Patterns and Trends: New York State Energy Profiles, 2006–2020

Final Report | June 2023

NEW YORK STATE | NYSERDA

NYSERDA's Promise to New Yorkers:

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

Our Vision:

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

Our Mission:

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

Patterns and Trends:
New York State Energy Profiles, 2006–2020

Final Report

Prepared by:

New York State Energy Research and Development Authority

Albany, NY

June 2023

Message from the President and CEO

I am proud to present NYSERDA's Patterns and Trends: New York State Energy Profiles, 2006–2020, which offers a 15-year profile of New York State energy-related data including comprehensive historical information on energy production, sources of energy supply, prices, and total expenditures at a critical point in New York's clean energy transition.

This data also provides insight as to how the COVID-19 pandemic impacted energy use in New York State. The report also serves as an essential reference point as the State advances its work to meet the goals of the Climate Leadership and Community Protection Act (Climate Act) and to realize a just and inclusive clean energy economy.

Important highlights from the report include:

- COVID-19 led to sharp reductions in energy use that, while substantial, do not reflect systemic changes in consumption by the New York State economy. This includes an energy consumption decrease of approximately 13% from 2019, which was approximately 21% lower than at its peak in 2004.
- Due to an increase in distributed solar resources, energy production from solar resources grew approximately 32% between 2019 and 2020.
- In 2020, compared to other states and the District of Columbia,, New York State had the third-lowest per capita energy usage and the second-lowest energy consumption per unit of gross state product in the United States.

I trust the information in this report will help advance our understanding of New York's energy landscape as we continue to advance policies and initiatives to meet the Climate Act – which is undoubtedly one of the most ambitious laws in the country to address climate change. Our collective efforts, informed by data and analysis, will drive New York's clean energy transition and create a better, healthier future for each and every New Yorker.

Sincerely,

Doreen M. Harris
President and CEO, NYSERDA

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List of Tables and Figures

Patterns and Trends: New York State Energy Profiles, 2006–2020 presents a 15-year, profile of energy statistics for the State. It is an objective and reliable source of energy-related information for use by the public, businesses, and government analysts. This report was prepared using the most recent comprehensive data available through the 2020 calendar year. Historical data prior to 2006 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: NYSERDA, 17 Columbia Circle, Albany, NY 12203-6399, patternsandtrends@nyserda.ny.gov, or visit nyserda.ny.gov

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1 Overview

The energy profile of New York State is comprised of multiple fuels, markets, supply chains, and demand dynamics. These complicated parameters are monitored and researched by NYSERDA and compiled in this annual report with the following major sections:

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 U.S. and New York State. National petroleum statistics have been aggregated to represent the same six fuels included in 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 standardized across fuel types using energy units British thermal units (Btu) measured statewide per million Btu (MMBtu).

New York State Energy Expenditures presents the estimated net energy expenditures by sector and fuel type in nominal dollars, as well as in 2020 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 and in 2020 constant dollars.

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

Appendices provide supplemental information sources and data on greenhouse gas emissions from fuel combustion; household end-use energy consumption and expenditures; gasoline consumption by county; occupied housing units by type of space heating; degree-days; county population; electricity and natural gas prices; customers and sales by sector and utility; weather normalized residential energy consumption; estimated county-level solar capacity and generation; conversion factors; and glossary of energy terms.

2020 NEW YORK STATE ENERGY FAST FACTS

2020 represents the first year of the COVID-19 Public Health Emergency. As a result of the global, national, and state efforts to limit the spread of the virus, energy use patterns were significantly impacted and should not be considered structural changes to the NY Energy profile.

PRIMARY ENERGY CONSUMPTION

12.6% lower than 2019

Primary consumption (3.8% of U.S. total) (trillion Btu)		3,364.5
By sector:		
Residential	(17.8%)	598.1
Commercial	(10.9%)	366.4
Industrial	(5.6%)	188.8
Transportation	(27.1%)	910.9
Electric Generation	(38.6%)	1,300.2
By fuel type:		
Petroleum	(31.6%)	1,062.7
Natural Gas	(38.8%)	1,305.3
Nuclear	(11.9%)	401.3
Hydro	(7.0%)	236.8
Net Imported Electricity	(4.7%)	156.9
Other[1]	(5.8%)	195.8
Coal	(0.2%)	5.7
Primary consumption per capita (million Btu)		166.0

NET ENERGY CONSUMPTION AND EXPENDITURES

	Net Energy Consumption (trillion Btu)		Estimated Expenditures (billion dollars)	
Total:	2,543.3			$47.1
By sector:				
Residential	(30.5%)	776.4	(36.7%)	$17.3
Commercial	(23.7%)	601.8	(26.7%)	$12.6
Industrial	(9.7%)	245.5	(3.7%)	$1.8
Transportation	(36.2%)	919.6	(32.9%)	$15.5
By fuel type:				
Petroleum	(41.7%)	1,060.4	(37.3%)	$17.6
Natural Gas	(34.1%)	868.4	(18.0%)	$8.5
Electricity	(18.8%)	479.1	(44.3%)	$20.9
Other[1]	(5.2%)	131.4	(0.3%)	$0.2
Coal	(0.2%)	4.0	(<0.1%.)	<$0.1
Estimated energy expenditures leaving the State (billions)				$17.0

AVERAGE ENERGY PRICES

	2020	2019
Gasoline - all grades (gallon)	$2.15	$2.52
Heating Oil (gallon)	$2.16	$2.64
Natural Gas (thousand cubic feet)		
Residential	$12.86	$12.71
Commercial	$6.92	$ 7.26
Industrial	$7.03	$ 7.76
Electricity (kilowatt-hour)		
Residential	18.3¢	17.9¢
Commercial	14.6¢	14.1¢
Industrial	5.5¢	5.6¢

2020 KEY ENERGY OBSERVATIONS

- COVID-19 pandemic lockdowns began in March 2020 and continued throughout the year.
  - Most rapid decline in consumption since the oil embargo during the 1980s.
  - Transportation sector consumption significantly declined.
  - Lowest state primary and net consumption since the early 1960s.
- Annualized data for prices do not capture the market dynamics observed during this period of high market volatility.

[1]Ethanol (40.4 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 3.6% from 2019

Sales to ultimate consumers (gigawatt-hours)		140,407
By sector:		
Residential	(37.2%)	52,257
Commercial	(49.1%)	68,989
Industrial	(11.8%)	16,610
Transportation	(1.8%)	2,550
In-State Generation (gigawatt-hours)		131,466
By fuel type:		
Nuclear	(25.6%)	38,437
Natural Gas	(36.0%)	54,094
Hydro	(20.1%)	30,156
Net Imported Electricity	(13.3%)	19,990
Coal	(0.1%)	146
Petroleum	(1.5%)	2,189
Other	(1.5%)	2,281
Wind	(2.8%)	4,163

PETROLEUM

Consumption decreased 22.9% from 2019

Consumption (3.7% of U.S. total) (million barrels)		208.6
By sector:		
Residential	(9.9%)	20.7
Commercial	(4.3%)	9.1
Industrial	(11.3%)	23.6
Transportation	(74.2%)	154.9
Electric Generation	(0.2%)	0.4
In-State production (thousand barrels)		238.0

NATURAL GAS

Consumption decreased 2.6% from 2019

Consumption (4.1% of U.S. total) (billion cubic feet)		1,263.6
By sector:		
Residential	(34.6%)	437.1
Commercial	(22.9%)	288.9
Industrial	(6.9%)	89.5
Transportation	(2.2%)	27.6
Electric Generation	(33.5%)	423.4
In-State production (billion cubic feet)		9.7

ADDITIONAL 2020 STATISTICS

Population (6.1% of U.S. total) (million)	20.2
Number of housing units (million)	8.5
Gross State Product (billion 2020 dollars)	$1,699.0
Motor vehicle registrations (million)	11.3
Vehicle miles of travel (billion miles)	102.5
Heating degree-days (decreased 8.9% from 2019)	5,634
Cooling degree-days (increased 26.7% from 2019)	755

Note: Totals may not sum exactly due to rounding.

DATA SOURCE

NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

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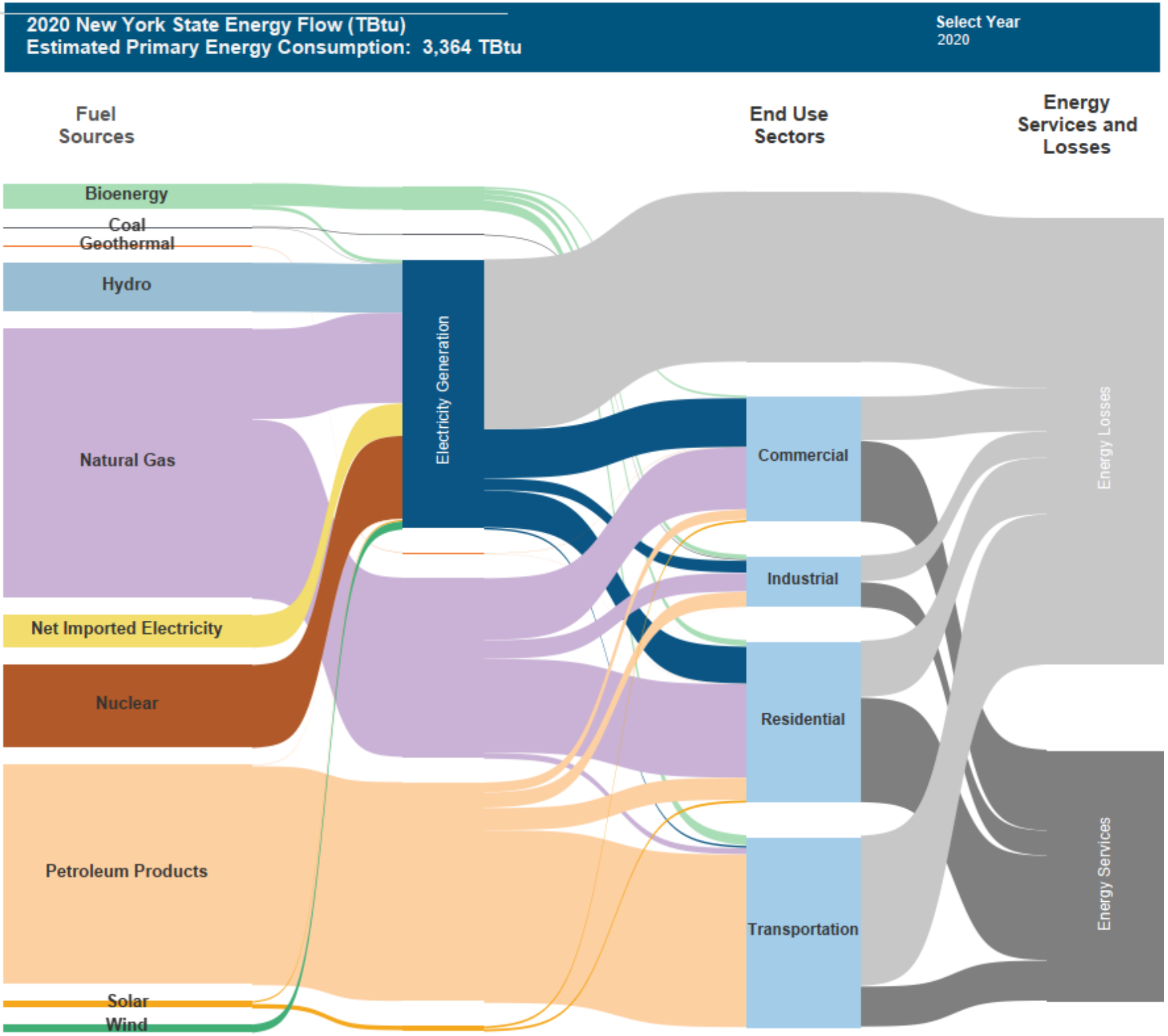
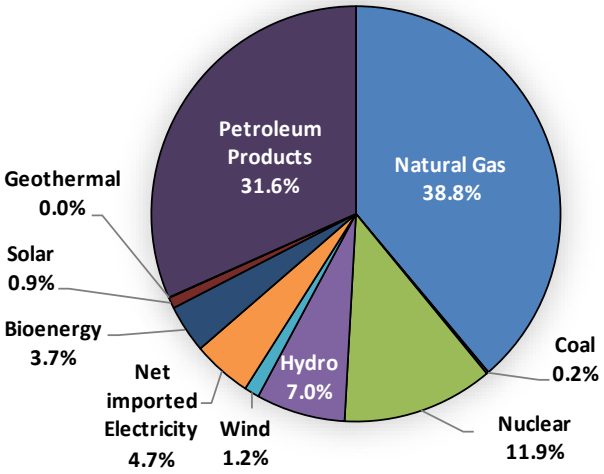
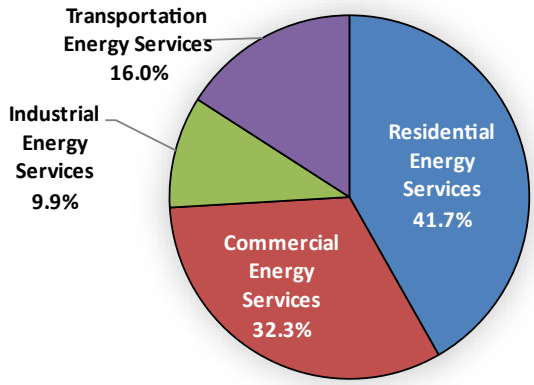

2020 New York State Energy Flow (TBtu)
Estimated Primary Energy Consumption: 3,364 TBtu
Select Year
2020
Fuel Sources
End Use Sectors
Energy Services and Losses
Bioenergy
Coal
Geothermal
Hydro
Natural Gas
Net Imported Electricity
Nuclear
Petroleum Products
Solar
Wind
Electricity Generation
Commercial
Industrial
Residential
Transportation
Energy Losses
Energy Services

2020 New York State Energy at a Glance

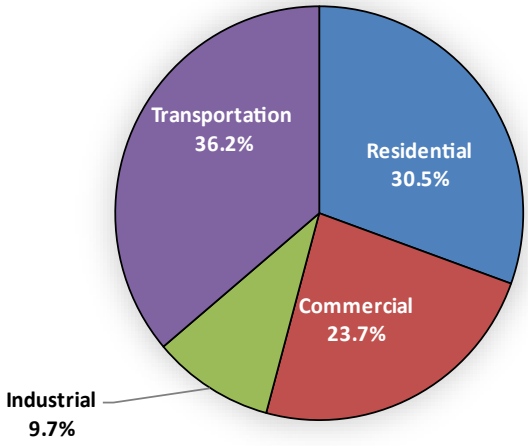
2020 NYS Fuel Sources



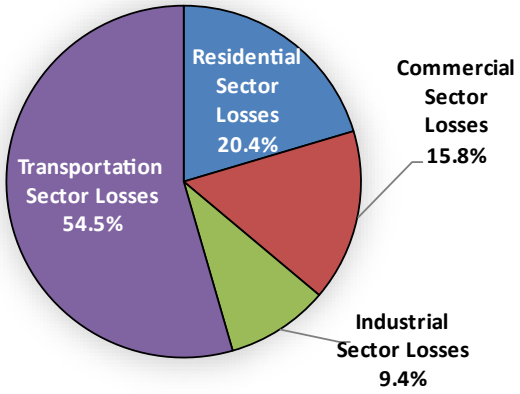
2020 NYS Energy Services



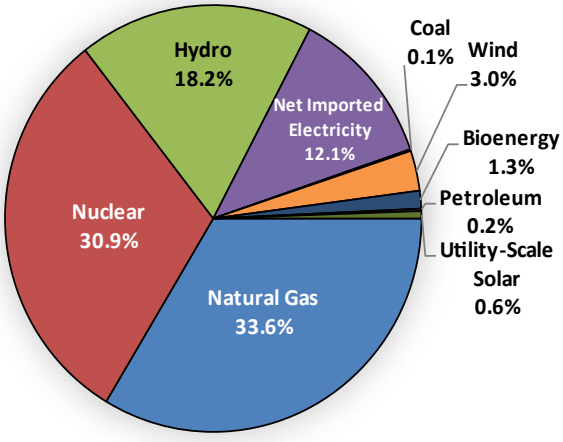
2020 NYS End-Use Sectors



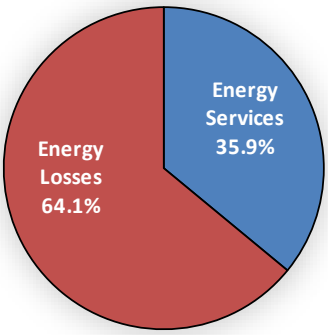
2020 NYS Energy Losses



2020 NYS Energy for Electricity Generation

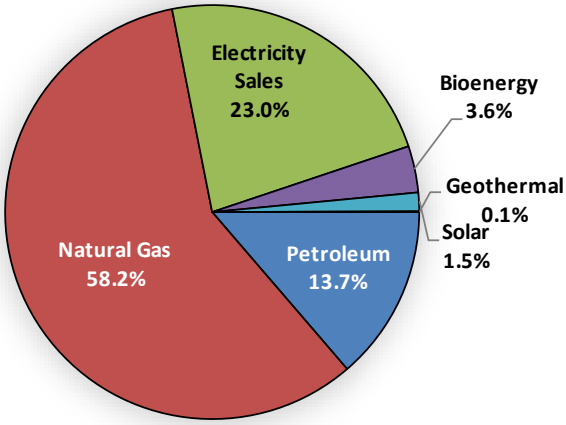


2020 NYS Energy End-Use Services and Losses

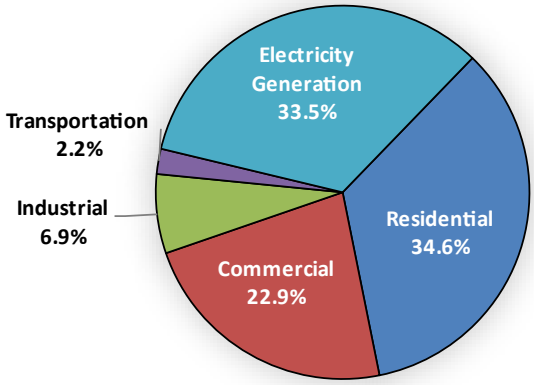


2020 New York State Energy at a Glance

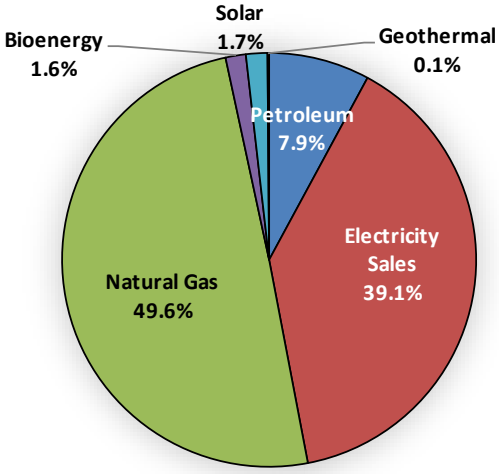
2020 NYS Residential Sector



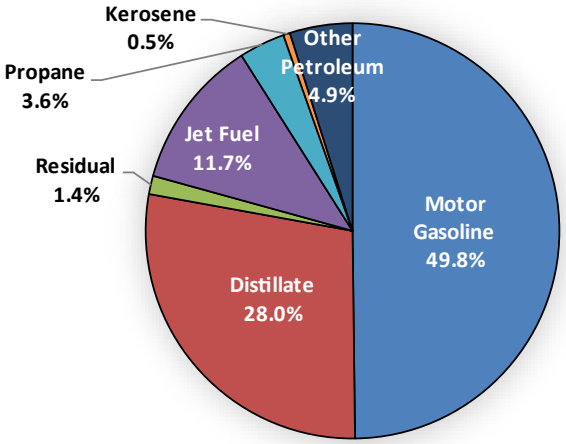
2020 NYS Natural Gas by Sector



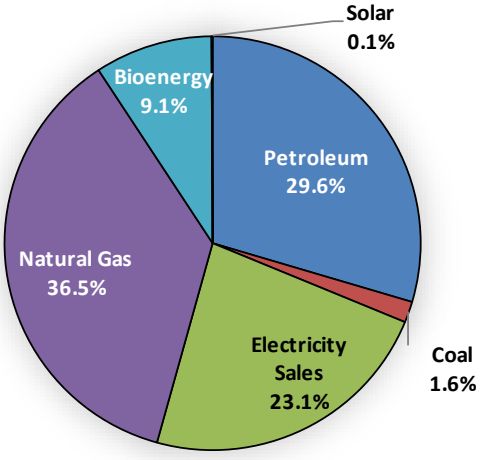
2020 NYS Commercial Sector



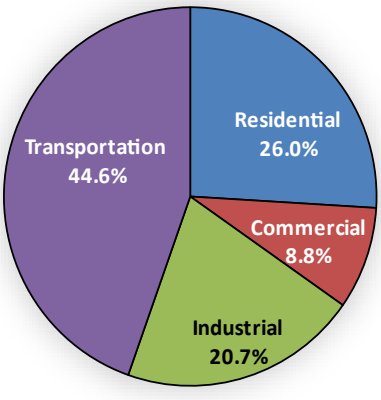
2020 NYS Petroleum Products



2020 NYS Industrial Sector

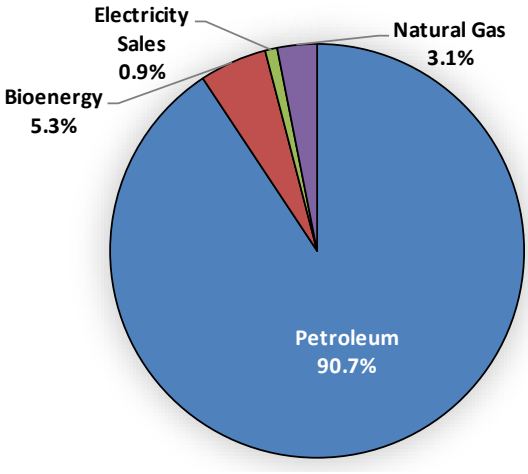


2020 NYS Bioenergy by Sector

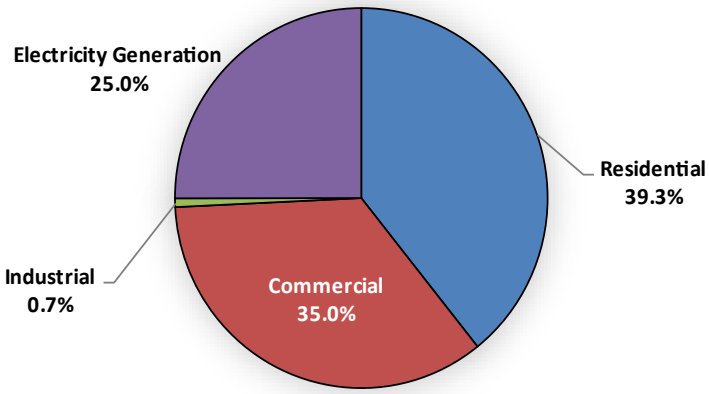


2020 New York State Energy at a Glance

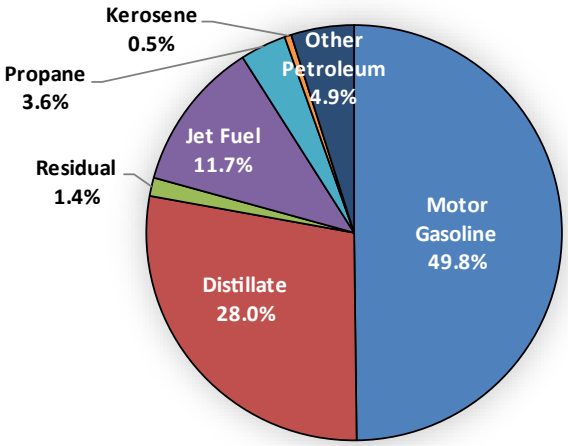
2020 NYS Transportation Sector



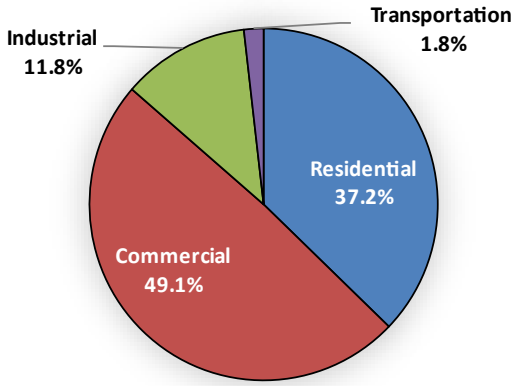
2020 NYS Solar by Sector



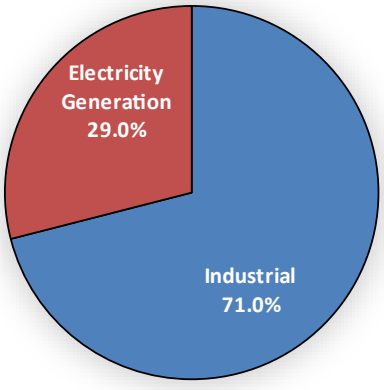
2020 NYS Petroleum Products



2020 NYS Electricity Sales



2020 NYS Coal by Sector



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

This section compares United States and New York State energy consumption, selected energy prices, sources of petroleum, and factors influencing energy demand and expenditures. Additional statistics compare recent energy consumption and expenditure trends among all states. New York State 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. The data are derived from the United States Department of Energy's (DOE) Energy Information Administration State Energy Data System, New York Independent System Operator (NYISO) Gold Book (2020 and 2021), U.S. Department of Transportation, U.S. Department of Commerce Bureau of Economic Analysis, Census Bureau, and the U.S. Department of Labor Bureau of Labor Statistics.

