2002	260.9	37.7	1.0	105.1	0.8	0.9
2003	257.1	37.1	0.8	108.5	0.4	1.1
2004	281.7	47.2	1.0	113.2	1.2	1.2
2005	276.5	56.6	1.1	102.9	1.0	1.5
2006	282.5	57.2	1.9	96.1	6.5	1.8
2007	250.3	56.2	2.2	101.3	8.2	2.1
2008	265.4	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	260.8	31.9	2.3	85.2	27.5	5.0
2012	228.1	27.2	2.0	86.3	28.4	6.4

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, 1998-2012

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

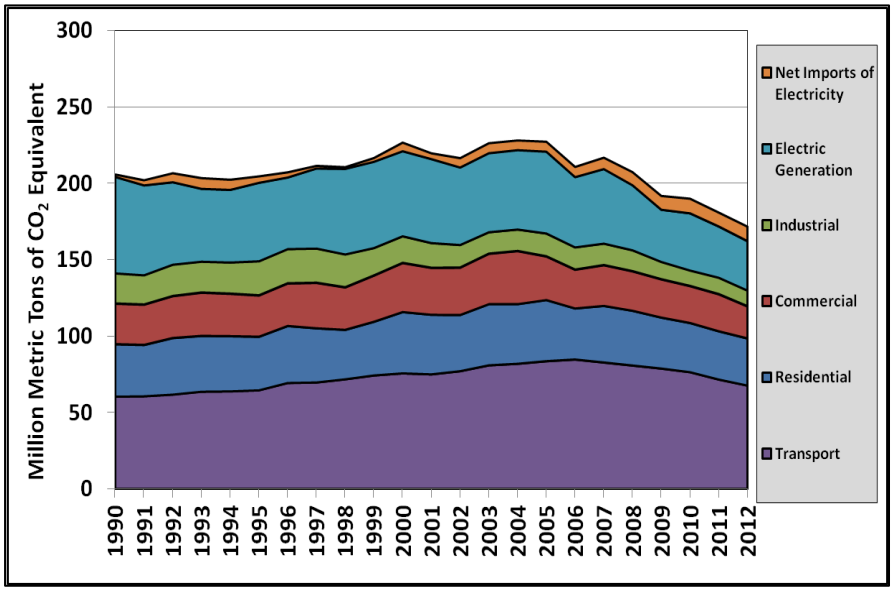

Table A-1: GHG Emissions by Sector (in million metric tons carbon dioxide equivalent)[2,3,4]

Year	Residential	Commercial	Industrial	Transportation	Electric Generation	Net Imports of Electricity[5]	Total[6]
1990	34.2	26.5	20.0	60.7	63.0	1.6	206.0
…….							
1998	32.2	27.8	21.7	72.1	56.0	1.1	210.9
1999	35.0	30.3	18.0	74.6	56.4	2.5	216.9
2000	40.0	32.2	17.5	76.0	55.7	5.7	227.0
2001	38.9	30.7	16.3	75.3	54.9	3.8	220.0
2002	36.6	31.1	14.9	77.4	50.7	6.2	216.8
2003	39.9	33.1	14.1	81.2	51.7	6.6	226.6
2004	38.9	34.8	14.1	82.3	52.0	6.4	228.4
2005	39.9	28.6	15.0	83.9	53.6	6.6	227.5
2006	33.3	25.4	14.6	85.0	45.9	6.7	211.0
2007	36.9	26.7	14.1	83.1	48.8	7.5	217.1
2008	35.7	25.9	13.8	81.1	42.5	8.6	207.6
2009	33.2	25.1	11.5	79.1	34.0	9.0	192.0
2010	32.0	24.2	10.3	76.8	37.3	9.6	190.2
2011	31.4	24.2	11.0	71.9	33.4	9.1	181.1
2012	30.7	21.0	10.6	68.0	32.2	9.5	171.9
% Change 1990-2012	**-10.3%**	**-20.9%**	**-47.0%**	**12.0%**	**-48.9%**	**479.3%**	**-16.6%**

1 Total Greenhouse Gas (GHG) emissions from fuel combustion include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_20).

2 Total GHG emissions are expressed in millions of metric tons of carbon dioxide equivalent. One ton equals approximately 2,200 pounds. "MM" equals one million. To convert emissions to short tons, multiply by a factor of 1.1.

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 1991-1996 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 2012 GHG emissions from fuel combustion represented 89% of total GHG emissions.