2.1 Key Observations about 2020 New York State Energy Data

- New York State ranks eighth nationally in energy consumption, in spite of having the third largest economy.
- The State has the third lowest per capita energy usage in the U.S., accounting for approximately 3.8% of the nation's total primary energy consumption. New York State accounts for 6.1% of the nation's population.
- Renewable resources accounted for 12.9% of the State's primary energy consumption compared to 9.3% for the U.S. in 2020.
- Coal consumption represents 0.42% of the State's energy use compared to 10.4% nationally.
- Net energy demand in the State differs from national demand in several respects (as shown in Tables 2–1 and 2–2):
    - Residential net energy use accounts for 23.2% of total energy demand, compared to 13.1% nationally.
    - Commercial net energy use accounts for 17.9% of total energy demand, compared to 10.0% nationally.
    - Industrial net energy use accounts for 7.3% of total energy demand, compared to 23.5% nationally.
    - Transportation net energy use accounts for 27.3% of total energy demand, compared to 27.5% nationally.

United States
Primary Consumption of Energy by Fuel Type and Sector, 2020

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

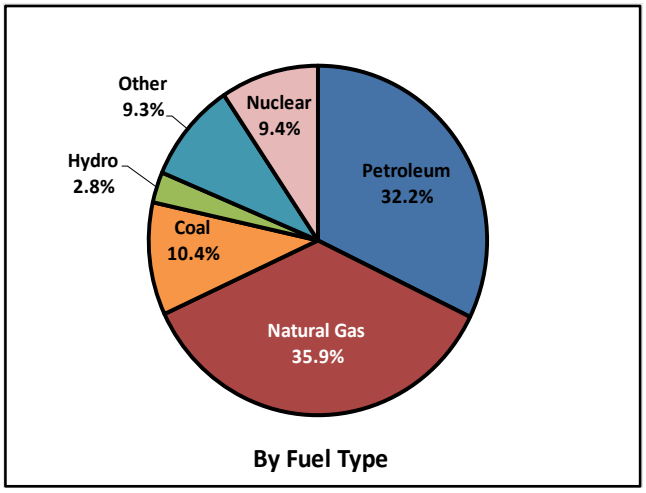


Figure 2-1b. United States Primary Consumption of Energy

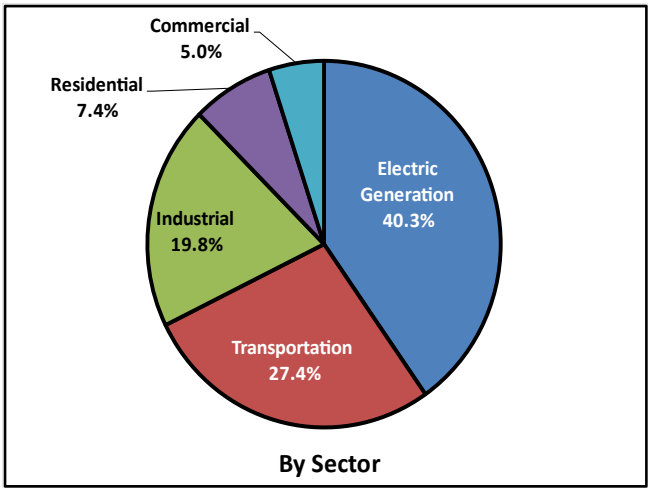


Table 2-1. (In Trillion Btu)

	Residential TBtu	Commercial TBtu	Industrial TBtu	Transportation[1] TBtu	Net Consumption TBtu	Electric Generation[2] TBtu	Primary Consumption[3] TBtu
Coal	0	14	939	0	954	8,229	9,183
Natural Gas	4,876	3,304	10,304	1,096	19,579	12,011	31,590
Petroleum Products:	913	852	4,625	21,787	28,177	184	28,362
Distillate	407	276	1,065	6,183	7,931	44	7,975
Residual	0	2	32	391	426	53	478
Kerosene	11	2	3	0	16	0	16
LPG	495	201	3,256	5	3,956	0	3,956
Gasoline	0	371	269	14,243	14,883	0	14,883
Jet Fuel	0	0	0	2,254	2,254	0	2,254
Other[4]	767	266	1,565	1,289	3,886	1,340	5,226
Electric Sales	4,997	4,393	3,272	22	12,685		
Net Consumption	11,553	8,829	20,706	24,194	65,281		
				Hydro Electricity		2,492	2,492
				Nuclear Electricity		8,248	8,248
				Wind Electricity		2,958	2,958
				Primary Consumption		35,462	88,058

1 Components of petroleum may not sum to petroleum total because ethanol values ("Other" category in transportation sector) are embedded in motor gasoline.

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, 2020

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

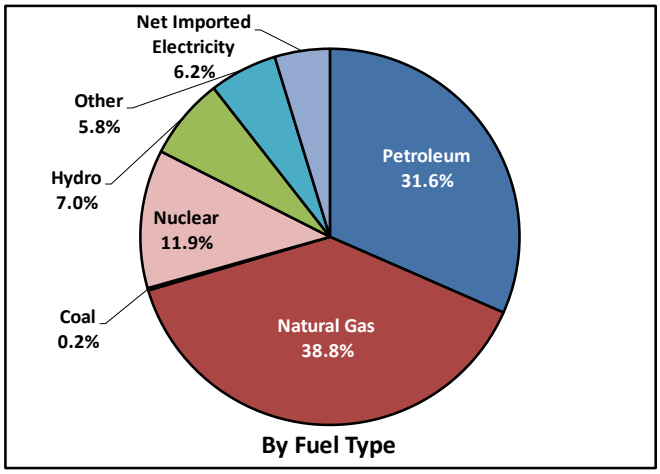


Figure 2-2b. New York State Primary Consumption of Energy

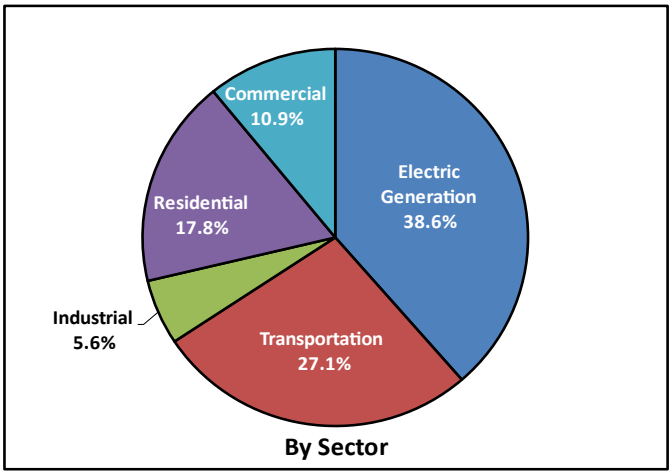


Table 2-2. (In Trillion Btu)

	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	4.0	0.0	4.0	1.6	5.7
Natural Gas	451.8	298.6	89.5	28.5	868.4	436.8	1,305.3
Petroleum Products[3]:	106.4	47.5	72.6	833.9	1,060.4	2.4	1,062.7
Distillate	77.7	37.1	13.4	168.5	296.7	1.0	297.7
Residual	0.0	0.6	1.2	12.1	13.9	1.3	15.2
Kerosene	3.1	0.3	2.2	0.0	5.6	0.0	5.6
LPG	25.6	9.5	3.0	0.1	38.1	0.0	38.1
Gasoline	0.0	0.0	0.0	569.2	569.2	0.0	569.2
Jet Fuel	0.0	0.0	0.0	124.4	124.4	0.0	124.4
Other Petroleum	0.0	0.0	52.9	0.0	52.9	0.0	52.9
Other[4]	39.9	20.3	22.7	48.4	131.3	24.7	156.0
Electric Sales	178.3	235.4	56.7	8.7	479.1		
Net Consumption	776.4	601.8	245.5	919.6	2,543.3		
					Hydro Electricity	236.8	236.8
					Nuclear Electricity	401.3	401.3
					Net Imported Electricity	156.9	156.9
					Wind Electricity	39.6	39.6
					Primary Consumption	836.2	3,364.4

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, 2006–2020

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
2006	252.3	248.1	10.4	13.7	9.5	11.9	6.1	9.0
2007	274.2	272.1	10.7	13.0	9.6	11.3	6.4	8.5
2008	318.4	337.6	11.3	13.9	10.3	12.2	6.9	10.3
2009	230.4	251.7	11.5	12.1	10.2	9.9	6.8	6.6
2010	273.7	296.9	11.5	11.4	10.2	9.4	6.8	6.3
2011	345.0	356.7	11.7	11.0	10.2	9.0	6.8	6.1
2012	354.7	397.0	11.9	10.6	10.1	8.2	6.7	5.0
2013	344.8	388.9	12.1	10.3	10.3	8.3	6.9	5.6
2014	331.2	379.1	12.5	10.9	10.7	9.1	7.1	6.6
2015	243.5	261.2	12.7	10.3	10.6	8.1	6.9	5.0
2016	217.2	223.1	12.5	10.0	10.4	7.5	6.8	4.4
2017	243.6	249.1	12.9	10.9	10.7	8.1	6.9	5.0
2018	270.9	276.1	12.9	10.5	10.7	8.0	6.9	5.0
2019	259.7	265.7	13.0	10.5	10.7	7.9	6.8	4.8
2020	216.4	219.7	13.2	10.7	10.6	7.8	6.7	4.2

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
2006	257.0	255.6	16.9	15.4	15.5	12.0	9.4	10.6
2007	276.7	278.0	17.1	15.8	15.9	11.9	8.7	11.5
2008	327.0	342.5	18.3	16.9	16.8	12.9	9.4	12.4
2009	235.7	260.6	17.5	15.1	15.5	10.8	8.4	9.6
2010	277.8	301.1	18.7	14.0	16.3	10.9	8.8	8.5
2011	351.9	355.2	18.3	13.6	15.8	9.3	7.8	8.1
2012	364.1	394.7	17.6	12.9	15.1	7.8	6.7	6.9
2013	354.7	388.8	18.8	12.4	15.4	7.9	6.6	7.4
2014	341.8	379.2	20.1	12.5	16.1	8.3	6.6	8.1
2015	246.6	264.9	18.5	11.3	15.3	6.9	6.3	6.7
2016	218.4	227.6	17.6	10.9	14.4	6.2	6.0	6.0
2017	242.1	252.6	18.0	12.1	14.8	6.9	5.9	7.2
2018	267.5	278.9	18.5	12.4	14.5	7.4	6.0	7.9
2019	252.2	264.5	17.9	12.7	14.1	7.3	5.6	7.8
2020	214.8	216.4	18.4	12.9	14.6	6.9	5.5	7.0

United States Estimated Sources of Petroleum Products, 2006–2020

Figure 2-4. United States Petroleum Net Imports

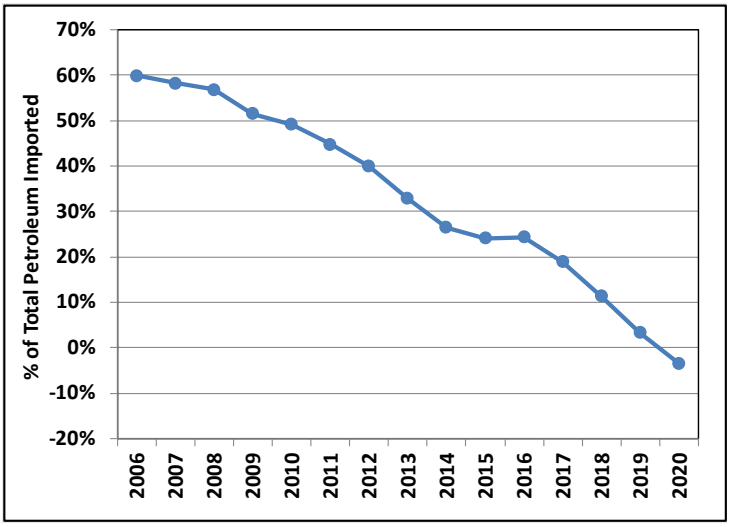


Table 2-4. United States Sources of Petroleum

Year	Total Domestic[1]	Total Foreign	OPEC[2]	Non-OPEC[3]
	%	%	%	%
2006	40.1%	59.9%	26.5%	33.4%
2007	41.8%	58.2%	28.8%	29.4%
2008	43.0%	57.0%	30.3%	26.8%
2009	48.5%	51.5%	24.9%	26.6%
2010	50.8%	49.2%	25.0%	24.2%
2011	55.2%	44.8%	23.4%	21.4%
2012	60.0%	40.0%	23.1%	16.9%
2013	67.1%	32.9%	19.6%	13.3%
2014	73.5%	26.5%	16.9%	9.6%
2015	75.9%	24.1%	14.8%	9.3%
2016	75.6%	24.4%	17.5%	6.9%
2017	81.1%	18.9%	16.9%	2.0%
2018	88.6%	11.4%	14.1%	-2.7%
2019	96.7%	3.3%	8.0%	-4.7%
2020	103.5%	-3.5%	4.9%	-8.4%

1 Domestic: Oil produced in the United States or from its outer continental shelf.

2 OPEC: Largest contributors are Saudi Arabia, Venezuela, Nigeria, Iraq, and Kuwait.

3 Non-OPEC: Largest contributors are Canada, Mexico, United Kingdom, Colombia, Brazil, and Russia. Negative values indicate U.S. net exports were greater than net imports to Non-OPEC countries.

United States and New York State
Factors Influencing Energy
Demand and Expenditures, 2006–2020

Table 2-5a. United States

Year	Population	Housing Units	Non-Manufacturing Employment[1]	Manufacturing Employment[1]	GDP[2]	Licensed Drivers	Vehicles Registered	Vehicle Miles Traveled
	thousands	thousands	thousands	thousands	B/2020$	millions	millions	billions
2006	298,380	126,500	122,298	14,155	$17,736	203	244	3,034
2007	301,231	128,132	124,120	13,879	$18,067	206	247	3,049
2008	304,094	129,313	123,835	13,406	$17,755	208	248	2,993
2009	306,772	129,970	119,466	11,847	$17,466	210	246	2,976
2010	308,746	131,705	118,834	11,528	$17,862	210	242	2,985
2011	311,557	132,316	120,206	11,726	$17,949	212	253	2,965
2012	313,831	132,452	122,248	11,927	$18,322	212	254	2,969
2013	315,994	132,808	124,361	12,020	$18,712	212	256	2,988
2014	318,301	133,963	126,773	12,185	$19,187	214	260	3,026
2015	320,635	134,794	129,507	12,336	$19,880	218	264	3,095
2016	322,941	135,703	131,998	12,354	$20,160	222	269	3,174
2017	324,986	137,384	134,172	12,439	$20,565	225	273	3,224
2018	326,688	138,540	136,220	12,688	$21,163	228	274	3,255
2019	328,240	139,686	138,088	12,816	$21,645	229	276	3,276
2020	331,450	138,433	130,021	12,165	$21,060	228	276	2,917

Table 2-5b. New York State

Year	Population	Housing Units	Non-Manufacturing Employment[1]	Manufacturing Employment[1]	GSP[3]	Licensed Drivers	Vehicles Registered	Vehicle Miles Traveled
	thousands	thousands	thousands	thousands	MM/2020$	thousands	thousands	billions
2006	19,105	7,908	8,037	566	$1,371,898	11,146	11,284	141
2007	19,132	7,940	8,168	552	$1,385,225	11,369	11,495	137
2008	19,212	7,977	8,246	532	$1,324,254	11,285	11,089	134
2009	19,307	8,018	8,064	476	$1,388,525	11,329	11,245	134
2010	19,378	8,108	8,088	457	$1,439,101	11,286	11,082	131
2011	19,520	8,120	8,233	459	$1,423,592	11,211	10,085	128
2012	19,603	8,124	8,360	459	$1,491,811	11,249	10,449	128
2013	19,674	8,126	8,500	457	$1,513,117	11,211	10,674	130
2014	19,719	8,192	8,668	454	$1,558,670	11,318	10,904	129
2015	19,747	8,207	8,836	456	$1,622,226	11,690	10,639	127
2016	19,745	8,232	8,983	452	$1,667,113	11,948	11,122	123
2017	19,378	8,327	9,115	446	$1,698,755	12,185	10,857	124
2018	19,542	8,364	9,241	444	$1,757,321	12,194	11,482	123
2019	19,454	8,404	9,346	440	$1,794,123	12,194	11,389	124
2020	20,201	8,488	8,413	401	$1,699,045	12,194	11,325	102

[1] Includes nonfarm jobs only.

[2] Gross domestic product in billions of 2020 dollars.

[3] Gross State product in millions of 2020 dollars.

Energy Consumption and Expenditure Indicators, State Comparisons, 2020

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	1,839	16	366	13	7,963	9	$3,696	11
Alaska	640	39	874	2	12,681	3	$6,429	2
Arizona	1,508	25	210	40	3,947	36	$2,834	40
Arkansas	1,035	31	344	17	7,723	11	$3,442	18
California	6,923	2	175	48	2,292	48	$2,898	34
Colorado	1,451	26	251	34	3,709	37	$2,671	44
Connecticut	667	38	185	46	2,415	47	$3,205	25
Delaware	277	47	279	26	3,655	39	$3,179	26
D.C.	144	50	208	41	994	51	$2,555	49
Florida	4,003	4	186	45	3,585	40	$2,385	50
Georgia	2,728	9	254	32	4,361	29	$2,892	35
Hawaii	233	48	160	51	2,817	46	$3,234	22
Idaho	550	41	298	21	6,402	18	$3,219	23
Illinois	3,613	5	283	25	4,216	30	$2,668	45
Indiana	2,564	11	378	12	6,861	16	$3,579	14
Iowa	1,526	24	479	5	7,747	10	$3,981	7
Kansas	1,070	29	364	14	6,023	20	$3,496	16
Kentucky	1,596	21	354	15	7,357	13	$3,443	17
Louisiana	4,200	3	903	1	18,064	1	$5,210	4
Maine	365	45	268	28	5,161	22	$3,586	13
Maryland	1,213	28	197	43	2,951	43	$2,584	47
Massachusetts	1,278	27	182	47	2,185	49	$2,977	31
Michigan	2,611	10	259	31	5,019	24	$2,887	37
Minnesota	1,732	18	303	19	4,595	27	$3,092	29
Mississippi	1,037	30	351	16	9,010	6	$3,578	15
Missouri	1,702	20	277	27	5,154	23	$3,069	30
Montana	429	43	395	11	8,200	8	$4,052	6
Nebraska	864	33	440	9	6,418	17	$3,894	8
Nevada	710	36	228	38	4,115	32	$2,819	41
New Hampshire	296	46	215	39	3,345	41	$3,354	19
New Jersey	1,894	15	204	42	3,054	42	$2,675	43
New Mexico	700	37	330	18	7,083	15	$3,207	24
New York	3,354	8	166	49	1,927	50	$2,380	51
North Carolina	2,471	12	236	35	4,126	31	$2,748	42
North Dakota	626	40	804	4	11,501	4	$6,223	3
Ohio	3,405	7	289	24	4,975	26	$2,968	32
Oklahoma	1,579	22	399	10	8,309	7	$3,308	20
Oregon	983	32	232	36	3,964	35	$2,845	39
Pennsylvania	3,413	6	263	30	4,423	28	$2,890	36
Rhode Island	176	49	160	50	2,893	45	$2,865	38
South Carolina	1,533	23	299	20	6,249	19	$3,247	21
South Dakota	397	44	447	8	7,123	14	$4,187	5
Tennessee	2,039	14	295	22	5,380	21	$3,093	28
Texas	13,481	1	461	6	7,531	12	$3,703	10
Utah	829	34	253	33	4,101	33	$2,654	46
Vermont	126	51	196	44	3,695	38	$3,619	12
Virginia	2,273	13	263	29	4,081	34	$2,963	33
Washington	1,779	17	231	37	2,903	44	$2,582	48
West Virgina	804	35	449	7	10,502	5	$3,759	9
Wisconsin	1,708	19	290	23	5,015	25	$3,139	27
Wyoming	504	42	874	3	13,884	2	$6,703	1
United States	92,862		309		4,937		$3,039	
NYS as a % of U.S.	**3.6%**		**59%**		**39%**		**78%**	

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, 2020

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	145	35	$1,974	13	137	28	$1,670	9
Alaska	166	15	$2,636	2	200	3	$2,848	1
Arizona	143	37	$1,762	35	125	33	$1,294	33
Arkansas	159	21	$1,715	38	156	10	$1,335	29
California	105	49	$1,845	27	91	50	$1,530	18
Colorado	151	27	$1,518	49	112	44	$1,063	47
Connecticut	150	30	$3,018	1	121	37	$1,806	3
Delaware	140	39	$1,905	20	136	31	$1,391	24
D.C.	104	50	$1,270	51	115	41	$1,312	31
Florida	123	47	$1,583	45	112	45	$1,176	42
Georgia	156	24	$2,057	8	124	34	$1,288	34
Hawaii	66	51	$1,611	44	72	51	$1,673	8
Idaho	178	6	$1,651	42	131	32	$1,035	48
Illinois	173	10	$1,766	34	144	19	$1,165	43
Indiana	176	9	$1,930	18	136	30	$1,300	32
Iowa	165	17	$1,862	23	141	23	$1,263	36
Kansas	171	11	$1,930	19	170	5	$1,615	12
Kentucky	166	14	$1,746	36	146	16	$1,437	22
Louisiana	145	33	$1,630	43	137	27	$1,380	27
Maine	139	40	$2,136	7	118	39	$1,491	19
Maryland	150	29	$1,966	14	145	17	$1,456	20
Massachusetts	137	41	$2,531	5	118	40	$1,663	10
Michigan	169	12	$1,989	11	164	7	$1,608	14
Minnesota	165	16	$1,842	28	137	26	$1,254	38
Mississippi	136	43	$1,789	32	144	20	$1,680	7
Missouri	182	4	$1,878	22	151	13	$1,257	37
Montana	195	1	$1,855	25	183	4	$1,612	13
Nebraska	190	3	$1,804	31	154	12	$1,183	41
Nevada	144	36	$1,693	41	119	38	$1,007	49
New Hampshire	158	22	$2,617	3	114	42	$1,559	15
New Jersey	149	31	$1,977	12	144	18	$1,628	11
New Mexico	134	44	$1,422	50	151	14	$1,367	28
New York	127	46	$2,029	9	121	36	$1,535	17
North Carolina	142	38	$1,706	39	137	29	$1,238	39
North Dakota	179	5	$1,851	26	219	1	$1,933	2
Ohio	162	19	$1,831	29	137	25	$1,197	40
Oklahoma	161	20	$1,741	37	150	15	$1,280	35
Oregon	137	42	$1,574	46	113	43	$1,138	44
Pennsylvania	148	32	$2,027	10	104	48	$970	50
Rhode Island	121	48	$2,468	6	106	47	$1,767	4
South Carolina	153	25	$1,904	21	139	24	$1,381	26
South Dakota	177	8	$1,937	17	161	9	$1,442	21
Tennessee	165	18	$1,698	40	155	11	$1,554	16
Texas	150	28	$1,817	30	143	22	$1,129	45
Utah	167	13	$1,524	48	121	35	$953	51
Vermont	131	45	$2,560	4	98	49	$1,709	5
Virginia	152	26	$1,952	15	168	6	$1,384	25
Washington	145	34	$1,545	47	110	46	$1,087	46
West Virgina	177	7	$1,947	16	162	8	$1,432	23
Wisconsin	157	23	$1,775	33	143	21	$1,334	30
Wyoming	191	2	$1,861	24	203	2	$1,682	6
United States	146		$1,860		129		$1,345	
NYS as % of U.S.	**87%**		**109%**		**93%**		**114%**	

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

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

Energy Consumption and Expenditure Indicators
State Comparisons for the Industrial and Transportation Sectors, 2020

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	3,349	10	$0.0157	9	94	17	$1,417	29
Alaska	7,202	3	$0.0114	15	208	1	$3,089	1
Arizona	588	39	$0.0049	41	84	28	$1,581	17
Arkansas	2,817	13	$0.0169	8	93	19	$1,480	25
California	563	41	$0.0047	42	77	31	$1,678	10
Colorado	1,061	33	$0.0062	34	71	43	$1,230	44
Connecticut	258	47	$0.0029	48	68	45	$1,243	39
Delaware	1,125	30	$0.0057	38	71	42	$1,260	36
D.C.	33	51	$0.0004	51	47	51	$802	51
Florida	414	44	$0.0031	46	77	34	$1,238	41
Georgia	1,147	29	$0.0060	35	93	18	$1,475	26
Hawaii	573	40	$0.0107	16	88	24	$1,601	16
Idaho	1,961	20	$0.0123	14	82	29	$1,534	22
Illinois	1,319	27	$0.0064	33	76	35	$1,234	42
Indiana	3,175	11	$0.0177	7	85	26	$1,417	28
Iowa	4,233	6	$0.0195	5	73	38	$1,215	45
Kansas	2,197	18	$0.0102	20	99	13	$1,557	19
Kentucky	2,603	15	$0.0126	13	104	10	$1,568	18
Louisiana	13,154	1	$0.0513	1	157	3	$1,702	8
Maine	1,416	25	$0.0093	24	87	25	$1,635	13
Maryland	213	49	$0.0020	49	92	20	$1,552	20
Massachusetts	235	48	$0.0031	45	71	40	$1,247	38
Michigan	1,191	28	$0.0076	28	77	33	$1,234	43
Minnesota	1,531	24	$0.0087	26	71	41	$1,176	48
Mississippi	3,351	9	$0.0151	10	161	2	$2,358	2
Missouri	923	34	$0.0065	32	92	21	$1,494	24
Montana	2,487	16	$0.0107	17	60	49	$1,107	49
Nebraska	2,790	14	$0.0134	12	99	14	$1,679	9
Nevada	897	35	$0.0069	29	89	23	$1,642	12
New Hampshire	448	43	$0.0051	39	66	47	$1,187	47
New Jersey	384	45	$0.0029	47	96	15	$1,615	15
New Mexico	2,416	17	$0.0094	23	122	7	$1,947	5
New York	204	50	$0.0016	50	80	30	$1,331	32
North Carolina	880	36	$0.0058	36	84	27	$1,414	30
North Dakota	6,369	4	$0.0299	3	143	4	$1,989	3
Ohio	1,618	22	$0.0096	22	77	32	$1,258	37
Oklahoma	3,411	8	$0.0107	18	114	8	$1,644	11
Oregon	1,089	31	$0.0067	31	68	46	$1,387	31
Pennsylvania	1,625	21	$0.0090	25	73	37	$1,315	33
Rhode Island	362	46	$0.0050	40	58	50	$1,034	50
South Carolina	1,984	19	$0.0105	19	95	16	$1,552	21
South Dakota	3,023	12	$0.0142	11	75	36	$1,242	40
Tennessee	1,353	26	$0.0069	30	105	9	$1,624	14
Texas	4,059	7	$0.0192	6	127	5	$1,781	7
Utah	1,063	32	$0.0057	37	102	12	$1,804	6
Vermont	520	42	$0.0085	27	64	48	$1,215	46
Virginia	755	38	$0.0043	43	91	22	$1,458	27
Washington	782	37	$0.0036	44	70	44	$1,311	34
West Virginia	4,972	5	$0.0212	4	103	11	$1,533	23
Wisconsin	1,579	23	$0.0100	21	72	39	$1,265	35
Wyoming	8,037	2	$0.0336	2	124	6	$1,973	4
United States	1,494		$0.0113		88		$1,469	
NYS as % of U.S.	**14%**		**14%**		**91%**		**91%**	

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

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

United States and New York State
Selected Comparisons, 2020

Figure 2-9a. Primary Consumption by Fuel Type, 2020

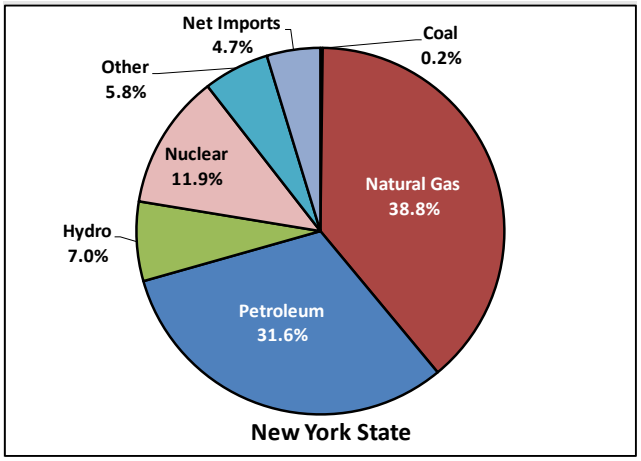


Figure 2-9b. Primary Consumption by Fuel Type, 2020

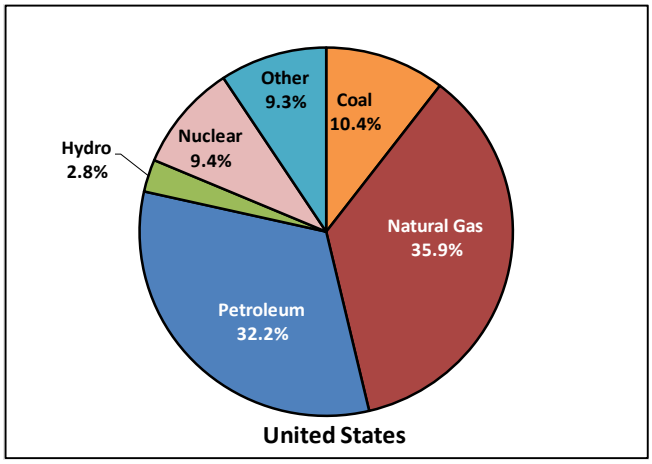


Figure 2-9c. Primary Consumption by Sector, 2020

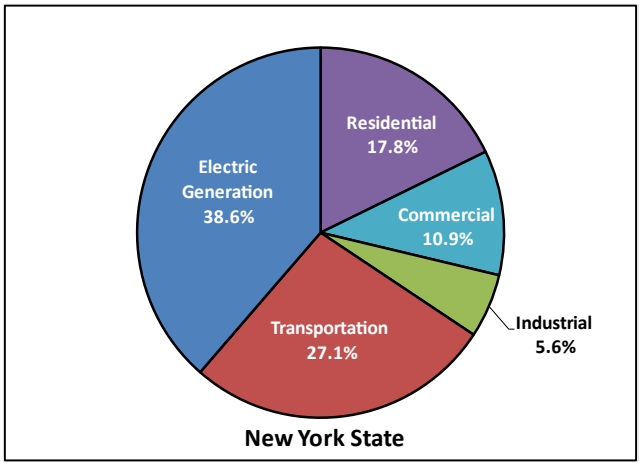
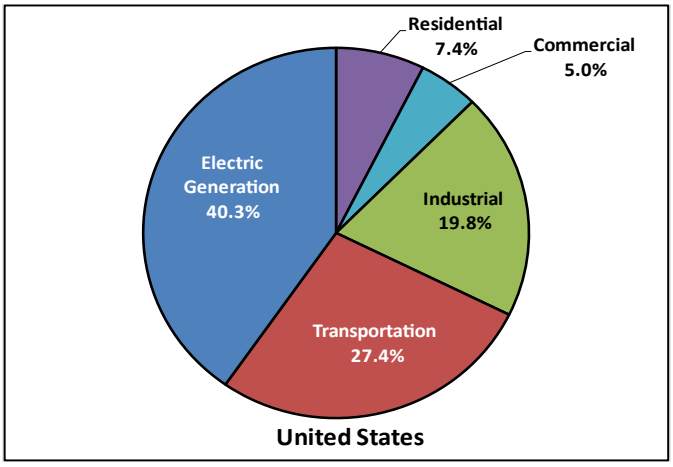


Figure 2-9d. Primary Consumption by Sector, 2020



United States and New York State
Selected Comparisons, 2020

Figure 2-10a. Electricity Generation by Fuel Type, 2020

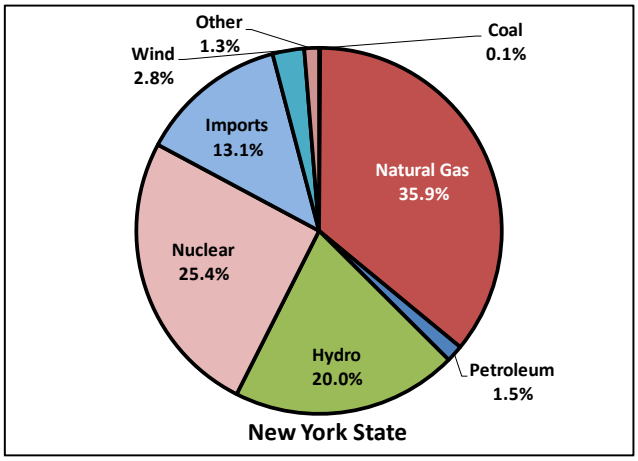


Figure 2-10b. Electricity Generation by Fuel Type, 2020

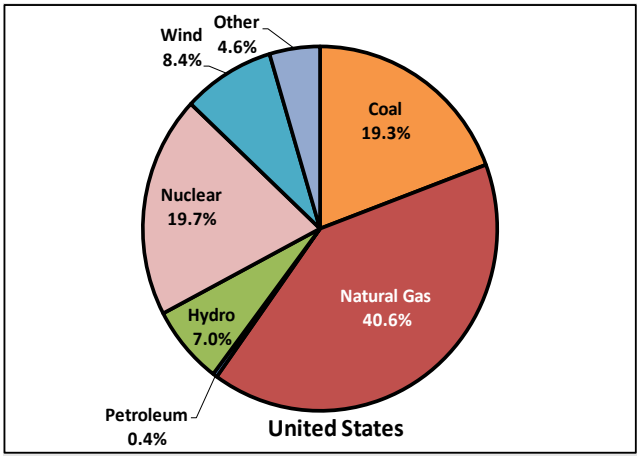


Figure 2-10c. Primary Consumption of Petroleum Products, 2020[1,2]

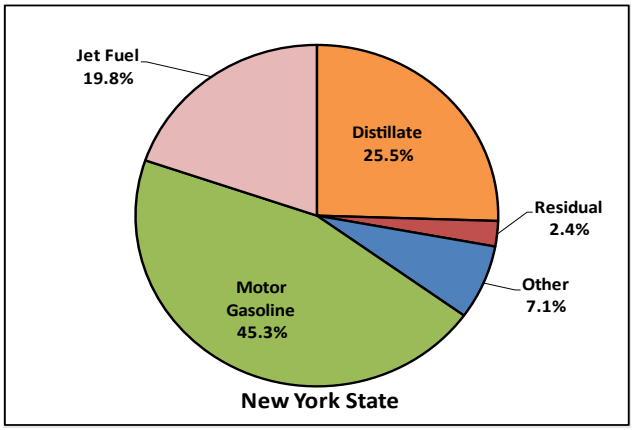
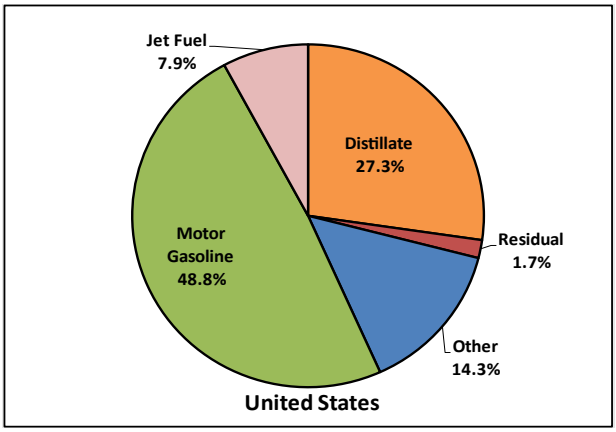


Figure 2-10d. Primary Consumption of Petroleum Products, 2020[1,2]



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, 2020

Figure 2-11a. Petroleum Consumption by Sector, 2020[1]

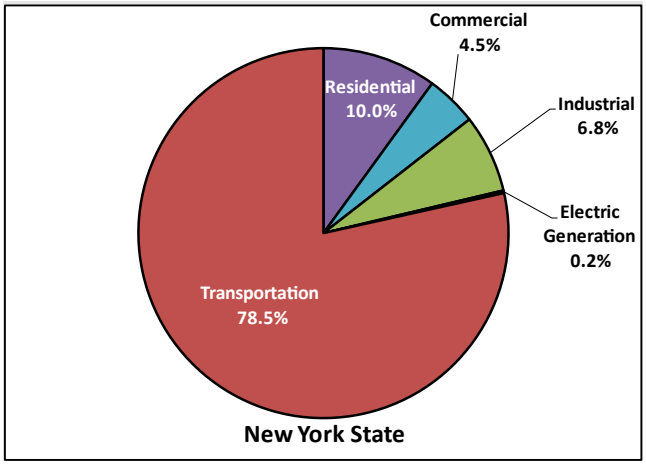


Figure 2-11b. Petroleum Consumption by Sector, 2020[1]

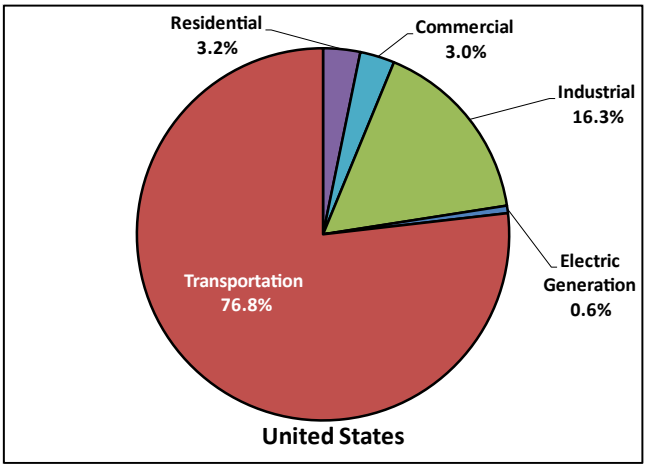


Figure 2-11c. Natural Gas Consumption by Sector, 2020

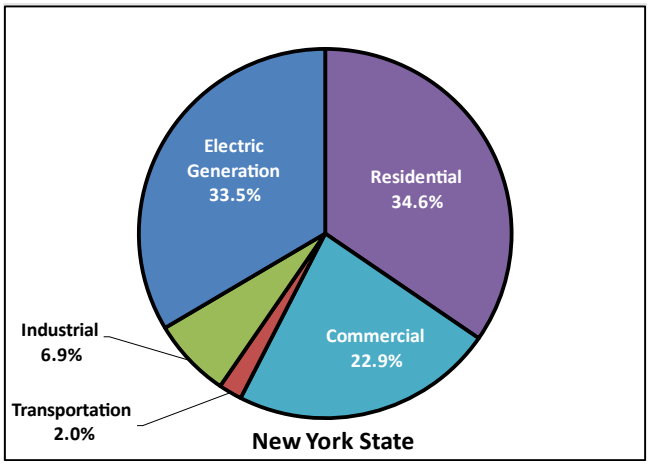
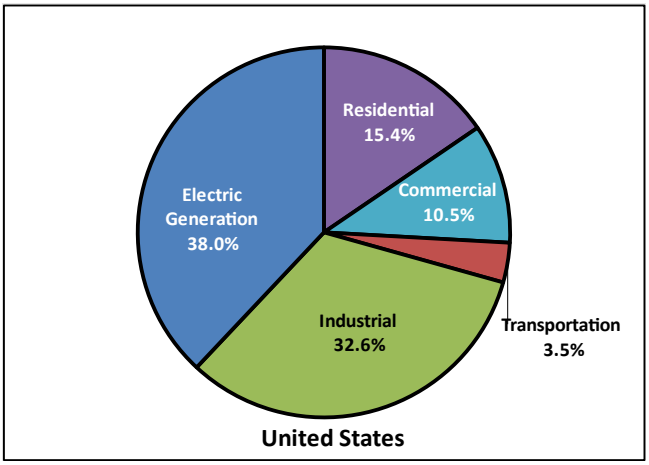


Figure 2-11d. Natural Gas Consumption by Sector, 2020



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

United States and New York State
Selected Comparisons, 2020

Figure 2-12a. Coal Consumption by Sector, 2020

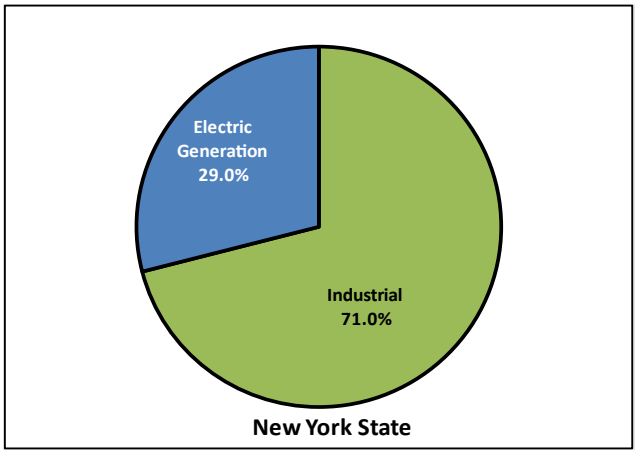


Figure 2-12b. Coal Consumption by Sector, 2020

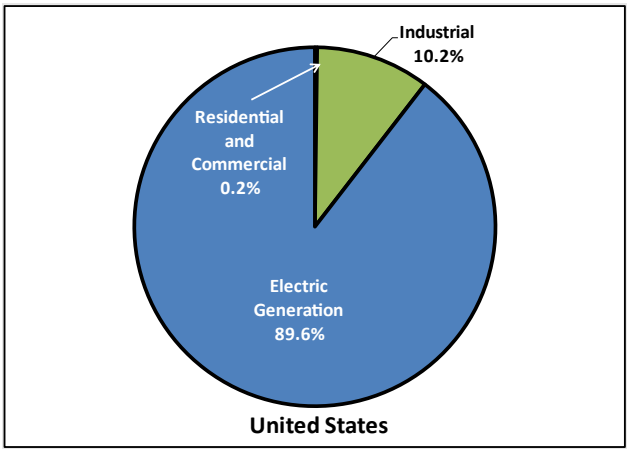


Figure 2-12c. Electricity Sales by Sector, 2020

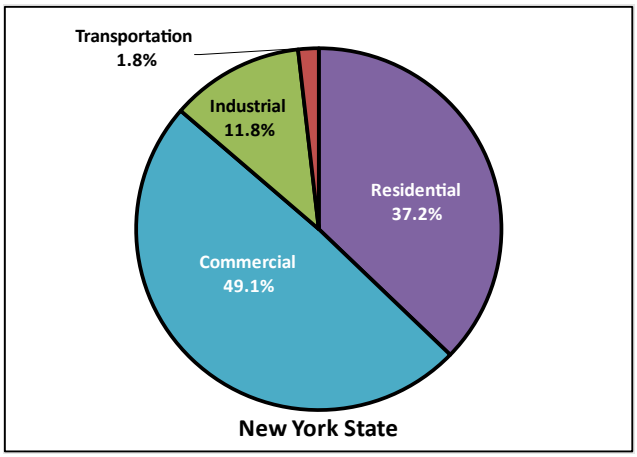
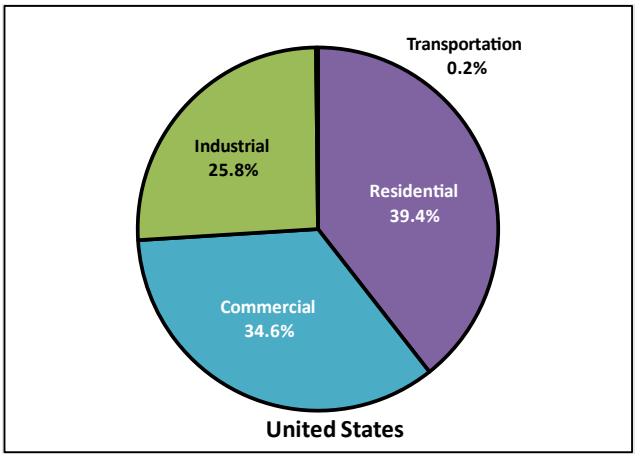


Figure 2-12d. Electricity Sales by Sector, 2020



United States and New York State
Selected Energy Indicators, 2006–2020

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

Year	NYS	U.S.
	thousand Btu	thousand Btu
2006	2.93	5.61
2007	2.99	5.59
2008	3.09	5.57
2009	2.79	5.39
2010	2.72	5.45
2011	2.70	5.39
2012	2.49	5.15
2013	2.52	5.19
2014	2.48	5.12
2015	2.39	4.89
2016	2.27	4.83
2017	2.22	4.75
2018	2.25	4.78
2019	2.14	4.63
2020	1.97	4.41

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

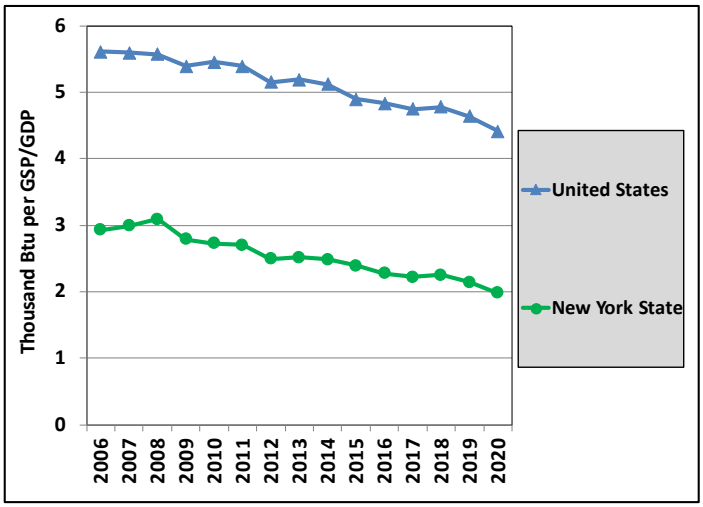
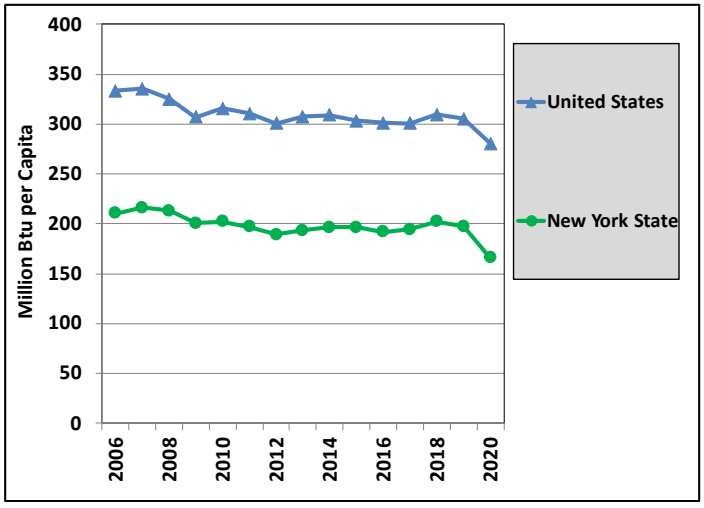