Appendix A-2

New York State Estimated CO_2 Emissions by Fuel Type[1,2,3] from Fuel Combustion, 2012

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

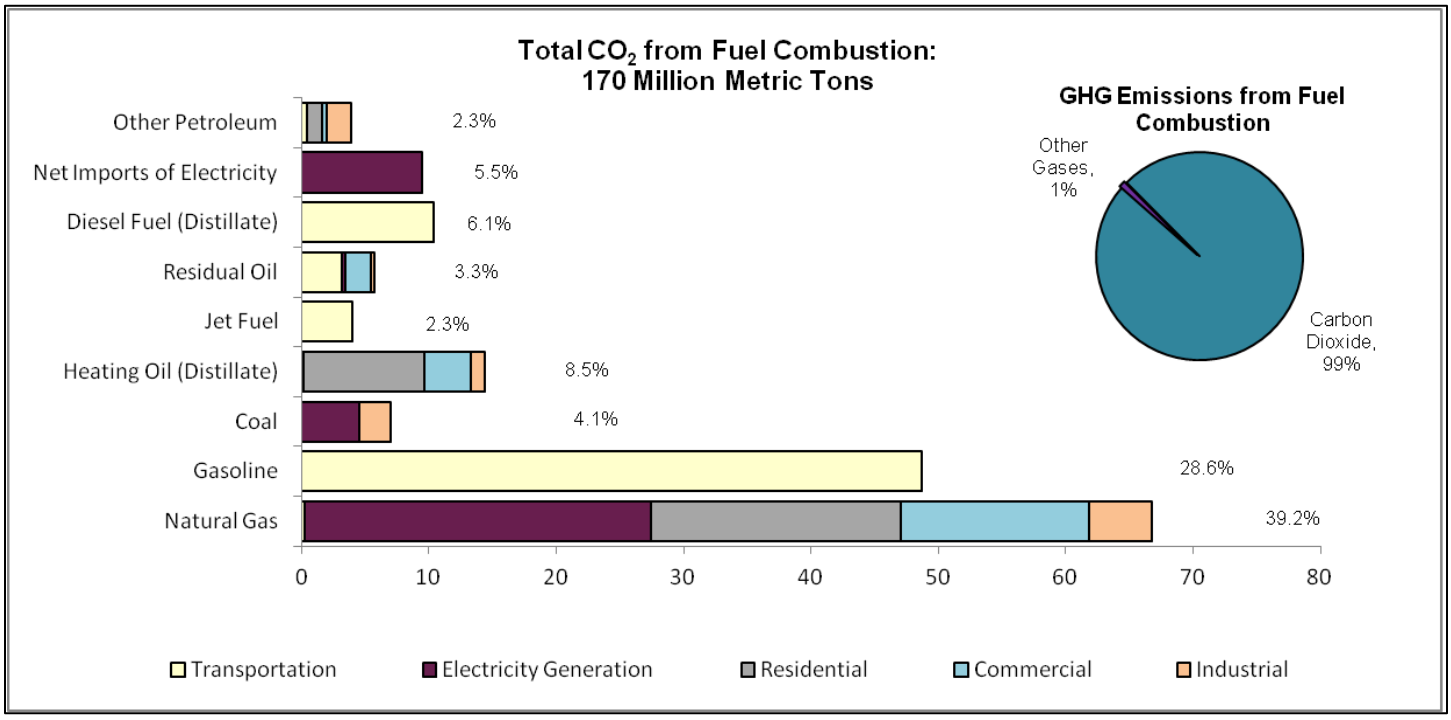

Table A-2: CO_2 Emissions from Fuel Combustion by Fuel Type (in million metric tons carbon dioxide)[4]

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	0.39	N/A	1.21	0.40	1.86	3.85	2.3
Net Imports of Electricity	N/A	9.43	N/A	N/A	N/A	9.43	5.5
Diesel Fuel (Distillate)	10.39	N/A	N/A	N/A	N/A	10.39	6.1
Residual Oil	3.19	0.22	N/A	2.00	0.27	5.67	3.3
Jet Fuel	3.98	N/A	N/A	N/A	N/A	3.98	2.3
Heating Oil (Distillate)	N/A	0.17	9.44	3.70	1.07	14.39	8.5
Coal	N/A	4.51	0.00	0.00	2.45	6.95	4.1
Gasoline	48.72	N/A	N/A	N/A	N/A	48.72	28.6
Natural Gas	0.25	27.23	19.57	14.79	4.88	66.72	39.2

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 2012 GHG emissions from fuel combustion represented 89% 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 2,200 pounds. "MM" equals one million. To convert emissions to short tons, multiply by a factor of 1.1.