Table 2-13b. Primary Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
2006	210.35	333.29
2007	216.33	335.26
2008	212.89	325.10
2009	200.36	306.72
2010	202.24	315.50
2011	196.88	310.58
2012	189.30	300.60
2013	193.48	307.10
2014	196.30	308.61
2015	196.28	303.31
2016	192.00	301.34
2017	194.21	300.39
2018	202.07	309.42
2019	197.72	305.47
2020	166.04	280.17

Figure 2-13b. Primary Consumption per Capita

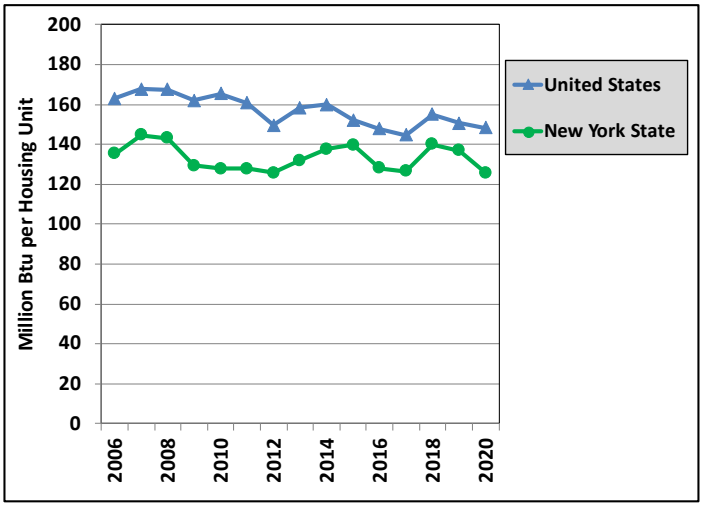


United States and New York State
Selected Energy Indicators, 2006–2020

Table 2-14a.
Residential Consumption per Housing Unit

Year	NYS	U.S.
	MMBtu	MMBtu
2006	135.31	163.03
2007	144.55	167.71
2008	142.91	167.30
2009	129.40	161.96
2010	127.62	165.22
2011	127.74	160.71
2012	125.75	149.61
2013	131.78	158.39
2014	137.60	159.76
2015	139.60	151.98
2016	128.09	147.75
2017	126.50	144.59
2018	139.96	155.00
2019	136.84	150.60
2020	125.68	148.24

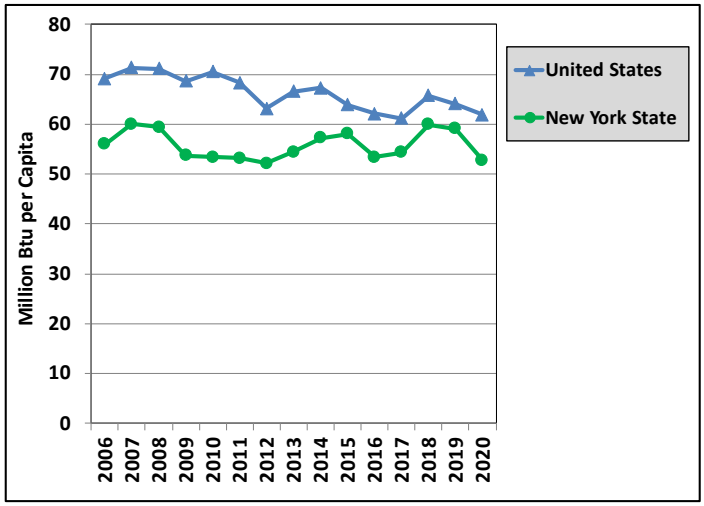
Figure 2-14a. Residential Consumption per Housing Unit



Tablet 2-14b.
Residential Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
2006	56.01	69.12
2007	59.99	71.34
2008	59.34	71.14
2009	53.74	68.62
2010	53.40	70.48
2011	53.14	68.25
2012	52.11	63.14
2013	54.43	66.57
2014	57.16	67.24
2015	58.02	63.89
2016	53.40	62.09
2017	54.36	61.12
2018	59.90	65.73
2019	59.12	64.09
2020	52.81	61.91

Figure 2-14b. Residential Consumption per Capita



United States and New York State
Selected Energy Indicators, 2006–2020

Table 2-15a. Commercial Consumption per Nonmanufacturing Employee

Year	NYS	U.S.
	MMBtu	MMBtu
2006	148.10	144.49
2007	152.07	146.71
2008	148.13	148.19
2009	144.94	149.44
2010	145.82	151.61
2011	142.49	149.21
2012	134.08	142.04
2013	137.43	143.79
2014	131.61	143.55
2015	132.33	139.83
2016	121.44	136.24
2017	122.94	133.14
2018	127.22	135.18
2019	121.37	130.22
2020	125.53	128.69

Figure 2-15a. Commercial Consumption per Nonmanufacturing Employee

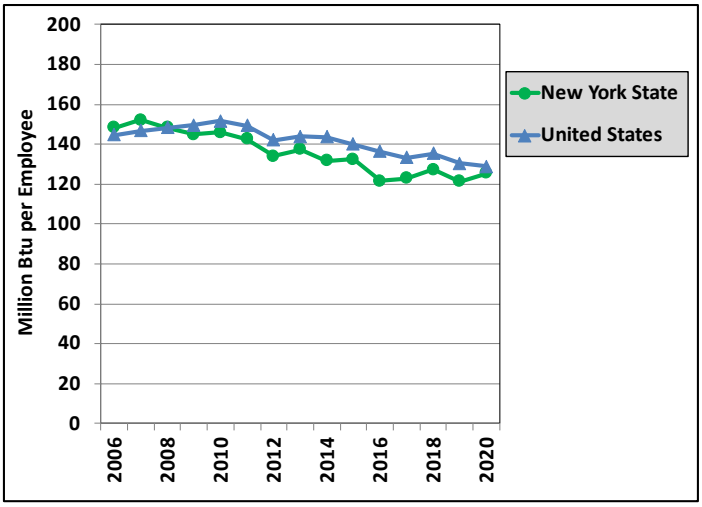
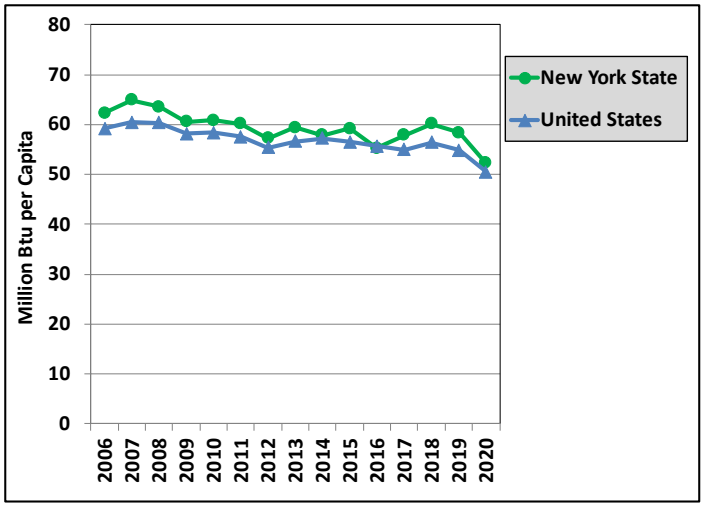


Table 2-15b. Commercial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
2006	62.31	59.22
2007	64.92	60.45
2008	63.57	60.35
2009	60.54	58.20
2010	60.86	58.35
2011	60.10	57.57
2012	57.18	55.33
2013	59.38	56.59
2014	57.86	57.17
2015	59.21	56.48
2016	55.25	55.69
2017	57.82	54.97
2018	60.16	56.37
2019	58.31	54.78
2020	52.28	50.48

Figure 2-15b. Commercial Consumption per Capita



United States and New York State
Selected Energy Indicators, 2006–2020

Table 2-16a. Industrial Consumption per Dollar of Industrial Gross State Product/Gross Domestic Product

Year	NYS	U.S.
	Btu	Btu
2006	4,136	8,748
2007	4,022	8,609
2008	4,079	8,739
2009	3,672	8,857
2010	3,781	9,283
2011	4,086	9,156
2012	3,743	9,081
2013	3,571	8,886
2014	3,297	8,774
2015	2,796	8,798
2016	3,065	9,018
2017	2,619	8,747
2018	2,613	8,636
2019	2,530	8,668
2020	2,614	8,933

Figure 2-16a. Industrial Consumption per Dollar of Industrial Gross State Product/Gross Domestic Product

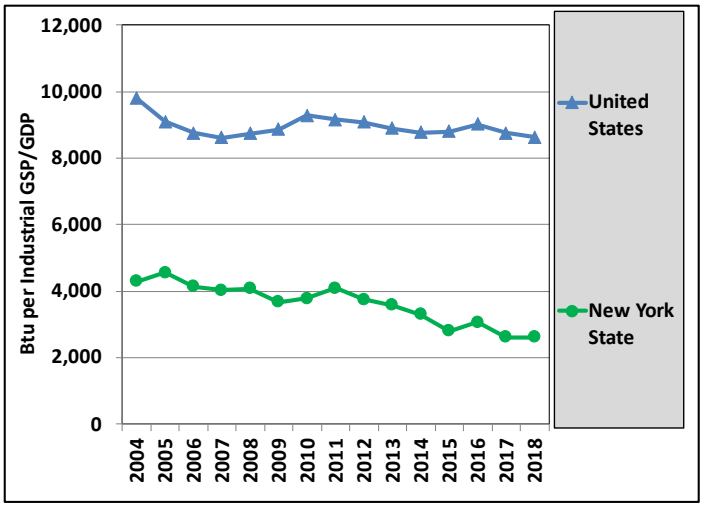
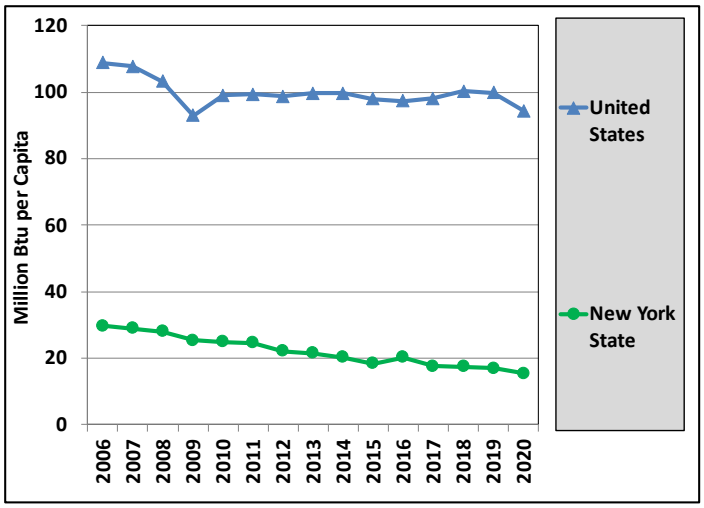


Table 2-16b. Industrial Consumption per Capita

Year	NYS	U.S.
	MMBtu	MMBtu
2006	29.65	108.78
2007	28.87	107.77
2008	27.97	103.28
2009	25.30	93.02
2010	24.96	99.10
2011	24.64	99.28
2012	22.16	98.79
2013	21.44	99.60
2014	20.30	99.66
2015	18.33	97.92
2016	20.19	97.39
2017	17.53	98.08
2018	17.38	100.22
2019	16.95	99.74
2020	15.34	94.31

Figure 2-16b. Industrial Consumption per Capita



United States and New York State
Selected Energy Indicators, 2006–2020

Table 2-17a. Transportation Consumption of Gasoline and Diesel per Vehicle Mile Traveled

Year	NYS	U.S.
	Btu	Btu
2006	6,243	7,739
2007	6,374	7,700
2008	6,296	7,452
2009	6,309	7,381
2010	6,476	7,419
2011	6,401	7,379
2012	6,194	7,253
2013	6,048	7,338
2014	6,325	7,393
2015	6,260	7,289
2016	6,776	7,183
2017	6,808	7,081
2018	6,987	7,105
2019	6,758	7,051
2020	6,905	7,001

Figure 2-17a. Transportation Consumption of Gasoline and Diesel per Vehicle Mile Traveled

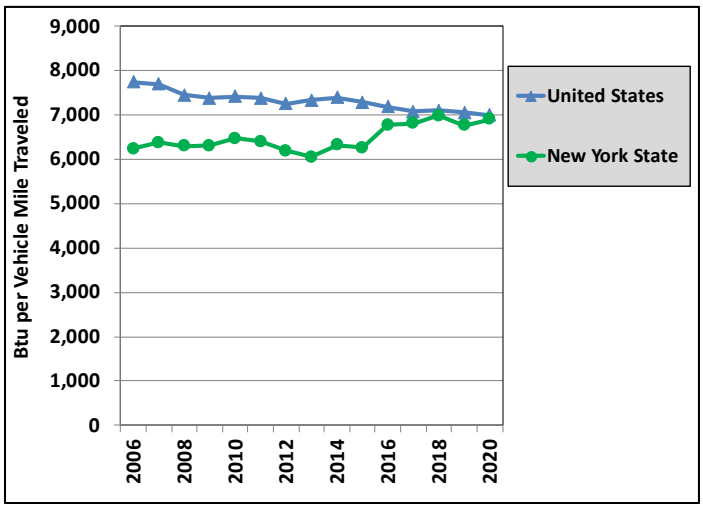
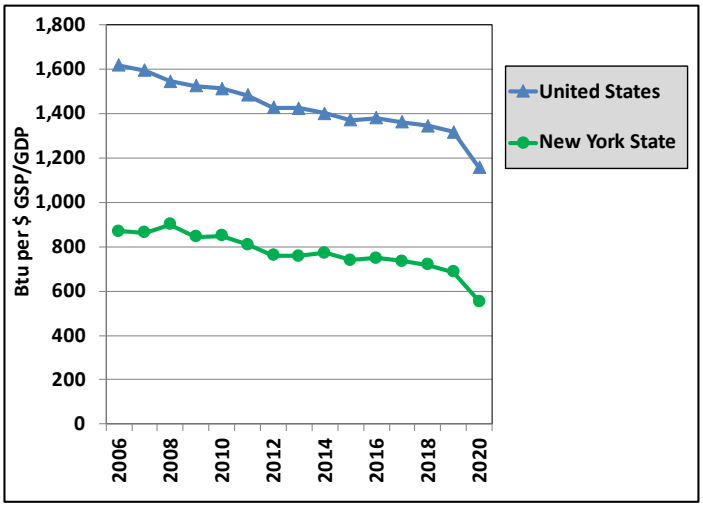


Table 2-17b. Transportation Consumption per Dollar of Gross State/Domestic Product

Year	NYS	U.S.
	Btu	Btu
2006	869	1,618
2007	864	1,596
2008	900	1,547
2009	845	1,526
2010	849	1,514
2011	809	1,484
2012	760	1,427
2013	757	1,424
2014	771	1,402
2015	739	1,371
2016	748	1,380
2017	736	1,362
2018	719	1,345
2019	687	1,317
2020	552	1,156

Figure 2-17b. Transportation Consumption per Dollar of Gross State/Domestic Product



3 New York State Energy Consumption

This section presents data on primary and net energy consumption in New York State by sector and fuel type from 2006 through 2020. Total primary energy consumption by sector, including residential, commercial, industrial, transportation, and electric generation is presented for the 15-year period with both physical and energy units.

The section also presents statistics on the State's other fuels, including wood, municipal waste, solar, and geothermal energy. Electricity generation reported does not include generator station use. Electricity—from hydro as well as wood, waste, landfill gas, wind, solar, and net electricity imports— has been converted to primary energy by applying a statewide average annual heat rate (Btu per kilowatt-hour [kWh] generated) for fossil-fueled power plants. The current year heat rate can be found in Appendix I. Conversion Factors.

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

3.1 Key Observations about 2020 New York State Energy Consumption Data

- The impact of the first year of the COVID-19 pandemic on energy consumption in New York State is highlighted throughout the energy consumption data. Most notable is the overall energy consumption decline in the transportation sector. However, these changes reflect the disruption caused by the pandemic and should not be considered to reflect structural changes in New York energy consumption patterns.
- Total primary energy consumption was 3,364 TBtu, a 12.6% decrease from 2019.
- Primary consumption of natural gas (1,305 TBtu) exceeded petroleum (1,062 TBtu) as the largest energy source for NYS energy consumption, representing 38.8% of total primary energy consumption.
- Cumulative heating degree-days were 8.9% lower in 2020 compared to 2019. Cumulative cooling degree-days were 26.7% higher in 2020 compared to 2019.
- In 2020, primary consumption of energy from solar increased 21.9%, while decreases were observed for electricity imports (-16.4%), natural gas (-2.5%), bioenergy (-17.5%), petroleum (-30.9%), nuclear (-16.7%), coal (-140.2%), wind (-0.1%), and hydro (-2.5%).
- Total consumption of petroleum products was 1,062.7 TBtu, or 209 million barrels, representing 31.6% of total primary energy consumption.
- In 2020, statewide distillate oil use decreased by 15.5% from 2019 levels. Statewide motor gasoline use decreased 17.1% and residual fuel use increased by 5.7% from 2019 to 2020. Total statewide petroleum fuels use decreased by 23.6% from 2019 to 2020.
- Sales of natural gas totaled 1,264 billion cubic feet in 2020, which was 2.5% below the 1,296 billion cubic feet sold in 2019.
- Sales of natural gas by sector were 34.6% for the residential sector, 22.9% for the commercial sector, 6.9% for the industrial sector, 2.2% for the transportation sector, and 33.5% for the electric generation sector.

- Natural gas and nuclear power accounted for 36.0% and 25.6% of the State's electricity requirements in 2020, respectively.
- Renewable resources (wind, solar, and conventional hydrogeneration) represented 24.0% of the State's electricity requirements in 2020.
- Energy used for electricity generation accounted for 38.6% of primary energy use.
- Sales of electricity to ultimate customers decreased by 3.6% between 2019 and 2020.
- Total residential net energy consumption was 776 TBtu, which was 8.0% lower than 2020 levels. The residential sector accounted for 30.5% of total net energy consumption.
- Total net energy consumption in the commercial sector was 602 TBtu, or 23.7% of total net energy consumption. The sector's total energy use decreased 9.5% below the 2019 level.
- Industrial net energy consumption was 246 TBtu, or 9.7% of total net consumption. The sector's total energy use decreased 6.6% from the 2019 level.
- Transportation energy consumption was 920 TBtu, a decrease of 24.3% from 2019. The sector accounted for 36.2% of total net energy consumption in 2019.

New York State Primary Consumption of Energy by Fuel Type 2006–2020

Figure 3-1

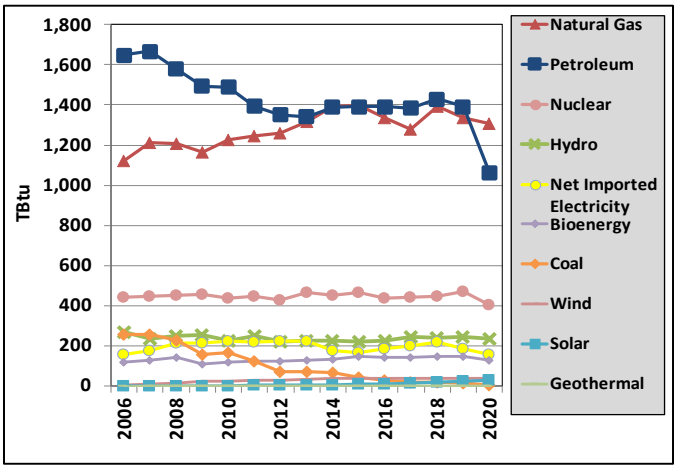


Table 3-1a. (In Physical Units)

Year	Coal	Natural Gas	Petroleum Products[1]	Hydro	Nuclear	Net Imported Electricity	Solar	Wind
	Mtons	Bcf	Mbbl	GWh	GWh	GWh	GWh	GWh
2006	10,979	1,097	303,139	28,422	42,224	16,743	14	655
2007	11,058	1,187	308,431	25,557	42,453	18,904	16	833
2008	10,157	1,180	296,030	27,501	43,209	23,344	25	1,251
2009	7,032	1,143	282,400	27,945	43,485	23,361	35	2,266
2010	7,367	1,198	283,626	25,103	41,870	24,912	59	2,596
2011	5,604	1,217	266,556	28,355	42,695	24,883	98	2,828
2012	3,137	1,223	258,895	25,303	40,775	25,516	211	2,992
2013	3,041	1,273	257,797	26,397	44,756	25,902	257	3,539
2014	2,867	1,349	267,183	26,823	43,041	20,789	401	3,986
2015	1,761	1,353	267,957	26,704	44,620	19,809	643	3,984
2016	1,175	1,296	269,078	27,150	41,638	22,358	931	3,943
2017	738	1,237	268,512	30,350	42,175	24,319	1,233	4,219
2018	635	1,351	276,886	29,856	43,003	26,766	1,550	3,985
2019	536	1,296	270,369	30,724	44,788	23,134	1,920	4,454
2020	222	1,264	208,594	30,156	38,437	19,990	2,356	4,163

Table 3-1b. (In Trillion Btu)

Year	Coal	Natural Gas	Petroleum Products[1]	Hydro	Nuclear	Net Imported Electricity	Solar	Wind	Geothermal	Bioenergy[2]	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	Tbtu	Tbtu	Tbtu	Tbtu	Tbtu
2006	256.3	1,120.2	1,648.3	265.9	440.6	156.7	1.0	6.5	0.7	117.6	4,013.8
2007	258.5	1,214.4	1,667.2	236.9	445.3	175.2	1.2	8.2	0.7	128.6	4,136.1
2008	229.0	1,205.1	1,579.5	251.2	451.6	213.3	1.3	12.3	0.8	143.9	4,088.1
2009	156.0	1,166.6	1,492.8	252.9	454.8	211.4	1.5	22.1	1.0	107.6	3,866.7
2010	167.1	1,224.5	1,488.9	225.4	437.6	223.7	1.7	25.3	1.1	118.5	3,913.8
2011	125.2	1,247.8	1,394.2	250.7	446.8	220.0	2.1	27.5	1.3	124.9	3,840.4
2012	72.9	1,261.0	1,350.5	220.1	427.3	222.0	3.2	28.4	1.2	124.3	3,710.9
2013	68.7	1,315.3	1,342.4	224.7	467.7	220.5	3.9	33.7	1.2	128.3	3,806.4
2014	64.7	1,392.4	1,389.3	224.3	450.1	173.8	5.3	37.7	1.2	132.0	3,870.7
2015	41.2	1,396.7	1,392.7	221.2	466.5	164.1	7.7	37.0	1.2	147.6	3,876.0
2016	29.7	1,336.5	1,392.6	223.5	434.8	184.1	10.7	36.4	1.2	141.7	3,791.1
2017	19.6	1,276.9	1,385.7	246.5	441.0	197.5	13.9	38.1	1.2	143.0	3,763.4
2018	16.7	1,393.7	1,429.4	240.8	448.7	215.9	17.7	36.3	1.2	148.5	3,948.9
2019	13.6	1,337.8	1,390.9	242.6	468.5	182.7	22.5	39.6	1.2	146.9	3,846.4
2020	5.7	1,305.3	1,062.7	236.8	401.3	156.9	28.8	39.6	1.2	132.2	3,370.6

[1] Includes petroleum coke used for electric generation.

[2] Includes primarily wood, waste, landfill gas, and ethanol; ethanol values are embedded in motor gasoline, but are excluded from the petroleum products' total.

New York State Primary Consumption of Refined Petroleum Products, 2006–2020

Figure 3-2

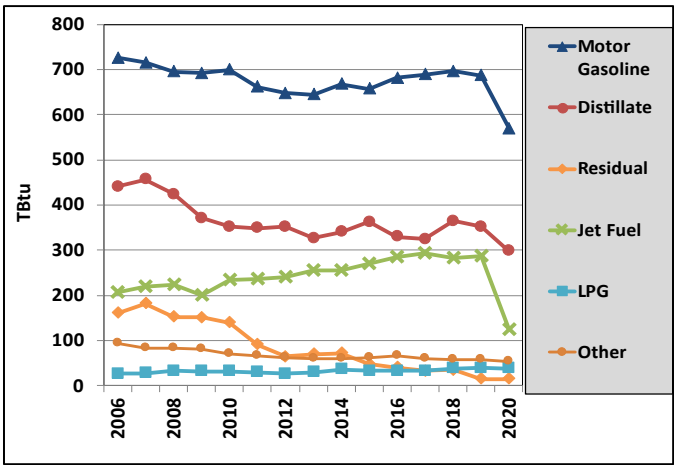


Table 3-2a. (In Thousand Barrels)

Year	Distillate	Residual	Kerosene	LPG	Motor Gasoline	Jet Fuel[1]	Other	Total[2]
	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl
2006	75,871	25,526	2,579	7,153	140,020	36,515	21,414	303,139
2007	78,850	28,975	1,777	7,346	139,140	38,588	21,237	308,431
2008	73,289	24,203	830	8,536	136,105	39,293	23,601	296,030
2009	64,154	24,060	1,218	8,344	135,921	35,364	25,198	282,400
2010	60,987	22,233	1,701	8,138	138,087	41,093	24,629	283,626
2011	60,439	14,517	1,058	7,689	130,718	41,569	23,153	266,556
2012	61,030	10,262	569	6,870	127,902	42,219	22,442	258,895
2013	56,594	11,032	506	7,657	127,461	44,878	22,183	257,797
2014	59,002	11,396	879	9,229	131,943	45,179	22,457	267,183
2015	62,971	7,582	613	8,609	129,909	47,781	22,789	267,957
2016	57,242	6,358	835	8,516	134,799	50,233	23,950	269,078
2017	56,280	5,202	491	8,460	136,414	51,542	23,323	268,512
2018	63,298	5,474	541	9,953	137,758	49,978	23,291	276,886
2019	61,140	2,269	771	10,276	135,872	50,460	22,911	270,369
2020	51,718	2,415	989	9,931	112,676	21,950	19,910	208,594

Table 3-2b. (In Trillion Btu)

Year	Distillate	Residual	Kerosene	LPG	Motor Gasoline	Jet Fuel[1]	Other	Total[2]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	440.3	160.5	14.6	26.7	726.0	207.0	94.2	1,648.3
2007	456.1	182.2	10.1	27.7	715.5	218.7	83.6	1,667.2
2008	423.6	152.2	4.7	32.4	695.0	222.7	83.5	1,579.5
2009	370.6	151.3	6.9	31.7	691.8	200.5	81.6	1,492.8
2010	352.2	139.8	9.6	31.3	699.7	232.9	70.1	1,488.9
2011	348.7	91.3	6.0	29.5	661.8	235.6	65.4	1,394.2
2012	352.0	64.5	3.2	26.4	647.4	239.3	61.4	1,350.5
2013	326.1	69.4	2.9	29.4	645.0	254.4	59.5	1,342.4
2014	340.0	71.6	5.0	35.5	667.5	256.1	59.2	1,389.3
2015	362.8	47.7	3.5	33.1	656.9	270.9	62.6	1,392.7
2016	329.5	40.0	4.7	32.7	681.4	284.8	66.1	1,392.6
2017	324.0	32.7	2.8	32.5	689.3	292.2	60.2	1,385.7
2018	364.5	34.4	3.1	38.2	696.2	283.3	58.4	1,429.4
2019	352.1	14.3	4.4	39.5	686.4	286.0	56.6	1,390.9
2020	297.7	15.2	5.6	38.1	569.2	124.4	52.9	1,062.7

[1] Kerosene-type jet fuel and aviation gasoline.

[2] Includes petroleum coke used for electric generation. Ethanol values are embedded in motor gasoline but are excluded from the petroleum product's total.

New York State Primary Consumption of Energy by Sector[1] 2006–2020

Figure 3-3a

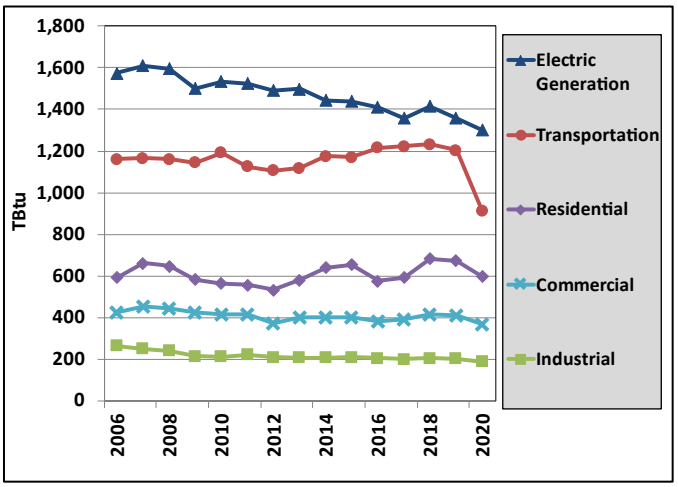


Table 3-3a. (In Trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Electric Generation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	592.0	426.4	264.7	1,161.4	1,574.1	4,018.7
2007	660.7	451.6	249.6	1,165.9	1,611.2	4,139.0
2008	648.4	442.8	241.4	1,161.0	1,596.5	4,090.2
2009	582.8	424.5	215.3	1,144.5	1,501.3	3,868.4
2010	564.3	415.1	213.0	1,193.0	1,533.7	3,919.0
2011	557.1	416.7	221.0	1,124.5	1,523.8	3,843.1
2012	533.7	370.3	209.2	1,106.1	1,491.5	3,710.9
2013	581.7	400.2	208.4	1,118.2	1,498.0	3,806.4
2014	641.2	402.0	208.4	1,175.0	1,444.1	3,870.7
2015	655.6	399.7	210.3	1,170.7	1,439.8	3,876.0
2016	575.7	382.8	206.1	1,214.7	1,411.7	3,791.1
2017	591.2	390.9	201.3	1,222.3	1,357.7	3,763.4
2018	682.7	413.7	204.1	1,232.3	1,416.2	3,948.9
2019	671.5	408.5	203.1	1,204.7	1,358.5	3,846.4
2020	604.3	366.4	188.8	910.9	1,300.2	3,370.6

[1] Customer-sited generation is included in specific end-use sectors. All other electric generation and associated losses are included in the electric generation sector.

New York State Primary Consumption of Energy by Sector[1] 2006–2020

Figure 3-3b

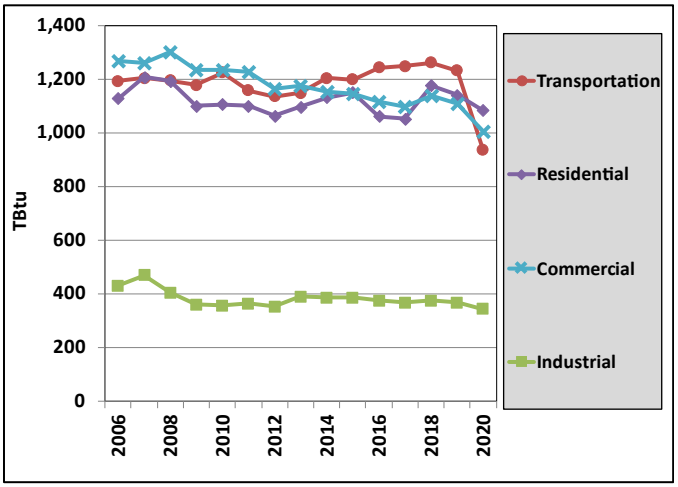


Table 3-3b. (In Trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu
2006	1,128.0	1,267.8	430.5	1,192.5	4,018.7
2007	1,207.0	1,259.8	469.4	1,202.8	4,139.0
2008	1,191.8	1,300.8	404.2	1,193.4	4,090.2
2009	1,100.0	1,232.2	359.2	1,177.0	3,868.4
2010	1,104.5	1,234.5	356.0	1,224.0	3,919.0
2011	1,099.1	1,224.9	363.0	1,156.0	3,843.1
2012	1,061.8	1,162.3	352.0	1,134.7	3,710.9
2013	1,096.0	1,173.4	389.8	1,147.2	3,806.4
2014	1,130.9	1,152.0	384.8	1,203.0	3,870.7
2015	1,148.8	1,144.2	385.1	1,198.0	3,876.0
2016	1,061.3	1,113.5	375.3	1,241.1	3,791.1
2017	1,050.8	1,096.3	368.1	1,248.2	3,763.4
2018	1,175.3	1,138.6	374.8	1,260.2	3,948.9
2019	1,139.3	1,109.2	366.8	1,231.1	3,846.4
2020	1,088.1	1,005.2	342.6	934.5	3,370.5

[1] All electric generation and associated losses are included in the end-use sectors. Electricity system losses are apportioned by the percentage of electricity sales for each end-use sector.

New York State
Energy Services and Losses of Energy by Sector[1]
2006–2020

Figure 3-3c-1. Energy Services by Sector

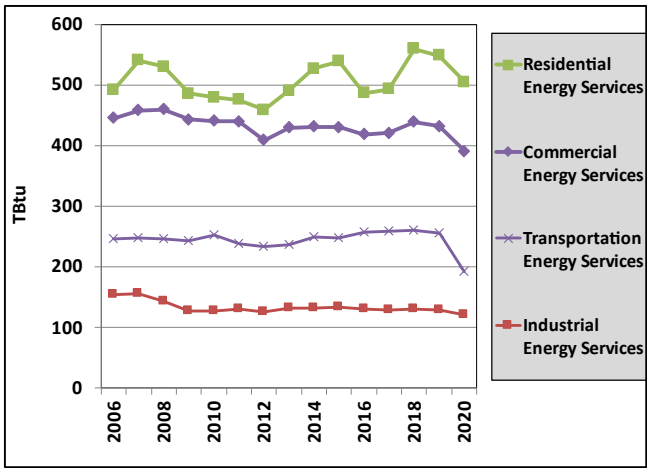


Figure 3-3c-2. Energy Losses by Sector

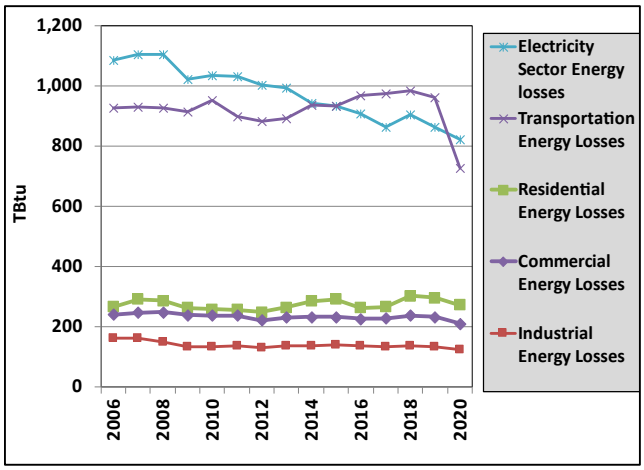


Table 3-3c. (In Trillion Btu)

Year	Residential		Commercial		Industrial		Transportation		Elec. Gen.	Total		
	Services	Losses	Services	Losses	Services	Losses	Services	Losses	Losses	Services	Losses	Energy
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	492.2	265.0	445.8	240.0	154.8	161.1	245.9	925.1	1,083.9	1,338.7	2,675.1	4,013.8
2007	540.9	291.2	458.4	246.8	156.1	162.4	247.3	930.2	1,102.8	1,402.6	2,733.5	4,136.1
2008	530.2	285.5	459.5	247.4	142.8	148.7	245.9	925.1	1,102.9	1,378.5	2,709.6	4,088.1
2009	485.8	261.6	443.0	238.5	127.9	133.2	242.5	912.3	1,021.8	1,299.3	2,567.4	3,866.7
2010	479.8	258.3	441.2	237.6	126.9	132.1	252.6	950.4	1,035.0	1,300.5	2,613.3	3,913.8
2011	475.8	256.2	440.3	237.1	130.7	136.1	238.3	896.4	1,029.6	1,285.1	2,555.3	3,840.4
2012	459.3	247.3	409.3	220.4	125.4	130.6	234.3	881.2	1,003.0	1,228.3	2,482.6	3,710.9
2013	490.7	264.2	429.5	231.2	132.0	137.4	236.9	891.1	993.3	1,289.1	2,517.3	3,806.4
2014	527.6	284.1	431.0	232.1	132.2	137.6	248.8	936.0	941.3	1,339.7	2,531.1	3,870.7
2015	539.3	290.4	430.6	231.9	133.3	138.7	247.9	932.5	931.7	1,351.0	2,525.1	3,876.0
2016	487.0	262.2	418.5	225.3	130.6	135.9	257.1	967.1	907.4	1,293.1	2,498.0	3,791.1
2017	493.2	265.5	421.1	226.8	128.4	133.6	258.7	973.1	863.0	1,301.4	2,462.1	3,763.4
2018	559.4	301.2	439.1	236.4	130.2	135.5	260.9	981.5	904.6	1,389.6	2,559.3	3,948.9
2019	547.7	294.9	432.1	232.7	128.9	134.1	255.0	959.3	861.7	1,363.6	2,482.8	3,846.4
2020	508.7	273.9	391.2	210.6	120.3	125.2	193.1	726.5	821.1	1,213.2	2,157.3	3,370.6

[1] Electricity losses are calculated as the difference between energy input for electricity generation and energy from retail electricity sales. Energy losses for the end-use sectors are based on the following estimated end-use efficiency factors from the Lawrence Livermore National Laboratory: 65% for the residential sector, 65% for the commercial sector, 49% for the industrial sector, and 21% for the transportation sector. Totals may not equal the sum of components due to rounding. Energy services are the ultimate end-use of mechanical energy to run an appliance, power a light bulb, turn the axle of a vehicle, heat or cool a building, etc. Energy loss is the energy that is not used in these mechanical processes and is burned off or rejected as waste energy. A system or process becomes more energy efficient with a higher ratio of energy services to losses.

New York State
Primary Consumption of Energy for Electric Generation
2006–2020

Figure 3-4

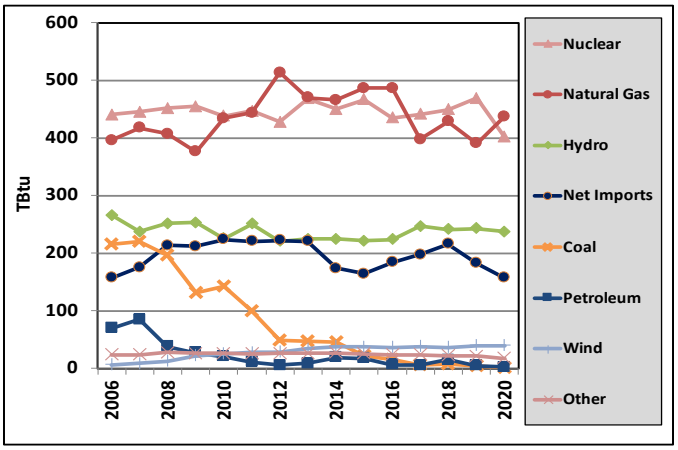


Table 3-4a. (In Physical Units)

Year	Coal	Natural Gas	Distillate[1]	Residual	Total Petroleum[2]	Conventional Hydro[3]	Pumped Storage Hydro	Nuclear	Net Imported Electricity	Wind	Solar	Other[4]
	Mtons	Bcf	Mbbl	Mbbl	Mbbl	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2006	9,417	388	622	10,614	11,236	27,110	1,312	42,224	16,743	655	0	2,488
2007	9,613	408	1,372	12,224	13,596	24,184	1,373	42,453	18,904	833	0	2,555
2008	8,885	399	809	4,935	6,106	25,711	1,790	43,209	23,344	1,251	0	2,996
2009	6,108	368	736	3,261	4,296	26,420	1,525	43,485	23,361	2,266	0	2,888
2010	6,384	425	637	1,790	3,340	24,214	889	41,870	24,912	2,596	0	2,916
2011	4,591	434	331	1,026	1,826	27,634	721	42,695	24,883	2,828	6	2,823
2012	2,228	499	392	459	851	24,572	731	40,775	25,516	2,992	53	2,945
2013	2,225	456	503	882	1,385	25,631	766	44,756	25,902	3,539	67	3,003
2014	2,154	453	833	2,228	3,061	25,974	849	43,041	20,789	3,986	71	3,194
2015	1,038	472	835	1,942	2,778	25,879	825	44,620	19,809	3,984	98	3,028
2016	654	472	344	624	968	26,314	836	41,638	22,358	3,943	137	2,881
2017	242	385	264	642	905	29,554	795	42,175	24,319	4,219	178	2,919
2018	272	415	790	1,616	2,405	29,045	811	43,003	26,766	3,985	294	2,729
2019	187	379	382	361	742	30,141	583	44,788	23,134	4,454	507	2,648
2020	64	423	180	212	392	29,521	635	38,437	19,990	4,163	822	2,233

Table 3-4b. (In Trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Residual	Total Petroleum[2]	Hydro[3]	Nuclear	Net Imports[3]	Wind	Solar	Other[3,4]	Total[5]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	215.8	395.5	3.6	61.3	69.9	12.3	440.6	156.7	6.5	0.0	23.3	1,574.1
2007	220.6	416.9	7.9	73.7	84.5	12.7	445.3	175.2	8.2	0.0	23.7	1,611.2
2008	195.6	407.3	4.7	31.0	37.8	16.4	451.6	213.3	12.3	0.0	27.4	1,596.5
2009	131.8	375.6	4.3	20.5	26.5	13.8	454.8	211.4	22.1	0.0	26.1	1,501.3
2010	141.6	433.7	3.7	11.3	20.2	8.0	437.6	223.7	25.3	0.0	26.2	1,533.7
2011	99.2	443.6	1.9	6.4	11.0	6.4	446.8	220.0	27.5	0.1	25.0	1,523.8
2012	48.7	513.6	2.3	2.9	5.1	6.4	427.3	222.0	28.4	0.5	25.6	1,491.5
2013	47.2	469.5	2.9	5.5	8.4	6.5	467.7	220.5	33.7	0.6	25.6	1,498.0
2014	45.9	466.0	4.8	14.0	18.8	7.1	450.1	173.8	37.7	0.7	26.7	1,444.1
2015	22.0	486.0	4.8	12.2	17.0	6.8	466.5	164.1	37.0	0.9	25.1	1,439.8
2016	15.6	486.5	2.0	3.9	5.9	6.9	434.8	184.1	36.4	1.3	23.7	1,411.7
2017	6.3	397.4	1.5	4.0	5.6	6.5	441.0	197.5	38.1	1.6	23.7	1,357.7
2018	7.0	428.1	4.5	10.2	14.7	6.5	448.7	215.9	36.3	2.7	22.0	1,416.2
2019	4.8	390.4	2.2	2.3	4.5	4.6	468.5	182.7	39.6	4.5	20.9	1,358.5
2020	1.6	436.8	1.0	1.3	2.4	5.0	401.3	156.9	39.6	7.2	17.5	1,300.2

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

New York State Electric Generation by Fuel Type 2006–2020

Figure 3-5.

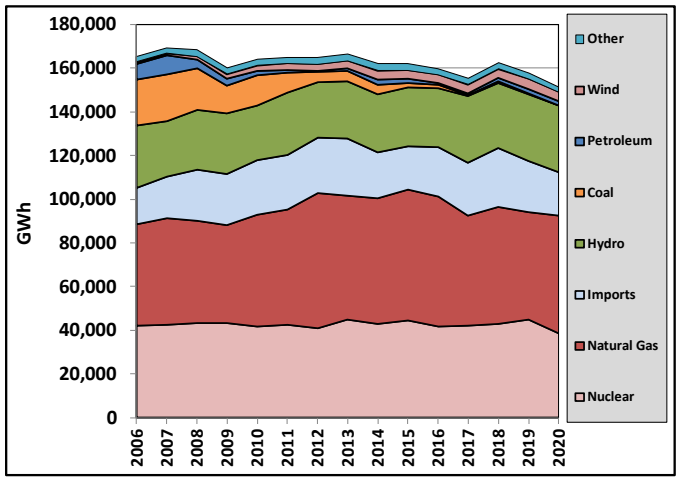


Table 3-5. (In Gigawatt-Hours)

Year	Coal	Natural Gas	Petroleum Products	Conv. Hydro	PS Hydro	Nuclear	Other[1,2]			Wind	Solar[3]	In-State Generation	Net Imports	Total Generation	Electricity Requirements
							Waste	LFG	Wood						
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2006	20,968	46,253	7,441	27,110	1,312	42,224	1,902	326	260	655	0	148,451	16,743	165,194	162,238
2007	21,406	48,893	8,780	24,184	1,373	42,453	1,902	397	256	833	0	150,477	18,904	169,381	167,341
2008	19,154	46,845	4,001	25,711	1,790	43,209	1,903	533	560	1,251	0	144,957	23,344	168,300	165,612
2009	12,759	44,625	2,829	26,420	1,525	43,485	1,900	648	340	2,266	0	136,797	23,361	160,158	158,780
2010	13,583	51,077	2,094	24,214	889	41,870	1,893	708	315	2,596	0	139,238	24,912	164,150	163,505
2011	9,426	52,713	1,234	27,634	721	42,695	1,878	735	210	2,828	7	140,081	24,883	164,964	163,329
2012	4,551	62,073	606	24,572	731	40,775	1,897	736	311	2,992	53	139,296	25,516	164,813	162,840
2013	4,697	57,039	1,057	25,631	766	44,756	1,799	828	377	3,539	52	140,540	25,902	166,441	163,514
2014	4,325	57,507	2,259	25,974	849	43,041	1,866	789	539	3,986	51	141,187	20,789	161,976	160,059
2015	2,046	59,919	1,992	25,879	825	44,620	1,862	745	422	3,984	52	142,346	19,809	162,155	161,572
2016	1,493	59,698	676	26,314	836	41,638	1,841	748	293	3,943	54	137,532	22,358	159,889	160,798
2017	567	50,270	636	29,554	795	42,175	1,900	730	288	4,219	47	131,183	24,319	155,502	156,370
2018	692	53,593	1,678	29,045	811	43,003	1,878	648	203	3,985	49	135,585	26,766	162,351	161,114
2019	426	49,451	1,994	30,141	583	44,788	1,832	661	155	4,454	52	134,537	23,134	157,671	155,848
2020	146	54,094	2,189	29,521	635	38,437	1,620	613	0	4,163	48	131,466	19,990	151,456	150,310

1 Includes primarily waste, landfill gas, and wood.

2 Data for disaggregation prior to 2001 are not available.

3 Solar powered electric generation is utility-scale solar electric and does not include customer-sited solar electric energy. Estimated customer-sited solar photovoltaic generation for 2020 was 2,308 GWh (73.7% of total solar) with 1,136 GWh (36.3%) in the residential sector, 1,148 GWh (36.7%) in the commercial sector, and 24 GWh (0.8%) in the industrial sector.

New York State
Fossil Fuel[1] for Electric Generation Trends
2006–2020

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

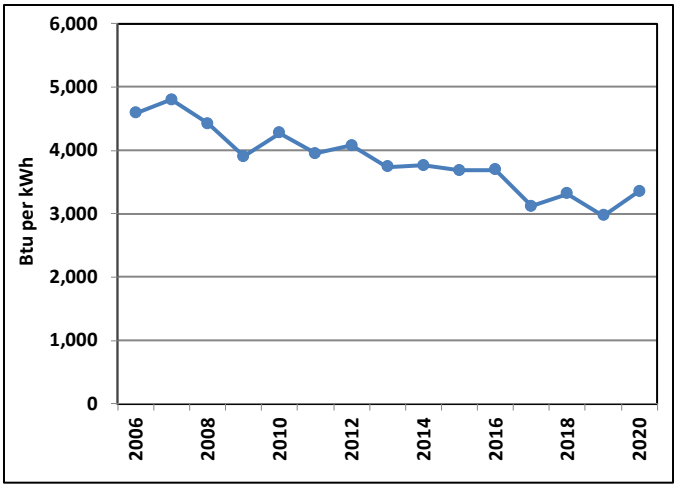


Table 3-6. Fossil Fuel Use for Electricity Trends

Year	Total Fossil Fuel Use	Fossil Fuel per kWh of in-State Generation
	TBtu	Btu
2006	681	4,588
2007	722	4,798
2008	641	4,420
2009	534	3,903
2010	595	4,276
2011	554	3,953
2012	568	4,074
2013	525	3,736
2014	531	3,759
2015	525	3,688
2016	508	3,694
2017	409	3,119
2018	450	3,317
2019	400	2,970
2020	441	3,353

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

New York State
Sales of Electricity
to Ultimate Consumers
2006–2020

Figure 3-7.