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 '08-'09 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, 2010–2012

Table C-1 (in thousand gallons)

County	2010	2011	2012
New York State	**5,781,480**	**5,548,356**	**5,424,144**
New York City	**1,087,228**	**1,033,442**	**994,948**
Rest of State	**4,694,252**	**4,514,914**	**4,429,196**
Albany	137,748	140,216	129,176
Alleghany	16,335	14,906	14,568
Broome	102,751	97,629	97,617
Cattaraugus	23,828	22,521	21,602
Cayuga	37,020	31,870	30,784
Chautauqua	45,417	40,092	38,272
Chemung	34,386	31,668	32,577
Chenango	21,913	21,544	21,306
Clinton	46,980	45,048	46,143
Columbia	35,873	34,697	33,289
Cortland	24,814	24,057	24,607
Delaware	23,527	21,635	20,771
Dutchess	109,669	108,009	102,798
Erie	385,719	380,688	369,636
Essex	19,555	18,030	16,554
Franklin	19,220	17,679	16,932
Fulton	24,310	25,106	22,378
Genesee	55,086	51,673	51,157
Greene	27,821	27,052	25,448
Hamilton	3,050	2,844	2,217
Herkimer	29,992	29,421	29,336
Jefferson	61,641	56,355	56,815
Lewis	12,325	11,900	10,762
Livingston	36,172	37,062	37,538
Madison	19,775	19,580	19,065
Monroe	292,420	286,034	281,571
Montgomery	39,732	38,917	37,413
Nassau	497,893	505,969	487,903
Niagara	74,298	76,804	74,949
Oneida	109,012	102,082	101,864
Onondaga	241,230	235,932	231,658
Ontario	63,926	59,497	59,302
Orange	165,375	158,332	157,264
Orleans	11,728	11,528	11,475
Oswego	57,884	54,676	52,624
Otsego	32,508	30,776	29,980
Putnam	45,563	43,279	43,701
Rensselaer	76,121	72,875	69,599
Rockland	53,822	48,988	49,257
St. Lawrence	40,675	39,376	34,138
Saratoga	105,060	103,009	100,627
Schenectady	68,727	71,092	70,540
Schoharie	16,670	13,912	13,302
Schuyler	8,881	8,327	8,467
Seneca	20,679	16,044	15,608
Steuben	54,417	52,444	51,136
Suffolk	666,099	598,578	619,648
Sullivan	28,062	24,489	24,179
Tioga	22,311	21,587	19,636
Tompkins	33,618	32,880	32,229
Ulster	95,808	98,216	91,823
Warren	40,658	40,023	38,396
Washington	16,494	14,427	14,019
Wayne	39,353	38,501	38,569
Westchester	295,570	281,191	272,882
Wyoming	16,824	16,132	16,539
Yates	7,906	7,715	7,549