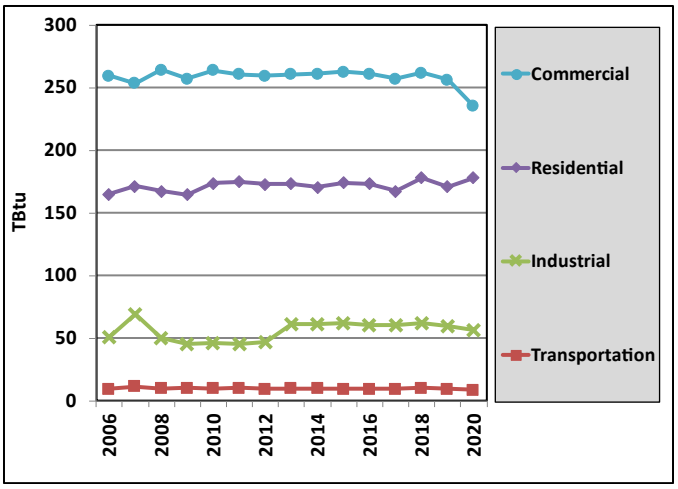


Table 3-7a. (In Gigawatt-Hours)

Year	Residential	Commercial	Industrial	Transportation	Total
	GWh	GWh	GWh	GWh	GWh
2006	48,427	76,029	14,976	2,806	142,238
2007	50,241	74,326	20,213	3,397	148,178
2008	49,034	77,416	14,685	2,918	144,053
2009	48,246	75,347	13,417	3,025	140,034
2010	50,946	77,276	13,480	2,922	144,624
2011	51,240	76,406	13,420	2,981	144,047
2012	50,692	76,018	13,705	2,748	143,163
2013	50,777	76,342	17,911	2,864	147,895
2014	49,975	76,541	18,003	2,853	147,372
2015	51,013	77,006	18,079	2,816	148,914
2016	50,831	76,507	17,709	2,756	147,803
2017	49,081	75,333	17,811	2,767	144,992
2018	52,153	76,745	18,077	2,954	149,930
2019	50,141	75,091	17,548	2,820	145,600
2020	52,257	68,989	16,610	2,550	140,407

Table 3-7b. (In Trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Total
	TBtu	TBtu	TBtu	TBtu	TBtu
2006	165.2	259.4	51.1	9.6	485.3
2007	171.4	253.6	69.0	11.6	505.6
2008	167.3	264.1	50.1	10.0	491.5
2009	164.6	257.1	45.8	10.3	477.8
2010	173.8	263.7	46.0	10.0	493.5
2011	174.8	260.7	45.8	10.2	491.5
2012	173.0	259.4	46.8	9.4	488.5
2013	173.3	260.5	61.1	9.8	504.6
2014	170.5	261.2	61.4	9.7	502.8
2015	174.1	262.7	61.7	9.6	508.1
2016	173.4	261.0	60.4	9.4	504.3
2017	167.5	257.0	60.8	9.4	494.7
2018	177.9	261.9	61.7	10.1	511.6
2019	171.1	256.2	59.9	9.6	496.8
2020	178.3	235.4	56.7	8.7	479.1

New York State
Net Consumption
of Energy by Sector
2006–2020

Figure 3-8.

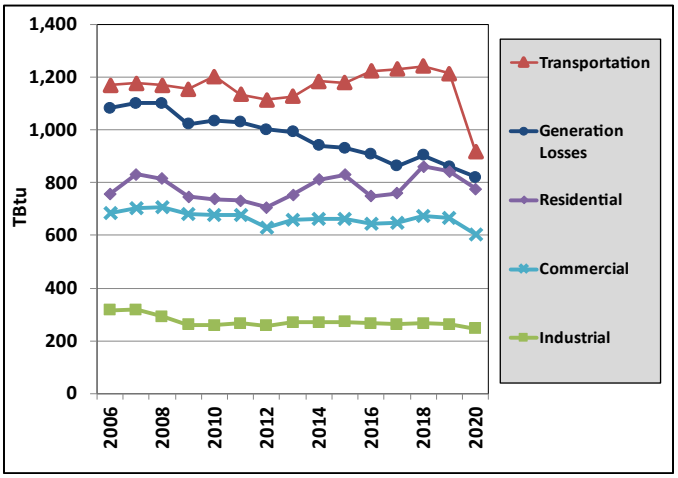


Table 3-8. (In Trillion Btu)

Year	Residential	Commercial	Industrial	Transportation	Net Consumption	Generation Losses[1]	Primary Consumption
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	757.3	685.8	315.8	1,171.0	2,929.9	1,083.9	4,013.8
2007	832.1	705.2	318.5	1,177.5	3,033.3	1,102.8	4,136.1
2008	815.7	707.0	291.5	1,171.0	2,985.2	1,102.9	4,088.1
2009	747.4	681.5	261.1	1,154.8	2,844.9	1,021.8	3,866.7
2010	738.1	678.7	259.0	1,203.0	2,878.8	1,035.0	3,913.8
2011	731.9	677.4	266.8	1,134.7	2,810.8	1,029.6	3,840.4
2012	706.7	629.7	256.0	1,115.5	2,707.9	1,003.0	3,710.9
2013	755.0	660.7	269.5	1,127.9	2,813.1	993.3	3,806.4
2014	811.7	663.2	269.8	1,184.8	2,929.4	941.3	3,870.7
2015	829.6	662.4	272.0	1,180.3	2,944.4	931.7	3,876.0
2016	749.3	643.8	266.5	1,224.1	2,883.8	907.4	3,791.3
2017	759.0	647.9	262.0	1,231.8	2,900.7	863.0	3,763.7
2018	861.1	675.5	265.7	1,242.4	3,044.8	904.6	3,949.4
2019	843.8	664.7	263.0	1,214.4	2,985.9	861.7	3,847.6
2020	776.4	601.8	245.5	919.6	2,543.3	821.1	3,364.5

[1]Conversion and transmission losses.

New York State
Net Residential Consumption of Energy by Fuel Type
2006–2020

Figure 3-9.

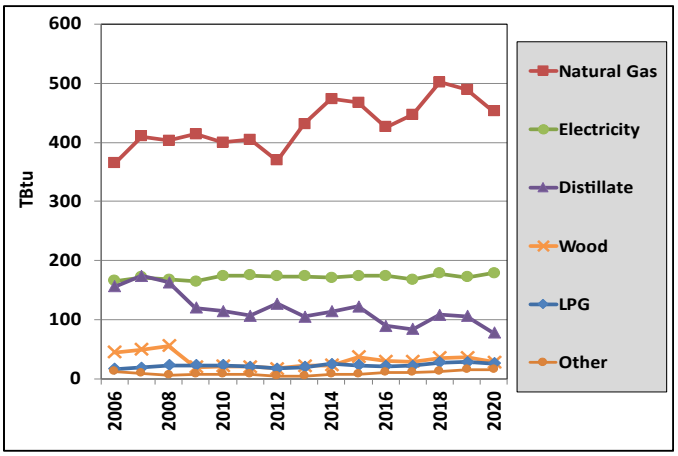


Table 3-9a. (In Physical Units)

Year	Coal	Natural Gas	Distillate	Kerosene	LPG	Total Petroleum	Wood	Utility-Scale Electricity	Customer-Sited Solar PV
	Mtons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh	GWh
2006	13	356	26,797	1,803	4,155	32,755	2,233	48,427	7
2007	13	400	30,101	1,318	4,771	36,190	2,468	50,241	9
2008	0	394	28,139	661	5,885	34,685	2,762	49,034	16
2009	0	405	20,755	973	5,940	27,668	967	48,246	21
2010	0	390	19,781	999	5,781	26,561	1,037	50,946	32
2011	0	394	18,454	726	5,146	24,326	1,006	51,240	42
2012	0	358	21,943	365	4,381	26,689	841	50,692	56
2013	0	416	18,199	394	5,051	23,644	1,097	50,777	77
2014	0	458	19,682	672	6,463	26,817	1,110	49,975	162
2015	0	452	21,140	458	5,849	27,447	1,849	51,013	319
2016	0	412	15,511	602	5,529	21,642	1,471	50,831	547
2017	0	433	14,519	402	5,698	20,619	1,416	49,081	733
2018	0	486	18,696	376	7,098	26,170	1,716	52,153	868
2019	0	474	18,350	576	7,361	26,287	1,776	50,141	1,039
2020	0	437	13,495	551	6,652	20,698	1,410	52,257	1,136

Table 3-9b. (In Trillion Btu)

Year	Coal	Natural Gas	Distillate	Kerosene	LPG	Total Petroleum	Wood	Electricity	Solar[1]	Geothermal	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	0.3	364.3	155.5	10.2	16.0	181.7	44.7	165.2	1.0	0.1	757.3
2007	0.3	409.9	174.1	7.5	18.3	199.9	49.4	171.4	1.1	0.2	832.1
2008	0.0	402.7	162.6	3.7	22.6	189.0	55.2	167.3	1.3	0.2	815.7
2009	0.0	413.6	119.9	5.5	22.8	148.2	19.3	164.6	1.3	0.2	747.4
2010	0.0	399.7	114.2	5.7	22.2	142.1	20.7	173.8	1.5	0.3	738.1
2011	0.0	404.3	106.5	4.1	19.8	130.4	20.1	174.8	1.6	0.7	731.9
2012	0.0	369.2	126.5	2.1	16.8	145.4	16.8	173.0	1.8	0.4	706.7
2013	0.0	430.8	104.9	2.2	19.4	126.5	21.9	173.3	2.0	0.4	755.0
2014	0.0	473.6	113.4	3.8	24.8	142.1	22.2	170.5	2.8	0.4	811.7
2015	0.0	467.0	121.8	2.6	22.5	146.9	37.0	174.1	4.3	0.4	829.6
2016	0.0	425.6	89.3	3.4	21.2	113.9	29.6	173.4	6.4	0.4	749.3
2017	0.0	446.6	83.6	2.3	21.9	107.7	28.6	167.5	8.1	0.4	759.0
2018	0.0	501.6	107.7	2.1	27.3	137.1	34.8	177.9	9.3	0.4	861.1
2019	0.0	488.9	105.7	3.3	28.3	137.2	35.5	171.1	10.6	0.4	843.8
2020	0.0	451.8	77.7	3.1	25.6	106.4	28.2	178.3	11.3	0.4	776.4

[1] Includes customer-sited solar electric and thermal energy.

New York State
Net Commercial Consumption of Energy by Fuel Type 2006–2020

Figure 3-10.

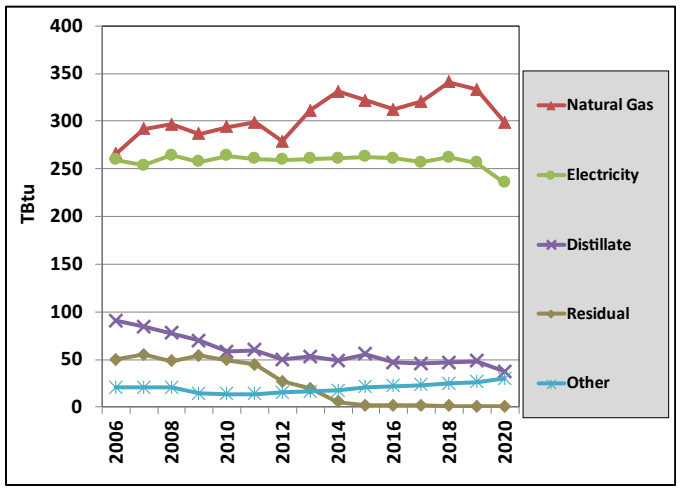


Table 3-10a. (In Physical Units)

Year	Coal	Natural Gas	Distillate	Residual	Kerosene	LPG	Total Petroleum	Wood	Utility-Scale Electricity	Customer-Sited Solar PV
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh	GWh
2006	127	260	15,602	7,941	354	1,145	25,042	375	76,029	7
2007	119	285	14,606	8,723	244	1,276	24,849	398	74,326	7
2008	68	290	13,447	7,685	128	1,641	22,901	420	77,416	9
2009	22	281	12,062	8,571	169	1,724	22,526	137	75,347	14
2010	3	287	10,050	7,835	154	1,718	19,757	135	77,276	26
2011	4	291	10,310	7,089	168	1,797	19,364	130	76,406	48
2012	0	270	8,602	4,237	60	1,558	14,457	114	76,018	99
2013	0	301	9,223	3,139	28	1,693	14,083	132	76,342	125
2014	0	320	8,434	846	54	1,776	11,110	137	76,541	183
2015	0	311	9,634	312	28	1,892	11,866	271	77,006	262
2016	0	303	8,095	312	57	2,061	10,525	262	76,507	317
2017	0	310	7,935	285	31	2,023	10,274	262	75,333	439
2018	0	330	8,111	156	41	2,118	10,426	261	76,745	616
2019	0	323	8,364	117	74	2,200	10,755	256	75,091	806
2020	0	289	6,437	90	54	2,472	9,053	252	68,989	1,148

Table 3-10b. (In Trillion Btu)

Year	Coal	Natural Gas	Distillate	Residual	Kerosene	LPG	Total Petroleum	Wood	Waste	Electricity	Solar[1]	Geothermal	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	3.2	265.7	90.5	49.9	2.0	4.4	146.9	7.5	2.6	259.4	0.1	0.5	685.8
2007	3.0	291.9	84.5	54.8	1.4	4.9	145.6	8.0	2.5	253.6	0.1	0.6	705.2
2008	1.7	296.4	77.7	48.3	0.7	6.3	133.1	8.4	2.5	264.1	0.1	0.6	707.0
2009	0.6	286.8	69.7	53.9	1.0	6.6	131.2	2.7	2.3	257.1	0.1	0.7	681.5
2010	0.1	294.1	58.0	49.3	0.9	6.6	114.8	2.7	2.3	263.7	0.3	0.8	678.7
2011	0.1	298.9	59.5	44.6	1.0	6.9	111.9	2.6	2.1	260.7	0.5	0.6	677.4
2012	0.0	278.9	49.6	26.6	0.3	6.0	82.6	2.3	4.9	259.4	0.9	0.8	629.7
2013	0.0	311.2	53.2	19.7	0.2	6.5	79.6	2.6	4.9	260.5	1.2	0.8	660.7
2014	0.0	330.9	48.6	5.3	0.3	6.8	61.1	2.7	4.8	261.2	1.7	0.8	663.2
2015	0.0	321.4	55.5	2.0	0.2	7.3	64.9	5.4	4.8	262.7	2.4	0.8	662.4
2016	0.0	312.2	46.6	2.0	0.3	7.9	56.8	5.2	4.9	261.0	2.9	0.8	643.8
2017	0.0	320.4	45.7	1.8	0.2	7.8	55.4	5.2	5.0	257.0	4.0	0.8	647.9
2018	0.0	341.0	46.7	1.0	0.2	8.1	56.1	5.2	5.0	261.9	5.6	0.8	675.5
2019	0.0	333.2	48.2	0.7	0.4	8.4	57.8	5.1	4.5	256.2	7.2	0.8	664.7
2020	0.0	298.6	37.1	0.6	0.3	9.5	47.5	5.0	4.5	235.4	10.1	0.8	601.8

[1] Includes customer-sited solar electric and thermal energy.

New York State
Net Industrial Consumption of Energy by Fuel Type
2006–2020

Figure 3-11.

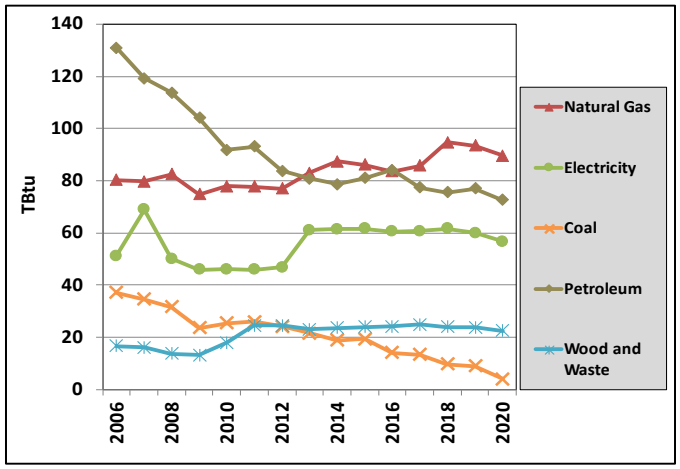


Table 3-11a. (In Physical Units)

Year	Coal	Natural Gas	Distillate	Residual	Kerosene	LPG	Other Petroleum	Total Petroleum	Wood	Utility-Scale Electricity	Customer-Sited Electricity
	MTons	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mcords	GWh	GWh
2006	1,422	78	3,463	1,301	422	1,754	21,414	28,354	771	14,976	0
2007	1,313	78	3,625	1,461	215	1,243	21,237	27,781	735	20,213	0
2008	1,205	81	3,409	1,247	41	753	23,601	29,051	614	14,685	0
2009	902	73	2,931	485	76	583	25,198	29,273	579	13,417	0
2010	979	76	2,274	514	548	611	24,629	28,576	818	13,480	1
2011	1,008	76	2,809	1,244	164	719	23,153	28,089	925	13,420	1
2012	909	75	2,502	578	144	904	22,442	26,570	953	13,705	3
2013	816	80	2,274	711	84	881	22,183	26,133	939	17,911	3
2014	714	85	2,001	552	153	958	22,457	26,121	930	18,003	5
2015	723	83	2,031	431	127	829	22,789	26,207	926	18,079	10
2016	521	81	1,872	457	176	882	23,950	27,337	936	17,709	13
2017	496	83	1,904	539	58	642	23,323	26,466	925	17,811	14
2018	364	92	1,953	406	124	686	23,291	26,460	917	18,077	17
2019	349	91	2,544	360	121	668	22,911	26,604	932	17,548	23
2020	158	87	2,330	194	384	782	19,910	23,600	898	16,610	24

Table 3-11b. (In Trillion Btu)

Year	Coal	Natural Gas	Distillate	Residual	Kerosene	LPG	Other Petroleum	Total Petroleum	Wood	Waste	Electricity	Solar[1]	Total[2]
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	37.1	80.2	20.1	8.2	2.4	6.0	94.2	130.9	15.4	1.2	51.1	0.0	315.8
2007	34.6	79.8	21.0	9.2	1.2	4.2	83.6	119.2	14.7	1.3	69.0	0.0	318.5
2008	31.6	82.4	19.7	7.8	0.2	2.5	83.5	113.8	12.3	1.3	50.1	0.0	291.5
2009	23.6	74.8	16.9	3.0	0.4	1.9	81.6	104.0	11.6	1.5	45.8	0.0	261.1
2010	25.4	77.8	13.1	3.2	3.1	2.3	70.1	91.9	16.4	1.5	46.0	0.0	259.0
2011	25.9	77.7	16.2	7.8	0.9	2.7	65.4	93.1	18.5	5.9	45.8	0.0	266.8
2012	24.2	77.0	14.4	3.6	0.8	3.4	61.4	83.7	19.1	5.3	46.8	0.0	256.0
2013	21.6	82.9	13.1	4.5	0.5	3.3	59.5	80.9	18.8	4.2	61.1	0.0	269.5
2014	18.7	87.4	11.5	3.5	0.9	3.7	59.2	78.7	18.6	5.0	61.4	0.0	269.8
2015	19.3	86.1	11.7	2.7	0.7	3.2	62.6	80.9	18.5	5.4	61.7	0.1	272.0
2016	14.0	83.6	10.8	2.9	1.0	3.4	66.1	84.2	18.7	5.4	60.4	0.1	266.5
2017	13.3	85.7	11.0	3.4	0.3	2.5	60.2	77.4	18.5	6.2	60.8	0.1	262.0
2018	9.7	94.6	11.2	2.6	0.7	2.7	58.4	75.6	18.3	5.6	61.7	0.2	265.7
2019	8.9	93.4	14.7	2.3	0.7	2.6	56.6	76.9	18.6	5.1	59.9	0.2	263.0
2020	4.0	89.5	13.4	1.2	2.2	3.0	52.9	72.6	18.0	4.5	56.7	0.2	245.5

[1] Includes customer-sited solar electric and thermal energy.

[2] Includes fuels used by industry to generate electricity and process steam.

New York State
Net Transportation Consumption of Energy by Fuel Type
2006–2020

Figure 3-12.

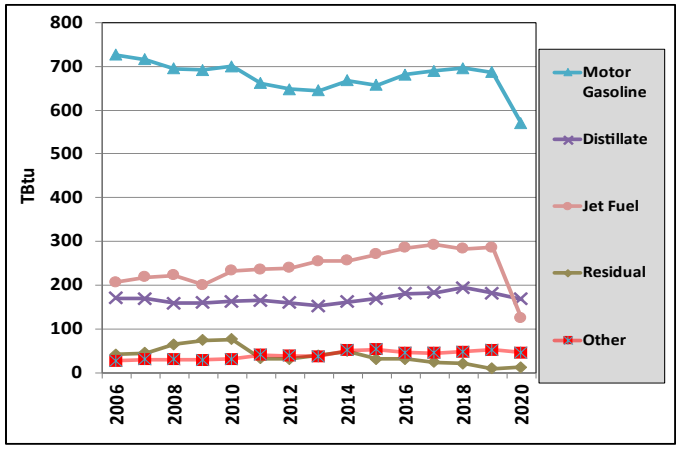


Table 3-12a. (In Physical Units)

Year	Natural Gas	Distillate	Residual	Motor Gasoline	Jet Fuel[1]	LPG	Total Petroleum	Ethanol[2]	Biodiesel[3]	Electricity
	Bcf	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	GWh
2006	14	29,388	6,530	140,020	36,515	99	206,613	5,939	356	2,806
2007	16	29,146	7,063	139,140	38,588	56	206,511	7,482	482	3,397
2008	16	27,485	10,336	136,105	39,293	257	203,649	9,827	414	2,918
2009	15	27,670	11,743	135,921	35,364	97	198,936	11,859	439	3,025
2010	19	28,245	12,094	138,087	41,093	28	206,305	13,242	355	2,922
2011	23	28,534	5,158	130,718	41,569	27	193,419	12,587	1,209	2,981
2012	21	27,591	4,988	127,902	42,219	27	190,328	12,399	1,221	2,748
2013	20	26,395	6,300	127,461	44,878	32	192,552	12,514	1,132	2,864
2014	33	28,052	7,770	131,943	45,179	32	200,074	12,902	1,180	2,853
2015	35	29,331	4,897	129,909	47,781	39	199,660	12,297	1,259	2,816
2016	28	31,420	4,965	134,799	50,233	44	208,606	12,855	1,438	2,756
2017	26	31,659	3,736	136,414	51,542	97	210,248	13,200	1,495	2,767
2018	27	33,748	3,296	137,758	49,978	51	211,424	13,407	1,709	2,954
2019	31	31,501	1,431	135,872	50,460	47	205,981	13,330	1,845	2,820
2020	28	29,277	1,919	112,676	21,950	25	154,852	10,995	1,506	2,550

Table 3-12b. (In Trillion Btu)

Year	Natural Gas	Distillate	Residual	Motor Gasoline	Jet Fuel[1]	LPG	Total Petroleum	Ethanol[2]	Biodiesel[3]	Electricity	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
2006	14.5	170.5	41.1	726.0	207.0	0.4	1,124.0	21.0	1.9	9.6	1,171.0
2007	16.0	168.6	44.4	715.5	218.7	0.2	1,120.9	26.4	2.6	11.6	1,177.5
2008	16.3	158.9	65.0	695.0	222.7	1.0	1,107.9	34.6	2.2	10.0	1,171.0
2009	15.8	159.8	73.8	691.8	200.5	0.4	1,084.7	41.6	2.4	10.3	1,154.8
2010	19.2	163.1	76.0	699.7	232.9	0.2	1,125.2	46.8	1.9	10.0	1,203.0
2011	23.3	164.6	32.4	661.8	235.6	0.2	1,050.5	44.2	6.5	10.2	1,134.7
2012	22.2	159.1	31.4	647.4	239.3	0.2	1,033.6	43.8	6.5	9.4	1,115.5
2013	20.8	152.1	39.6	645.0	254.4	0.2	1,047.0	44.3	6.1	9.8	1,127.9
2014	34.5	161.7	48.8	667.5	256.1	0.2	1,088.7	45.6	6.3	9.7	1,184.8
2015	36.2	169.0	30.8	656.9	270.9	0.1	1,083.0	44.7	6.7	9.6	1,180.3
2016	28.6	180.9	31.2	681.4	284.8	0.1	1,131.8	46.6	7.7	9.4	1,224.1
2017	26.8	182.3	23.5	689.3	292.2	0.3	1,139.6	47.9	8.0	9.4	1,231.8
2018	28.4	194.4	20.7	696.2	283.3	0.2	1,146.0	48.8	9.2	10.1	1,242.4
2019	31.8	181.4	9.0	686.4	286.0	0.2	1,114.5	48.5	9.9	9.6	1,214.4
2020	28.5	168.5	12.1	569.2	124.4	0.1	834.0	40.4	8.1	8.7	919.6

[1] Consists of aviation gasoline and kerosene-type jet fuel.