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

Appendix D-1

Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2008 - 2012, 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	7,230,896	3,971,363	228,189	682,406	2,082,821	18,997	141,903	1,801	62,161	41,255
New York City	3,063,393	1,754,997	43,989	274,446	917,276	2,321	1,904	852	34,836	32,772
Bronx	473,281	156,690	5,276	34,869	266,341	533	254	73	4,344	4,901
Kings	911,995	668,916	15,090	48,133	163,609	595	832	290	6,941	7,589
New York	738,131	262,642	9,631	143,512	287,967	815	155	328	17,681	15,400
Queens	776,311	524,325	12,296	43,053	185,669	347	512	140	5,548	4,421
Richmond	163,675	142,424	1,696	4,879	13,690	31	151	21	322	461
Rest of State	4,167,503	2,216,366	184,200	407,960	1,165,545	16,676	139,999	949	27,325	8,483
Albany	122,674	84,784	2,720	17,918	14,177	80	2,104	43	531	317
Alleghany	18,843	9,759	1,803	1,604	1,524	793	3,034	0	284	42
Broome	80,223	52,699	4,961	8,426	9,583	514	3,177	31	642	190
Cattaraugus	32,419	16,662	3,846	4,205	2,717	504	3,925	0	517	43
Cayuga	31,427	15,472	4,104	2,887	5,405	456	2,493	0	551	59
Chautauqua	54,950	38,050	3,898	6,834	1,597	147	3,420	16	893	95
Chemung	35,452	25,951	1,376	3,255	2,406	480	1,637	0	286	61
Chenango	19,779	3,113	2,130	2,999	7,537	292	3,347	15	330	16
Clinton	31,820	3,357	1,098	9,138	14,450	118	3,212	0	331	116
Columbia	25,476	2,902	2,179	3,447	14,374	67	2,117	20	309	61
Cortland	17,809	8,753	1,359	2,381	3,198	501	1,342	5	226	44
Delew are	19,920	2,522	1,995	1,885	9,079	137	3,958	24	304	16
Dutchess	107,734	27,832	3,839	13,285	58,596	253	2,789	89	829	222
Erie	379,980	337,423	6,290	22,259	7,403	324	4,010	0	1,549	722
Essex	16,198	1,048	1,653	2,640	8,332	39	2,329	11	129	17
Franklin	19,170	1,281	1,371	2,411	11,119	153	2,627	0	156	52
Fulton	22,511	9,136	1,558	1,840	7,154	55	2,070	9	677	12
Gennssee	23,962	13,913	2,584	2,152	3,452	199	1,262	0	385	15
Greene	18,411	1,135	1,896	2,280	11,070	65	1,757	0	208	0
Hamilton	2,134	90	493	95	917	0	508	0	31	0
Herkimer	26,775	11,573	1,710	2,973	7,476	223	2,319	74	311	116
Jefferson	45,162	18,970	5,239	7,161	9,413	96	3,725	3	446	109
Lew is	10,657	1,099	1,040	789	4,455	16	3,178	2	53	25
Livingston	24,127	11,578	3,405	3,478	2,886	239	2,108	0	404	29
Madison	26,613	11,441	2,688	2,933	6,741	479	2,030	0	258	43
Monroe	294,726	237,713	4,208	38,692	9,346	170	2,038	11	1,659	889
Montgomery	19,898	9,191	978	1,716	6,052	150	1,349	0	442	20
Nassau	442,869	215,600	3,710	23,212	197,966	109	787	26	910	549
Niagara	88,542	68,324	4,431	6,769	6,613	62	1,652	14	525	152
Oneida	91,500	55,054	4,163	9,209	18,167	240	3,554	37	685	391
Onondaga	185,036	139,557	4,811	25,393	9,818	790	2,604	39	1,423	601
Ontario	43,822	25,820	4,947	5,621	4,273	563	2,091	0	352	155
Orange	125,180	58,586	5,382	12,259	44,797	431	2,644	18	842	221
Orleans	15,871	6,747	2,620	1,661	3,094	66	1,416	0	200	67
Osw ego	45,753	19,776	7,784	4,344	7,534	322	5,132	0	607	254
Ostego	24,541	4,207	3,345	2,331	10,796	134	3,419	0	281	28
Putnam	35,088	2,517	1,194	6,637	23,514	62	883	0	248	33
Rensselaer	63,952	29,362	4,076	7,962	18,454	43	3,231	72	531	221
Rockland	98,401	86,413	893	7,049	3,294	37	301	0	213	201
St. Law rence	42,076	14,139	3,049	4,578	13,678	66	5,907	51	500	108
Saratoga	87,952	48,855	7,765	10,849	16,116	156	3,525	19	606	61
Schenectady	58,263	42,314	1,522	6,472	6,781	43	829	10	214	78
Schoharie	12,627	568	1,335	1,662	6,708	112	2,012	2	207	21
Schuyler	7,570	1,433	1,842	796	1,818	625	916	8	113	19
Seneca	13,400	5,893	2,608	1,326	2,073	680	675	0	100	45
Steuben	41,268	22,107	4,569	4,170	3,638	1,806	4,320	0	555	103
Suffolk	496,349	172,463	8,680	32,422	277,345	392	3,115	122	1,158	652
Sullivan	29,664	952	4,110	3,885	17,423	168	2,852	4	218	52
Tioga	20,320	5,975	2,194	1,854	7,233	886	2,026	0	141	11
Tompkins	38,545	19,242	4,103	6,999	4,713	600	2,353	15	445	75
Ulster	70,274	13,151	5,828	7,624	38,858	173	3,908	70	557	105
Warren	28,515	12,411	2,682	3,189	7,845	122	1,792	22	374	78
Washington	24,590	5,219	2,536	2,452	10,291	138	3,645	32	256	21
Wayne	36,646	19,312	4,121	4,418	5,597	311	2,523	0	306	58
Westchester	344,875	153,112	5,037	29,526	153,444	252	1,041	35	1,678	750
Wyoming	15,633	7,188	1,897	2,270	1,836	363	1,801	0	260	18
Yates	9,531	2,622	2,545	1,338	1,369	374	1,180	0	79	24

Appendix D-2

Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2012, 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	7,238,922	4,044,389	237,738	775,390	1,901,118	18,990	155,603	2,168	61,429	42,097
New York City	3,085,814	1,829,322	45,195	330,257	810,510	2,254	1,898	726	32,925	32,727
Bronx	475,978	176,225	6,071	40,309	242,480	97	509	106	4,457	5,724
Kings	919,333	691,290	13,560	57,345	139,192	576	755	62	7,909	8,644
New York	746,686	273,698	8,857	181,191	253,738	899	65	469	14,937	12,832
Queens	780,349	544,146	14,839	46,076	163,915	682	413	89	5,239	4,950
Richmond	163,468	143,963	1,868	5,336	11,185	0	156	0	383	577
Rest of State	4,153,108	2,215,067	192,543	445,133	1,090,608	16,736	153,705	1,442	28,504	9,370
Albany	121,119	85,407	2,449	18,849	11,760	25	1,612	0	550	467
Broome	81,687	53,292	5,234	10,274	8,150	661	3,034	0	820	222
Cattaraugus	32,347	17,289	3,607	4,190	2,179	393	4,131	0	525	33
Cayuga	30,354	14,646	4,501	2,747	5,029	400	2,406	0	462	163
Chautauqua	51,814	33,602	4,134	7,341	1,438	324	4,124	26	749	76
Chemung	34,867	24,897	1,471	3,414	2,367	525	1,646	0	418	129
Clinton	32,451	3,188	1,182	10,197	13,459	195	3,685	0	443	102
Dutchess	107,106	26,571	4,072	15,038	56,432	131	3,559	110	1,048	145
Erie	379,094	338,301	5,747	21,962	7,457	235	3,287	0	1,370	735
Jefferson	45,845	19,030	5,925	7,978	7,582	11	4,792	0	458	69
Livingston	24,038	11,739	3,920	3,440	2,145	77	2,435	0	253	29
Madison	25,991	11,097	3,029	3,404	5,339	564	2,344	0	214	0
Monroe	298,715	236,698	4,277	43,822	8,094	360	2,707	51	1,820	886
Nassau	441,732	229,080	4,407	24,681	180,842	83	1,046	42	1,070	481
Niagara	88,995	66,428	5,770	7,837	6,521	68	1,942	0	289	140
Oneida	90,571	52,597	4,492	9,995	17,132	569	4,809	69	756	152
Onondaga	185,985	138,842	4,378	27,934	8,976	983	2,984	0	1,150	738
Ontario	44,328	25,567	4,854	6,847	3,495	697	2,350	0	493	25
Orange	125,228	59,118	4,932	13,621	43,045	554	3,073	30	665	190
Oswego	45,480	19,095	7,338	4,162	7,463	387	6,003	0	687	345
Putnam	34,050	1,792	1,311	6,999	22,527	47	1,035	0	339	0
Rensselaer	64,581	30,085	4,944	8,763	16,308	0	3,926	0	480	75
Rockland	97,934	85,580	868	8,170	2,616	0	351	0	245	104
St. Lawrence	42,436	14,640	3,079	4,935	12,519	16	6,200	0	1,047	0
Saratoga	87,414	48,482	8,914	12,687	13,062	58	3,422	0	717	72
Schenectady	57,463	40,927	1,170	8,480	5,762	23	730	0	295	76
Steuben	41,597	22,553	4,757	4,289	3,142	1,680	4,661	0	409	106
Suffolk	496,353	174,026	9,724	35,348	269,602	536	4,233	229	1,604	1,051
Sullivan	29,222	762	3,157	4,819	16,513	190	3,458	34	72	217
Tompkins	38,269	21,039	3,777	5,744	3,719	558	2,711	0	620	101
Ulster	70,353	12,678	6,877	9,507	36,195	107	4,173	151	559	106
Warren	27,530	12,513	2,945	2,894	6,258	76	2,387	0	264	193
Wayne	37,027	18,739	3,854	4,171	6,206	494	3,283	0	206	74
Westchester	340,097	151,372	5,256	32,556	147,474	125	1,012	100	1,205	997