[2] Ethanol values are embedded in motor gasoline but are excluded from the petroleum products' total.

[3] Biodiesel includes biodiesel used in all four end-use sectors including residential, commercial, industrial, and transportation. No sectoral breakout is provided for biodiesel estimates.

4 New York State Energy Prices

This section presents data on retail energy prices for the 15-year period from 2006 through 2020. Energy prices are provided by fuel type in nominal dollars per physical unit and per British thermal units for the residential, commercial, industrial, and transportation sectors.

The section includes a column in the price tables displaying consumer price index – urban customers (CPI-U) price deflators for converting nominal (current year) dollars into constant 2020 (real) dollars. To convert energy prices from nominal to constant 2020 dollars, divide the nominal energy price by the CPI-U price deflator for that particular year.

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

4.1 Key Observations about 2020 New York State Energy Price Data

- Residential sector statewide average nominal fuel prices:
  - Home heating oil prices decreased 18.2% from an average $2.64 per gallon in 2019 to $2.16 per gallon in 2020.
  - Natural gas prices increased by 1.2% from an average $12.71 per thousand cubic feet in 2019 to $12.86 per thousand cubic feet in 2020.
  - Electricity prices increased by 2.4% from 17.9¢ per kWh in 2019 to 18.4¢ in 2020.
- Commercial sector statewide average nominal fuel prices:
  - Distillate fuel prices averaged $1.46 per gallon in 2020, which was a 32.6% decrease from 2019 prices.
  - Residual oil prices averaged $48.54 per barrel in 2020, which was a 21.1% decrease from 2019 prices.
  - Electricity prices averaged 14.6¢ per kWh, which was a 3.6% increase from 2019 prices.
  - Natural gas prices averaged $6.92 per thousand cubic feet, which was a 4.7% decrease from 2019 prices.
- Industrial sector statewide average nominal fuel prices:
  - Residual oil prices averaged $48.54 per barrel in 2020, which was a 21.1% decrease from 2019 prices.
  - Natural gas prices averaged $7.03 per thousand cubic feet, which was an 9.3% decrease from 2019 prices.
  - Electricity prices averaged 5.5¢ per kWh, which was a 1.2% decrease from 2019 prices.
- The average retail price for all grades of gasoline was $2.15 per gallon, a decrease of $0.37 per gallon (14.8%) from the average price in 2019.

New York State Residential Energy Prices in Nominal Dollars 2006–2020

Figure 4-1.

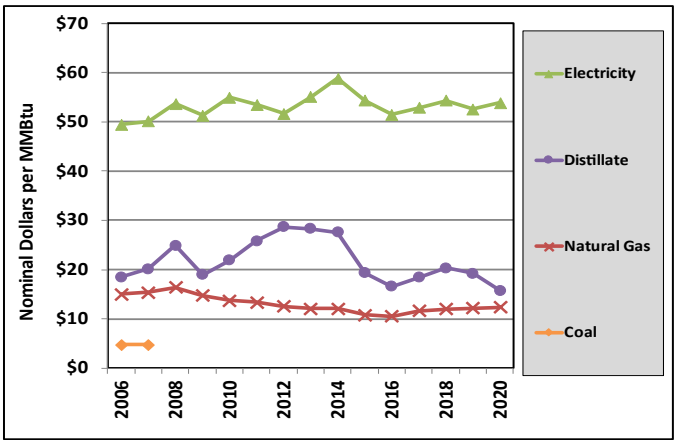


Table 4-1a. (In Physical Units)

Year	Coal	Distillate[1]	Kerosene	Propane	Natural Gas	Electricity	Wood	CPI-U Deflator[2]
	$/Ton	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	$/Cord	2020=1
2006	$105.03	255.61	260.15	211.18	$15.44	16.89	$144.60	0.779
2007	$105.05	278.05	289.85	243.95	$15.77	17.10	$159.94	0.801
2008	$0.00	342.53	365.31	285.69	$16.86	18.31	$189.15	0.832
2009	$0.00	260.56	281.21	259.02	$15.10	17.50	$139.22	0.829
2010	$0.00	301.14	320.90	274.73	$14.04	18.74	$168.76	0.843
2011	$0.00	355.22	379.76	308.52	$13.64	18.26	$197.68	0.869
2012	$0.00	394.69	399.87	288.07	$12.87	17.62	$222.93	0.887
2013	$0.00	388.78	400.68	285.42	$12.41	18.79	$211.50	0.900
2014	$0.00	379.23	402.84	315.01	$12.53	20.07	$207.53	0.915
2015	$0.00	264.87	224.78	251.44	$11.25	18.54	$141.94	0.916
2016	$0.00	227.64	179.15	246.97	$10.92	17.58	$136.95	0.927
2017	$0.00	252.62	224.10	293.10	$12.09	18.03	$166.08	0.947
2018	$0.00	278.88	316.85	318.99	$12.44	18.52	$182.05	0.970
2019	$0.00	264.46	302.27	274.36	$12.71	17.94	$173.56	0.988
2020	$0.00	216.38	196.29	239.42	$12.86	18.36	$145.14	1.000

Table 4-1b. (In $/Million Btu)

Year	Coal	Distillate[1]	Kerosene	Propane	Natural Gas	Electricity	Wood	CPI-U Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2020=1
2006	$4.76	$18.50	$19.27	$24.61	$15.02	$49.51	$6.31	0.779
2007	$4.76	$20.19	$21.47	$26.71	$15.36	$50.11	$6.97	0.801
2008	$0.00	$24.89	$27.06	$31.28	$16.42	$53.66	$8.59	0.832
2009	$0.00	$18.93	$20.83	$28.36	$14.73	$51.29	$6.45	0.829
2010	$0.00	$21.89	$23.77	$30.08	$13.72	$54.93	$7.61	0.843
2011	$0.00	$25.83	$28.13	$33.78	$13.35	$53.52	$9.15	0.869
2012	$0.00	$28.71	$29.62	$31.54	$12.56	$51.63	$10.19	0.887
2013	$0.00	$28.28	$29.68	$31.25	$12.07	$55.08	$9.98	0.900
2014	$0.00	$27.59	$29.84	$34.49	$12.13	$58.83	$9.73	0.915
2015	$0.00	$19.28	$16.65	$27.53	$10.84	$54.33	$6.71	0.916
2016	$0.00	$16.57	$13.27	$27.04	$10.51	$51.51	$5.73	0.927
2017	$0.00	$18.43	$16.60	$32.05	$11.66	$52.84	$6.41	0.947
2018	$0.00	$20.30	$23.47	$34.88	$11.98	$54.28	$7.09	0.970
2019	$0.00	$19.25	$22.39	$30.00	$12.22	$52.58	$6.82	0.988
2020	$0.00	$15.75	$14.54	$26.18	$12.38	$53.82	$5.64	1.000

[1] Home heating oil.

[2] To convert prices to 2020 dollars, divide the selected price by the deflator factor in the same row.

New York State Commercial Energy Prices in Nominal Dollars 2006–2020

Figure 4-2.

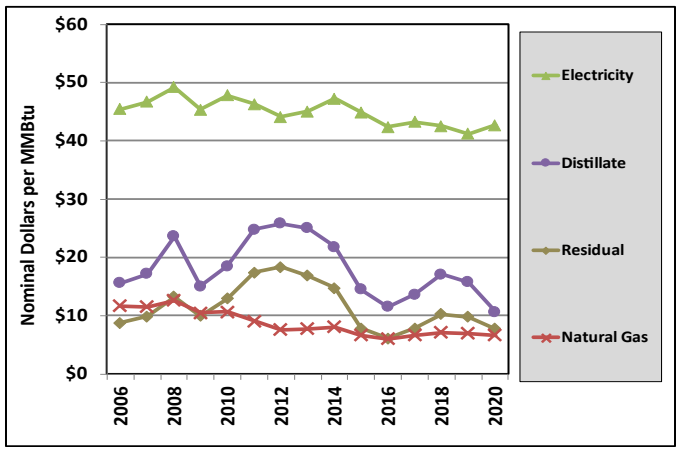


Table 4-2a. (In Physical Units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	CPI-U Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2020=1
2006	$63.55	215.40	$55.26	260.15	166.47	$11.98	15.51	0.779
2007	$60.91	236.32	$61.74	289.85	193.17	$11.85	15.92	0.801
2008	$103.43	324.51	$83.43	365.31	233.08	$12.93	16.79	0.832
2009	$132.54	206.88	$62.49	281.21	188.06	$10.75	15.48	0.829
2010	$133.63	254.64	$81.10	320.90	215.46	$10.87	16.31	0.843
2011	$127.73	340.37	$109.46	379.76	245.69	$9.28	15.81	0.869
2012	$0.00	354.69	$115.43	399.87	194.81	$7.79	15.06	0.887
2013	$0.00	344.38	$105.87	400.68	191.89	$7.95	15.35	0.900
2014	$0.00	299.78	$92.73	402.84	202.94	$8.31	16.12	0.915
2015	$0.00	199.34	$49.23	224.78	122.39	$6.89	15.31	0.916
2016	$0.00	157.58	$38.35	179.15	115.08	$6.23	14.45	0.927
2017	$0.00	187.24	$49.04	224.10	152.18	$6.90	14.75	0.947
2018	$0.00	234.78	$64.50	316.85	164.43	$7.40	14.50	0.970
2019	$0.00	216.24	$61.49	302.27	130.78	$7.26	14.06	0.988
2020	$0.00	145.76	$48.54	196.29	121.08	$6.92	14.56	1.000

Table 4-2b. (In $/Million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	CPI-U Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2020=1
2006	$2.88	$15.59	$8.79	$19.27	$19.40	$11.65	$45.46	0.779
2007	$2.76	$17.16	$9.82	$21.47	$21.15	$11.54	$46.65	0.801
2008	$4.49	$23.58	$13.27	$27.06	$25.52	$12.59	$49.22	0.832
2009	$5.80	$15.03	$9.94	$20.83	$20.59	$10.49	$45.36	0.829
2010	$5.91	$18.51	$12.90	$23.77	$23.59	$10.63	$47.79	0.843
2011	$5.78	$24.75	$17.41	$28.13	$26.90	$9.08	$46.33	0.869
2012	$0.00	$25.80	$18.36	$29.62	$21.33	$7.60	$44.13	0.887
2013	$0.00	$25.05	$16.84	$29.68	$21.01	$7.73	$45.00	0.900
2014	$0.00	$21.81	$14.75	$29.84	$22.22	$8.04	$47.25	0.915
2015	$0.00	$14.51	$7.83	$16.65	$13.40	$6.64	$44.86	0.916
2016	$0.00	$11.47	$6.10	$13.27	$12.60	$6.00	$42.35	0.927
2017	$0.00	$13.66	$7.80	$16.60	$16.64	$6.65	$43.23	0.947
2018	$0.00	$17.09	$10.26	$23.47	$17.98	$7.13	$42.50	0.970
2019	$0.00	$15.74	$9.78	$22.39	$14.30	$6.98	$41.20	0.988
2020	$0.00	$10.61	$7.72	$14.54	$13.24	$6.66	$42.67	1.000

[1] Home heating oil.

[2] To convert prices to 2020 dollars, divide the selected price by the deflator factor in the same row.

New York State Industrial Energy Prices in Nominal Dollars 2006–2020

Figure 4-3.

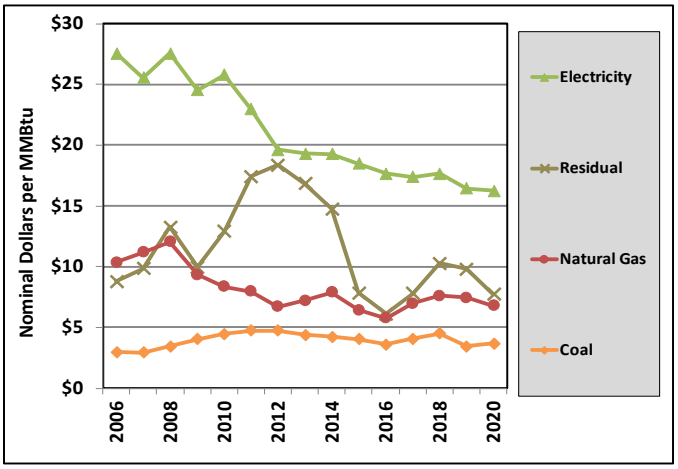


Table 4-3a. (In Physical Units)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	CPI-U Deflator[2]
	$/Ton	Cents/Gal.	$/bbl	Cents/Gal.	Cents/Gal.	$/Mcf	Cents/kWh	2020=1
2006	$71.76	218.86	$55.26	213.17	184.23	$10.62	9.39	0.779
2007	$70.86	238.52	$61.74	243.27	229.25	$11.46	8.71	0.801
2008	$83.57	327.12	$83.43	306.86	275.46	$12.37	9.39	0.832
2009	$96.55	197.79	$62.49	204.39	227.51	$9.55	8.37	0.829
2010	$106.87	263.72	$81.10	251.24	225.23	$8.54	8.79	0.843
2011	$113.44	324.69	$109.46	331.56	260.03	$8.15	7.83	0.869
2012	$118.45	342.18	$115.43	346.55	200.48	$6.87	6.69	0.887
2013	$109.92	332.69	$105.87	351.41	197.01	$7.39	6.59	0.900
2014	$105.96	313.25	$92.73	332.64	209.98	$8.13	6.58	0.915
2015	$100.07	206.76	$49.23	194.54	115.54	$6.65	6.31	0.916
2016	$89.39	154.97	$38.35	152.28	106.95	$5.96	6.03	0.927
2017	$100.93	201.63	$49.04	192.92	150.44	$7.24	5.92	0.947
2018	$110.54	238.08	$64.50	241.92	164.80	$7.87	6.02	0.970
2019	$84.39	201.54	$61.49	228.96	125.38	$7.76	5.61	0.988
2020	$90.18	143.84	$48.54	169.16	114.04	$7.03	5.54	1.000

Table 4-3b. (In $/Million Btu)

Year	Coal	Distillate[1]	Residual	Kerosene	Propane	Natural Gas	Electricity	CPI-U Deflator[2]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2020=1
2006	$2.97	$15.84	$8.79	$15.79	$21.47	$10.33	$27.53	0.779
2007	$2.91	$17.32	$9.82	$18.02	$25.10	$11.16	$25.53	0.801
2008	$3.44	$23.77	$13.27	$22.73	$30.16	$12.04	$27.53	0.832
2009	$4.01	$14.37	$9.94	$15.14	$24.91	$9.32	$24.54	0.829
2010	$4.44	$19.17	$12.90	$18.61	$24.66	$8.35	$25.76	0.843
2011	$4.74	$23.61	$17.41	$24.56	$28.47	$7.97	$22.96	0.869
2012	$4.73	$24.89	$18.36	$25.67	$21.95	$6.70	$19.62	0.887
2013	$4.37	$24.20	$16.84	$26.03	$21.57	$7.19	$19.30	0.900
2014	$4.24	$22.79	$14.75	$24.64	$22.99	$7.87	$19.28	0.915
2015	$4.02	$15.05	$7.83	$14.41	$12.65	$6.41	$18.49	0.916
2016	$3.60	$11.28	$6.10	$11.28	$11.71	$5.74	$17.67	0.927
2017	$4.08	$14.71	$7.80	$14.29	$16.45	$6.98	$17.36	0.947
2018	$4.48	$17.33	$10.26	$17.92	$18.02	$7.58	$17.64	0.970
2019	$3.42	$14.67	$9.78	$16.96	$13.71	$7.46	$16.45	0.988
2020	$3.67	$10.47	$7.72	$12.53	$12.47	$6.77	$16.25	1.000

[1] Home heating oil.

[2] To convert prices to 2020 dollars, divide the selected price by the deflator factor in the same row.

New York State Transportation Energy Prices in Nominal Dollars 2006–2020

Figure 4-4.

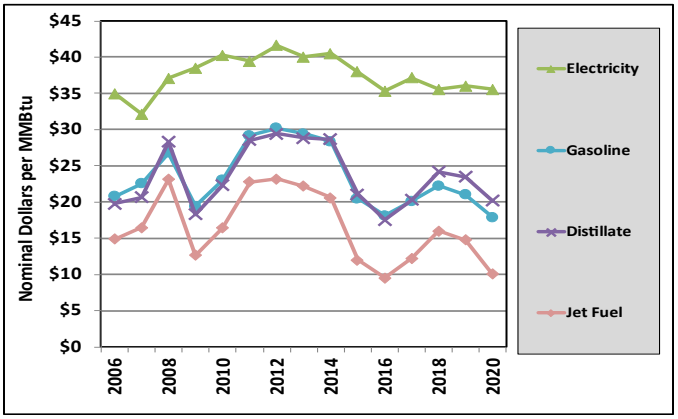


Table 4-4a. (In Physical Units)

Year	Motor Gasoline	Distillate[1]	Jet Fuel[2]	Residual[3]	Electricity[4]	CPI-U Deflator[5]
	Cents/Gal.	Cents/Gal.	Cents/Gal.	$/bbl	Cents/kWh	2020=1
2006	256.95	296.09	201.02	$49.10	11.94	0.779
2007	276.65	309.11	222.21	$49.35	10.97	0.801
2008	326.97	423.32	312.26	$75.95	12.64	0.832
2009	235.74	273.48	170.64	$51.80	13.13	0.829
2010	277.84	334.11	221.81	$68.28	13.74	0.843
2011	351.86	426.92	307.40	$93.11	13.45	0.869
2012	364.05	440.84	312.66	$96.82	14.20	0.887
2013	354.70	431.56	299.03	$97.57	13.65	0.900
2014	341.79	429.01	278.24	$82.93	13.82	0.915
2015	246.61	314.95	161.87	$46.90	12.96	0.916
2016	218.38	262.56	128.12	$35.21	12.05	0.927
2017	242.06	304.02	164.84	$47.47	12.67	0.947
2018	267.50	361.95	216.00	$62.81	12.14	0.970
2019	252.24	351.77	199.40	$62.87	12.28	0.988
2020	214.83	302.37	135.54	$45.83	12.14	1.000

Table 4-4b. (In $/Million Btu)

Year	Motor Gasoline	Distillate[1]	Jet Fuel[2]	Residual[3]	Electricity[4]	CPI-U Deflator[5]
	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	$/MMBtu	2020=1
2006	$20.79	$19.78	$14.89	$7.81	$34.98	0.779
2007	$22.54	$20.65	$16.46	$7.85	$32.14	0.801
2008	$26.79	$28.28	$23.13	$12.08	$37.05	0.832
2009	$19.41	$18.27	$12.64	$8.24	$38.49	0.829
2010	$22.98	$22.32	$16.43	$10.86	$40.28	0.843
2011	$29.16	$28.52	$22.77	$14.81	$39.41	0.869
2012	$30.20	$29.45	$23.16	$15.40	$41.63	0.887
2013	$29.43	$28.83	$22.15	$15.52	$40.01	0.900
2014	$28.37	$28.66	$20.61	$13.19	$40.49	0.915
2015	$20.47	$21.04	$11.99	$7.46	$37.97	0.916
2016	$18.13	$17.54	$9.49	$5.60	$35.33	0.927
2017	$20.12	$20.31	$12.21	$7.55	$37.12	0.947
2018	$22.23	$24.18	$16.00	$9.99	$35.57	0.970
2019	$20.97	$23.50	$14.77	$10.00	$36.00	0.988
2020	$17.86	$20.20	$10.04	$7.29	$35.57	1.000

1 Diesel
2 Kerosene-based
3 Bunker fuel
4 Railroad use
5 To convert prices to 2020 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 2020 dollars for the following selected years: 2006, 2011, and 2016 through 2020. Estimated costs were derived by multiplying quantities of fuels consumed in trillion British Thermal Units (TBtu) by their respective prices. Out-of-State energy expenditure estimates by fuel type are provided for 2006 through 2020in both nominal and constant 2020 dollars.

5.1 Key Observations about 2020 New York State Energy Expenditures Data

- Cumulative heating degree-days were 8.9% higher in 2020 compared to 2019.
- In nominal dollars, the State's 2020 estimated energy bill of $47.1 billion decreased 18.2% from 2019, and it is 20.9% less than the $59.6 billion spent in 2006.
- In constant 2020 dollars, the State's estimated energy bill decreased $11.2 billion (19.2%) from 2019 and was $29.4 billion (38.4%) less than the energy bill in 2006.
- State residents spent $17.3 billion for household energy, which was a 4.9% decrease from the 2019 level in nominal dollars and 6.0% higher in constant 2020 dollars.
- The total commercial customer energy expenditures was $12.6 billion, which was 8.8% lower than 2019 in nominal dollars and 9.9% lower in constant 2020 dollars.
- Industrial customers paid $1.8 billion for energy, which was a 12.1% decrease from 2019 levels in nominal dollars and 13.1% lower in constant 2020 dollars.
- The annual energy bill for transporting people and goods was $15.5 billion, a 34.4% decrease from 2019 levels in nominal dollars and 35.2% higher in constant 2020 dollars.
- From 2019 to 2020 statewide expenditures decreased 35.1% for petroleum, 9.1% for natural gas, and 0.1% for electricity in nominal dollars.
- In nominal dollars, the 2020 out-of-State estimated energy bill of $17.0 billion decreased 37.2% from 2019, and the estimate is 49.9% more than the $34.0 billion spent in 2006.
- In constant 2020 dollars, the out-of-State estimated energy bill decreased $10.4 billion (37.9%) from 2019 and was $26.6 billion (61.0%) less than in 2006.