[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, 2002-2012

Table D-3

County	July 2002	July 2003	July 2004	July 2005	July 2006	July 2007	July 2008	July 2009	July 2010	July 2011	July 2012
New York State	19,137,800	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
Albany	298,283	301,085	302,173	302,791	303,997	303,858	303,739	304,733	303,991	304,712	306,012
Alleghany	50,014	50,165	50,311	49,768	49,359	49,079	49,177	48,969	48,964	48,804	48,243
Bronx	1,358,739	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
Broome	201,438	201,037	200,974	200,477	200,905	200,877	201,029	200,935	200,419	199,245	198,359
Cattaraugus	83,301	83,335	82,864	82,039	81,342	81,056	80,761	80,491	80,221	79,793	79,278
Cayuga	81,401	81,395	81,284	81,104	80,892	80,629	80,482	80,172	79,831	79,767	79,587
Chautauqua	138,346	137,587	137,174	136,139	135,640	135,481	135,229	135,197	134,830	134,270	133,403
Chemung	90,613	90,154	89,777	88,860	88,732	88,634	88,503	88,849	88,940	88,939	89,147
Chenango	51,205	51,393	51,297	51,154	51,391	51,463	51,326	50,639	50,333	50,228	49,904
Clinton	80,707	81,396	81,803	82,233	82,547	82,556	82,401	82,280	82,048	81,765	81,643
Columbia	63,182	63,304	63,646	63,717	63,427	63,430	63,253	63,023	63,015	62,606	62,485
Cortland	48,891	49,475	49,628	49,330	49,449	49,624	49,537	49,358	49,254	49,544	49,222
Deleware	47,666	47,930	48,283	48,377	48,271	48,450	48,363	48,182	47,840	47,621	47,091
Dutchess	287,700	290,781	292,859	294,362	294,712	295,319	296,267	296,887	297,735	298,227	297,162
Erie	943,551	941,846	938,333	931,745	925,564	921,887	920,571	919,334	918,817	919,209	918,922
Essex	39,195	39,334	39,295	39,321	39,490	39,373	39,435	39,478	39,288	39,404	38,971
Franklin	50,924	51,228	51,197	51,257	51,511	51,782	51,907	51,706	51,579	51,561	51,848
Fulton	54,988	55,081	55,233	55,301	55,328	55,489	55,584	55,558	55,445	55,234	55,002
Gennssee	60,289	60,412	60,224	60,068	59,919	59,930	59,895	59,932	60,040	60,037	59,896
Greene	48,177	48,416	48,755	49,142	49,513	49,537	49,467	49,372	49,124	49,003	48,685
Hamilton	5,232	5,181	5,158	5,093	4,987	4,969	4,893	4,858	4,828	4,819	4,787
Herkimer	63,971	64,080	64,332	64,292	64,029	64,343	64,404	64,381	64,434	64,616	64,528
Jefferson	111,112	110,246	109,924	113,486	113,650	115,059	115,033	115,023	116,605	118,294	120,941
Kings	2,480,559	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
Lewis	26,618	26,692	26,661	26,773	27,001	27,086	26,878	27,047	27,069	27,051	27,222
Livingston	65,118	65,130	65,484	65,322	65,357	65,460	65,637	65,420	65,387	64,982	64,939
Madison	70,261	71,010	71,397	71,471	72,042	72,709	73,075	73,169	73,396	72,906	72,342
Monroe	741,391	741,671	741,075	738,506	738,329	739,249	741,018	743,386	744,690	747,000	748,057
Montgomery	49,298	49,449	49,460	49,505	49,724	49,798	49,951	50,001	50,299	49,982	49,916
Nassau	1,339,572	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
New York	1,555,382	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
Niagara	218,127	218,072	217,737	216,818	216,148	215,791	215,793	216,043	216,497	215,691	214,845
Oneida	234,078	234,243	234,654	234,282	234,229	234,488	234,482	234,619	234,842	234,137	233,847
Onondaga	459,484	460,961	461,412	460,910	460,925	461,287	463,472	465,633	467,429	467,525	467,038
Ontario	101,763	102,625	103,385	104,259	104,644	105,216	106,302	107,214	108,063	108,569	108,607
Orange	352,975	358,727	362,934	364,522	366,908	368,464	370,201	372,079	373,443	374,259	374,135
Orleans	43,660	43,593	43,682	43,475	43,420	43,342	43,254	42,975	42,847	42,736	42,524
Oswego	122,496	123,120	123,340	122,640	122,354	122,213	122,366	122,055	122,147	122,050	121,566
Ostego	62,093	62,567	62,934	63,069	63,032	62,914	62,561	62,280	62,228	62,030	61,924
Putnam	98,263	98,964	99,468	99,575	99,357	99,454	99,537	99,666	99,733	99,911	99,636
Queens	2,224,507	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
Rensselaer	153,040	154,201	155,523	156,104	157,312	158,243	159,011	159,150	159,374	159,707	159,677
Richmond	452,813	455,939	456,846	457,028	457,577	459,642	463,701	466,965	469,691	471,026	470,811
Rockland	293,728	296,224	297,562	298,737	299,390	301,668	305,413	308,652	312,502	315,588	317,702
St. Lawrence	111,292	111,329	111,468	111,606	111,556	111,586	111,684	112,169	111,778	112,273	112,303
Saratoga	206,446	209,410	211,478	212,975	214,627	215,798	217,282	218,652	219,962	221,041	222,327
Schenectady	147,199	147,891	148,900	150,200	151,768	152,275	153,360	154,050	154,919	154,749	155,055
Schoharie	31,785	32,032	32,310	32,534	32,661	32,894	32,890	32,776	32,667	32,645	32,087
Schuyler	19,179	19,151	19,034	18,880	18,752	18,707	18,644	18,398	18,300	18,484	18,518
Seneca	35,046	35,212	35,312	35,177	35,223	35,469	35,370	35,286	35,253	35,410	35,436
Steuben	99,583	99,191	98,983	98,868	98,473	98,541	98,726	98,949	98,942	99,250	98,964
Suffolk	1,456,745	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
Sullivan	74,452	75,447	76,265	76,780	77,231	77,991	77,755	77,647	77,442	77,100	76,818
Tioga	51,992	51,895	51,631	51,611	51,536	51,565	51,498	51,236	51,041	51,012	50,413
Tompkins	98,227	99,049	99,531	99,433	99,651	99,910	100,383	101,497	101,677	101,847	102,713
Ulster	180,128	180,942	181,847	182,438	182,845	182,818	183,174	182,638	182,374	182,666	181,753
Warren	63,774	64,323	64,576	65,206	65,554	65,740	65,848	65,694	65,677	65,709	65,501
Washington	61,152	61,621	62,278	62,468	62,771	63,054	63,252	63,077	63,321	63,363	63,331
Wayne	93,735	94,001	93,860	93,727	93,595	93,539	93,739	93,643	93,739	93,275	92,992
Westchester	935,219	935,799	935,457	933,401	931,426	933,414	937,449	944,201	950,517	956,791	961,106
Wyoming	43,007	42,955	42,852	42,780	42,673	42,515	42,281	42,236	42,100	41,928	41,821
Yates	24,688	24,898	25,008	25,129	25,025	25,234	25,352	25,303	25,355	25,395	25,256

Appendix E

New York State Heating and Cooling Degree-Days, 1998–2012

Figure E-1

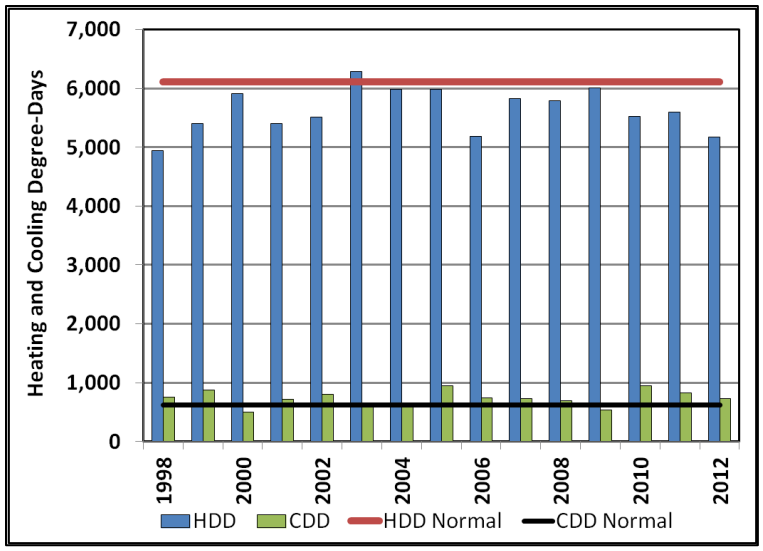

Table E-1 (monthly heating degree-days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1998	925	808	767	458	125	35	5	7	54	328	623	813	4,948
1999	1,115	892	854	463	166	11	0	15	52	391	531	914	5,404
2000	1,185	913	692	539	188	32	17	18	97	360	693	1,176	5,910
2001	1,128	942	937	469	170	21	13	3	85	328	513	799	5,408
2002	932	836	797	420	286	25	1	4	43	415	699	1,052	5,510
2003	1,327	1,123	860	580	280	50	5	4	73	431	581	974	6,288
2004	1,393	1,018	796	484	148	46	8	16	56	382	634	1,004	5,985
2005	1,225	970	976	447	320	4	1	3	34	338	587	1,079	5,984
2006	908	954	841	433	201	27	1	11	109	401	522	781	5,189
2007	1,009	1,171	887	577	166	17	9	8	53	197	712	1,015	5,821
2008	1,039	971	888	408	287	12	3	22	66	422	693	982	5,793
2009	1,324	959	850	452	213	56	18	8	106	431	543	1,044	6,004
2010	1,157	1,003	679	351	136	19	0	7	59	350	648	1,116	5,525
2011	1,256	1,022	873	483	159	22	1	10	49	342	529	850	5,596
2012	1,032	847	580	489	131	30	1	8	88	325	760	883	5,174
Normal*	1,188	1,017	867	528	233	45	8	18	113	405	678	1,016	6,116

Table E-2 (monthly cooling degree-days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1998	0	0	0	0	44	93	254	258	100	5	0	0	754
1999	0	0	0	0	26	176	362	216	95	0	0	0	875
2000	0	0	0	0	20	112	146	171	53	0	0	0	502
2001	0	0	0	0	25	150	164	302	66	6	0	0	713
2002	0	0	0	0	7	121	302	277	100	0	0	0	807
2003	0	0	0	0	7	72	238	271	70	0	0	0	658
2004	0	0	0	0	38	92	199	179	86	0	0	0	594
2005	0	0	0	0	3	196	290	315	136	4	0	0	944
2006	0	0	0	0	20	120	315	233	46	3	0	0	737
2007	0	0	0	0	37	145	209	216	91	30	0	0	728
2008	0	0	0	0	5	178	280	158	77	0	0	0	698
2009	0	0	0	0	17	65	165	250	43	0	0	0	540
2010	0	0	0	0	47	179	363	253	97	5	0	0	944
2011	0	0	0	0	33	136	325	230	99	4	0	0	827
2012	0	0	0	0	44	98	302	227	50	4	0	0	725
Normal*	0	0	0	0	24	107	233	195	56	6	0	0	621

* Note: Normal is a 30 year degree-day average value from 1971 to 2000.

Appendix F-1

New York State Electricity Prices by Sector by Utility[1] in Nominal Dollars, 2001–2012

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	12.06
2012	16.22	25.65	19.03	10.70	12.91	16.85	12.21

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

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

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

Appendix F-2

New York State Natural Gas Prices by Sector by Utility in Nominal Dollars, 2001–2012

Table F-2a: 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

Table F-2b: 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

Table F-2c: 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	N/A	N/A	10.78	11.03	10.71	16.85	11.42	11.57
2008	14.75	14.00	10.35	N/A	N/A	12.14	12.06	11.55	16.40	12.42	11.38
2009	10.66	11.92	9.49	N/A	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

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 (2012)

Coal		
	Electric generation	19,211,000 Btu/ton
	Other end use sectors	21,449,000 Btu/ton
Natural Gas		
	Electric generation	1,022 Btu/cf
	Other end use sectors	1,025 Btu/cf
Wood		20,000,000 Btu/cord
Electricity Sales		3,412 Btu/kWh
Electricity Generation		9,014 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	5,825,000 Btu/barrel
	Ethanol	3,560,000 Btu/barrel
	Jet fuel, kerosene-type	5,670,000 Btu/barrel
	Kerosene	5,670,000 Btu/barrel
	Motor gasoline	5,253,000 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 non-fossil 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°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 2,200 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, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, Ecuador 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 petro-chemical 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 2,200 pounds.

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

Solar Thermal – A system that uses sunlight to heat water or create steam, which can then be used directly, stored, or used to generate electricity. 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 2,200 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 Performance Report - N.Y.S. Energy Research & Development Authority

Load & Capacity Data Report - New York Independent System Operator

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New York State Energy Profiles: 1998-2012

Final Report
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