New York State
Energy Expenditure Estimates
by Fuel Type and Sector
in Nominal Dollars
2006–2020

Figure 5-1

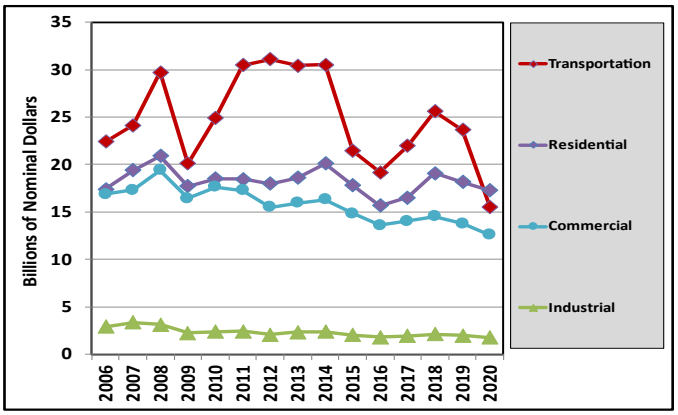


Table 5-1. (In Million Dollars)

	2006	2011	2016	2017	2018	2019	2020
Residential							
Coal	$1.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$3,466.6	$3,534.0	$2,099.2	$2,279.7	$3,186.7	$2,956.1	$1,938.2
Distillate	$2,876.8	$2,750.4	$1,479.6	$1,540.5	$2,185.7	$2,034.7	$1,223.8
Kerosene	$197.0	$115.8	$45.3	$37.8	$50.0	$73.1	$45.5
LPG	$392.7	$667.7	$574.3	$701.4	$951.0	$848.3	$669.0
Natural Gas	$5,471.5	$5,397.7	$4,472.7	$5,207.7	$6,009.3	$5,974.4	$5,593.3
Electricity	$8,180.6	$9,356.9	$8,933.7	$8,848.8	$9,659.0	$8,995.4	$9,596.2
Wood	$281.9	$184.1	$169.5	$183.4	$246.9	$242.3	$159.0
Total	$17,402.0	$18,472.7	$15,675.1	$16,519.6	$19,101.9	$18,168.2	$17,286.6
Commercial							
Coal	$9.1	$0.6	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$1,974.3	$2,460.8	$650.5	$770.2	$960.2	$896.2	$528.1
Distillate	$1,411.5	$1,472.4	$534.5	$624.0	$798.3	$758.7	$393.6
Residual	$438.8	$775.9	$12.0	$14.0	$10.1	$7.2	$4.3
Kerosene	$38.7	$26.8	$4.3	$2.9	$5.5	$9.4	$4.4
LPG	$85.3	$185.7	$99.7	$129.3	$146.3	$120.8	$125.7
Natural Gas	$3,095.2	$2,713.8	$1,873.1	$2,130.7	$2,431.6	$2,325.7	$1,988.7
Electricity	$11,792.8	$12,078.1	$11,055.1	$11,111.8	$11,128.9	$10,555.9	$10,044.1
Total	$16,871.4	$17,253.3	$13,578.7	$14,012.6	$14,520.6	$13,777.8	$12,560.9
Industrial							
Coal	$110.1	$122.7	$50.6	$54.2	$43.6	$30.4	$14.8
Petroleum	$556.7	$618.3	$190.5	$234.3	$281.6	$285.0	$214.3
Distillate	$318.3	$382.6	$121.6	$161.2	$194.9	$215.6	$140.3
Residual	$71.9	$136.2	$17.5	$26.4	$26.2	$22.5	$9.3
Kerosene	$37.8	$22.8	$11.3	$4.7	$12.6	$11.6	$27.3
LPG	$128.8	$76.7	$40.1	$41.9	$48.0	$35.2	$37.5
Natural Gas	$828.3	$619.1	$480.1	$598.4	$717.2	$696.8	$605.9
Electricity	$1,406.8	$1,051.3	$1,067.7	$1,055.0	$1,088.0	$984.9	$921.0
Total	$2,901.9	$2,411.4	$1,788.8	$1,941.9	$2,130.4	$1,997.1	$1,756.0
Transportation							
Petroleum	$21,877.8	$29,845.2	$18,405.5	$21,320.1	$24,919.7	$22,974.6	$14,908.7
Distillate	$3,373.3	$4,695.6	$3,172.7	$3,701.7	$4,699.6	$4,262.9	$3,403.7
Residual	$320.6	$480.3	$174.8	$177.3	$207.0	$90.0	$88.2
Motor Gasoline	$15,093.6	$19,298.9	$12,353.9	$13,868.7	$15,477.1	$14,394.4	$10,166.6
Jet Fuel	$3,082.2	$5,365.6	$2,702.4	$3,567.6	$4,533.0	$4,224.9	$1,249.0
LPG	$8.2	$4.8	$1.6	$4.8	$3.0	$2.5	$1.2
Natural Gas	$186.5	$222.8	$412.4	$314.6	$302.9	$320.2	$280.2
Electricity	$334.9	$400.8	$332.2	$350.4	$358.5	$346.4	$309.5
Total	$22,399.2	$30,468.9	$19,150.1	$21,985.1	$25,581.2	$23,641.3	$15,498.3
Total							
Coal	$120.7	$123.3	$50.6	$54.2	$43.6	$30.4	$14.8
Petroleum	$27,875.4	$36,458.3	$21,345.7	$24,604.2	$29,348.2	$27,111.9	$17,589.3
Distillate	$7,979.9	$9,301.0	$5,308.4	$6,027.4	$7,878.4	$7,271.9	$5,161.4
Residual	$831.4	$1,392.4	$204.3	$217.8	$243.3	$119.7	$101.8
Motor Gasoline	$15,093.6	$19,298.9	$12,353.9	$13,868.7	$15,477.1	$14,394.4	$10,166.6
Kerosene	$273.5	$165.4	$60.9	$45.5	$68.1	$94.2	$77.2
Jet Fuel	$3,082.2	$5,365.6	$2,702.4	$3,567.6	$4,533.0	$4,224.9	$1,249.0
LPG	$614.9	$935.0	$715.7	$877.4	$1,148.2	$1,006.7	$833.3
Natural Gas	$9,581.5	$8,953.4	$7,238.2	$8,251.4	$9,461.1	$9,317.1	$8,468.0
Electricity	$21,715.1	$22,887.2	$21,388.7	$21,366.0	$22,234.4	$20,882.6	$20,870.7
Wood	$281.9	$184.1	$169.5	$183.4	$246.9	$242.3	$159.0
Total	**$59,574.6**	**$68,606.3**	**$50,192.7**	**$54,459.2**	**$61,334.1**	**$57,584.2**	**$47,101.8**

New York State
Energy Expenditure Estimates
by Fuel Type and Sector
in Constant 2020 Dollars
2006–2020

Figure 5-2.

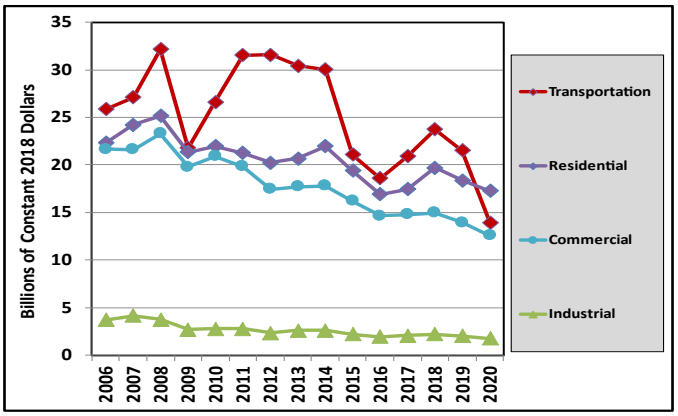


Table 5-2. (In Million Dollars)

	2006	2011	2016	2017	2018	2019	2020
Residential							
Coal	$1.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$4,450.3	$4,066.1	$2,263.7	$2,407.0	$3,284.5	$2,992.6	$1,938.2
Distillate	$3,693.2	$3,164.6	$1,595.6	$1,626.5	$2,252.7	$2,059.8	$1,223.8
Kerosene	$253.0	$133.3	$48.9	$40.0	$51.6	$74.0	$45.5
LPG	$504.2	$768.3	$619.3	$740.6	$980.2	$858.7	$669.0
Natural Gas	$7,024.2	$6,210.5	$4,823.1	$5,498.6	$6,193.7	$6,048.1	$5,593.3
Electricity	$10,502.2	$10,765.9	$9,633.6	$9,343.0	$9,955.3	$9,106.4	$9,596.2
Wood	$361.8	$211.8	$182.8	$193.6	$254.4	$245.2	$159.0
Total	$22,340.5	$21,254.4	$16,903.2	$17,442.3	$19,687.9	$18,392.3	$17,286.6
Commercial							
Coal	$11.7	$0.7	$0.0	$0.0	$0.0	$0.0	$0.0
Petroleum	$2,534.6	$2,831.4	$701.5	$813.2	$989.6	$907.2	$528.1
Distillate	$1,812.0	$1,694.1	$576.4	$658.9	$822.8	$768.0	$393.6
Residual	$563.4	$892.8	$12.9	$14.8	$10.4	$7.3	$4.3
Kerosene	$49.7	$30.8	$4.7	$3.1	$5.7	$9.6	$4.4
LPG	$109.5	$213.7	$107.5	$136.5	$150.8	$122.3	$125.7
Natural Gas	$3,973.6	$3,122.5	$2,019.8	$2,249.7	$2,506.2	$2,354.4	$1,988.7
Electricity	$15,139.4	$13,896.9	$11,921.3	$11,732.4	$11,470.3	$10,686.1	$10,044.1
Total	$21,659.2	$19,851.4	$14,642.6	$14,795.3	$14,966.1	$13,947.7	$12,560.9
Industrial							
Coal	$141.3	$141.2	$54.5	$57.2	$44.9	$30.8	$14.8
Petroleum	$714.7	$711.4	$205.4	$247.3	$290.3	$288.5	$214.3
Distillate	$408.6	$440.3	$131.1	$170.2	$200.9	$218.3	$140.3
Residual	$92.3	$156.7	$18.9	$27.9	$27.0	$22.8	$9.3
Kerosene	$48.5	$26.2	$12.2	$5.0	$13.0	$11.8	$27.3
LPG	$165.3	$88.2	$43.2	$44.2	$49.4	$35.6	$37.5
Natural Gas	$1,063.4	$712.3	$517.7	$631.8	$739.2	$705.4	$605.9
Electricity	$1,806.0	$1,209.7	$1,151.3	$1,113.9	$1,121.4	$997.1	$921.0
Total	$3,725.5	$2,774.5	$1,929.0	$2,050.3	$2,195.8	$2,021.7	$1,756.0
Transportation							
Petroleum	$28,086.4	$34,339.4	$19,847.5	$22,510.9	$25,684.3	$23,258.1	$14,908.7
Distillate	$4,330.5	$5,402.7	$3,421.3	$3,908.4	$4,843.7	$4,315.5	$3,403.7
Residual	$411.6	$552.6	$188.5	$187.3	$213.4	$91.1	$88.2
Motor Gasoline	$19,376.9	$22,205.0	$13,321.8	$14,643.3	$15,952.0	$14,572.0	$10,166.6
Jet Fuel	$3,956.8	$6,173.6	$2,914.2	$3,766.9	$4,672.1	$4,277.0	$1,249.0
LPG	$10.5	$5.6	$1.7	$5.0	$3.1	$2.5	$1.2
Natural Gas	$239.4	$256.4	$444.7	$332.1	$312.2	$324.2	$280.2
Electricity	$430.0	$461.2	$358.2	$370.0	$369.5	$350.7	$309.5
Total	$28,755.8	$35,057.0	$20,650.5	$23,213.1	$26,366.1	$23,932.9	$15,498.3
Total							
Coal	$154.9	$141.9	$54.5	$57.2	$44.9	$30.8	$14.8
Petroleum	$35,786.0	$41,948.3	$23,018.1	$25,978.5	$30,248.7	$27,446.3	$17,589.3
Distillate	$10,244.4	$10,701.6	$5,724.3	$6,364.0	$8,120.1	$7,361.6	$5,161.4
Residual	$1,067.3	$1,602.1	$220.3	$229.9	$250.7	$121.2	$101.8
Motor Gasoline	$19,376.9	$22,205.0	$13,321.8	$14,643.3	$15,952.0	$14,572.0	$10,166.6
Kerosene	$351.1	$190.3	$65.7	$48.0	$70.2	$95.4	$77.2
Jet Fuel	$3,956.8	$6,173.6	$2,914.2	$3,766.9	$4,672.1	$4,277.0	$1,249.0
LPG	$789.4	$1,075.7	$771.8	$926.4	$1,183.5	$1,019.2	$833.3
Natural Gas	$12,300.6	$10,301.7	$7,805.4	$8,712.3	$9,751.3	$9,432.0	$8,468.0
Electricity	$27,877.6	$26,333.6	$23,064.5	$22,559.4	$22,916.6	$21,140.2	$20,870.7
Wood	$361.8	$211.8	$182.8	$193.6	$254.4	$245.2	$159.0
Total	**$76,481.0**	**$78,937.3**	**$54,125.3**	**$57,501.0**	**$63,215.9**	**$58,294.6**	**$47,101.8**

New York Out-of-State Energy Expenditure Estimates by Fuel Type in Nominal and Constant 2020 Dollars 2006–2020

Figure 5-3.

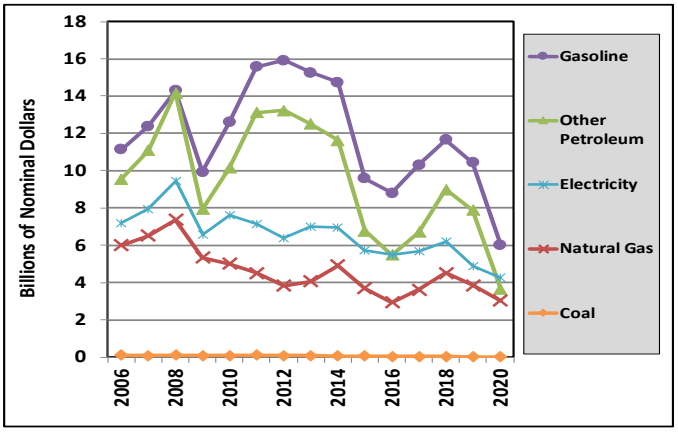


Table 5-3a. (In Million Nominal Dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
2006	$ 102.6	$ 6,008.6	$ 11,137.1	$ 10,345.4	$ 7,171.9	$ 34,765.6
2007	$ 93.8	$ 6,516.4	$ 12,378.7	$ 12,050.0	$ 7,954.7	$ 38,993.6
2008	$ 99.0	$ 7,374.9	$ 14,285.9	$ 15,408.5	$ 9,473.9	$ 46,642.2
2009	$ 83.1	$ 5,344.9	$ 9,939.7	$ 8,631.5	$ 6,570.3	$ 30,569.4
2010	$ 96.4	$ 5,019.0	$ 12,588.0	$ 10,829.9	$ 7,628.7	$ 36,162.0
2011	$ 104.8	$ 4,520.3	$ 15,569.7	$ 14,304.3	$ 7,124.4	$ 41,623.6
2012	$ 97.2	$ 3,820.5	$ 15,910.1	$ 14,240.6	$ 6,369.0	$ 40,437.4
2013	$ 80.1	$ 4,062.2	$ 15,248.9	$ 13,623.3	$ 6,988.3	$ 40,002.8
2014	$ 67.4	$ 4,906.3	$ 14,750.4	$ 12,991.1	$ 6,944.4	$ 39,659.6
2015	$ 65.9	$ 3,680.7	$ 9,576.6	$ 7,510.2	$ 5,708.4	$ 26,541.8
2016	$ 43.0	$ 2,942.6	$ 8,801.9	$ 5,933.1	$ 5,505.1	$ 23,225.7
2017	$ 46.1	$ 3,625.6	$ 10,299.7	$ 7,017.8	$ 5,686.2	$ 26,675.4
2018	$ 37.0	$ 4,506.0	$ 11,657.5	$ 9,636.4	$ 6,176.4	$ 32,013.3
2019	$ 25.8	$ 3,850.8	$ 10,422.6	$ 7,895.7	$ 4,875.4	$ 27,070.4
2020	$ 12.6	$ 3,026.7	$ 6,023.0	$ 3,657.7	$ 4,285.7	$ 17,005.6

Table 5-3b. (In Million Constant 2020 Dollars)

Year	Coal	Natural Gas	Gasoline	Other Petroleum	Electricity	Total
2006	$ 131.7	$ 7,713.7	$ 14,297.6	$ 12,258.9	$ 9,207.2	$ 43,609.1
2007	$ 117.1	$ 8,134.0	$ 15,451.5	$ 13,837.8	$ 9,929.3	$ 47,469.7
2008	$ 119.0	$ 8,865.3	$ 17,172.8	$ 17,028.6	$ 11,388.3	$ 54,574.0
2009	$ 100.2	$ 6,447.9	$ 11,991.0	$ 9,574.7	$ 7,926.2	$ 36,040.0
2010	$ 114.4	$ 5,957.0	$ 14,940.7	$ 12,054.0	$ 9,054.6	$ 42,120.7
2011	$ 120.6	$ 5,201.0	$ 17,914.2	$ 15,080.9	$ 8,197.2	$ 46,514.0
2012	$ 109.5	$ 4,306.7	$ 17,934.7	$ 14,909.6	$ 7,179.5	$ 44,440.2
2013	$ 89.0	$ 4,513.1	$ 16,941.3	$ 13,880.5	$ 7,763.9	$ 43,187.6
2014	$ 73.7	$ 5,363.8	$ 16,125.9	$ 12,703.7	$ 7,591.9	$ 41,859.0
2015	$ 72.0	$ 4,019.2	$ 10,457.2	$ 7,398.9	$ 6,233.3	$ 28,180.4
2016	$ 46.4	$ 3,173.2	$ 9,491.5	$ 5,905.1	$ 5,936.4	$ 24,552.6
2017	$ 48.6	$ 3,828.2	$ 10,875.0	$ 7,084.0	$ 6,012.2	$ 27,848.0
2018	$ 38.2	$ 4,646.4	$ 12,015.1	$ 9,266.4	$ 6,365.9	$ 32,332.0
2019	$ 26.2	$ 3,898.3	$ 10,551.2	$ 7,993.1	$ 4,935.6	$ 27,404.3
2020	$ 12.6	$ 3,026.7	$ 6,023.0	$ 3,657.7	$ 4,285.7	$ 17,005.6

6 New York State's Sources of Energy

On the national level, New York State is the eighth largest energy user. Nevertheless, households, businesses, industries, and electric utilities in the State rely largely on fuels produced elsewhere. Approximately 13.2% of the total primary energy requirements were met from in-state resources in 2020. Hydroelectric power is produced at various locations throughout the State, and in both 2019 and 2020, New York produced more hydroelectric power than any other state east of the Rocky Mountains. Wind energy produced in New York ranks 18th in the nation for 2020. 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 2020

- In-State resources produced 13.2% of the state's total primary energy requirement, including 7.0% from hydropower and 3.7% from biofuels including ethanol, waste, wood, and landfill gas, collectively. Wind, solar, and geothermal renewable resources met 2.1% of the state's total primary energy requirement. Petroleum and natural gas production accounted for 0.3% of the total primary energy requirement.
- Hydroelectric power and energy collectively from biofuels including ethanol, waste, wood, and landfill gas account for 53.3% and 28.4%, respectively, of the State's primary energy production. Wind, solar, and geothermal resources accounted for 15.7% of the primary energy production, while crude oil and natural gas constitute the remaining 2.7%.
- In-State crude oil and natural gas production represent less than 0.8% and 0.2%, respectively, of its use of these fuels. Consumers rely on external sources for 100% of refined petroleum fuel products, because there are no petroleum refineries in the State.
- Production of natural gas decreased 11.5% from 2019 to 2020. In 2020, natural gas production was 9.7 billion cubic feet, and accounted for 0.2% of the state's total primary energy use.
- Energy production from solar resources increased 28.0% from 2019 to 2020 while collective production of biofuels including ethanol, waste, wood, and landfill gas decreased 14.9%.

New York State Primary Energy Production by Fuel Type[1] 2006–2020

Figure 6-1.

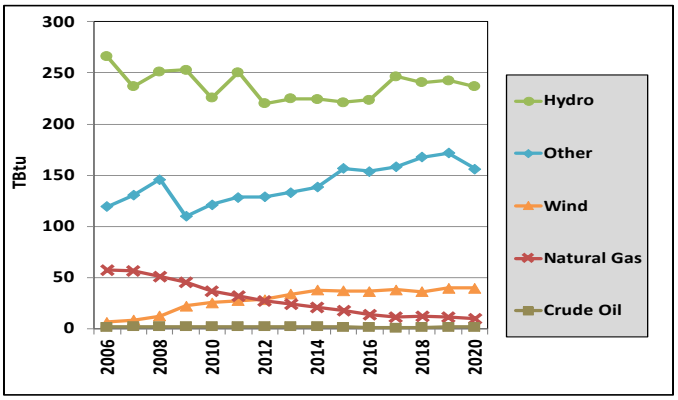


Table 6-1a. (In Physical Units)

Year	Hydro Electricity[2]	Natural Gas	Crude Oil	Ethanol	Distributed Solar	Utility Solar	Total Solar
	GWh	Bcf	Mbbl	Mbbl	GWh	GWh	GWh
2006	28,422	56	312	0	14	n.a.	n.a.
2007	25,557	55	379	100	16	n.a.	n.a.
2008	27,501	50	387	2,064	25	n.a.	n.a.
2009	27,945	45	333	1,189	35	n.a.	n.a.
2010	25,103	36	381	2,482	59	n.a.	n.a.
2011	28,355	31	375	3,063	91	6	97
2012	25,303	26	362	3,095	158	53	211
2013	26,397	23	366	3,762	205	67	272
2014	26,823	20	356	3,490	350	71	421
2015	26,704	17	286	3,465	591	98	689
2016	27,150	14	225	3,801	877	137	1,014
2017	30,350	11	184	3,687	1,186	178	1,364
2018	29,856	12	221	3,308	1,501	294	1,795
2019	30,724	11	277	3,519	1,868	507	2,375
2020	30,156	10	238	1,753	2,308	822	3,130

Table 6-1b. (In Trillion Btu)

Year	Hydro Electricity[2]	Natural Gas	Crude Oil	Biofuels[3,4,5]	Wind	Solar[4]	Geothermal[4]	Total Production
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu		TBtu
2006	265.9	57.2	1.8	117.6	6.5	1.0	0.7	450.7
2007	236.9	56.2	2.2	128.6	8.2	1.2	0.7	434.0
2008	251.2	51.4	2.2	143.9	12.3	1.3	0.8	463.3
2009	252.9	45.8	1.9	107.6	22.1	1.5	1.0	432.7
2010	225.4	36.6	2.2	118.5	25.3	1.7	1.1	410.8
2011	250.7	31.9	2.2	124.9	27.5	2.1	1.3	440.6
2012	220.1	27.2	2.1	124.3	28.4	3.2	1.2	406.6
2013	224.7	24.2	2.1	128.3	33.7	3.9	1.2	418.2
2014	224.3	20.8	2.1	132.0	37.7	5.3	1.2	423.4
2015	221.2	17.9	1.6	147.6	37.0	7.7	1.2	434.3
2016	223.5	13.9	1.3	141.9	36.4	10.7	1.2	428.9
2017	246.5	11.8	1.1	143.3	38.1	13.9	1.2	455.8
2018	240.8	12.2	1.3	149.0	36.3	17.7	1.2	458.5
2019	242.6	11.3	1.6	148.1	39.6	22.5	1.2	467.0
2020	236.8	10.0	1.6	126.1	39.6	28.8	1.2	444.1

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) to produce fuel ethanol.

7 Appendices

Appendix A. New York State Greenhouse Gas Emissions from Fuel Combustion

Under New York State's Climate Leadership and Community Protection Act (Climate Act), New York's Department of Environmental Conservation (DEC) is required to produce and publish an annual inventory of greenhouse gases, the Statewide Greenhouse Gas Emissions Report with additional supporting data available at OPENNY. Per Climate Act provisions, the report is required to adopt a 20-year global warming potential and include all emissions from fossil fuels and electricity consumed within the State, including emissions from fuel production and transportation beyond the state boundaries. DEC published the first annual report in December 2021, in collaboration with NYSERDA, as well as the first annual update in December 2022.

NYSERDA conducted studies that provided the underlying analysis for the energy sector GHG emissions inventory, including direct emissions and emissions from imported fossil fuels and electricity, methane emissions from oil and gas systems, as well as emissions from HFCs, which together make up over 80 percent of statewide GHG emissions. More information about NYSERDA's Greenhouse Gas Emissions Studies can be found on NYSERDA's website. NYSERDA updates these studies over time to make methodological improvements and to incorporate new data when available.

Appendix B. New York State Household Energy Consumption and Expenditures by End Use, 2020[1]

Table B-1. Total Household Energy

	Households[2] (MM)	Average per Household Using the Fuel	
		Consumption	Expenditure
Total	7.5	82.3	$1,184
Electricity	0.5	23.6	$1,380
Natural Gas	5.8	54.6	$919
Fuel Oil/Kerosene	1.4	69.3	$1,331
Propane/LPG	0.8	34.7	$872

http://www/nyserda.ny.gov.~.media/files/publications/energy-analysis/appendix-b1.xlsx

Table B-2. Space-Heating[3]

	Households[2] (MM)	Average per Household Using the Fuel as Main Heating Source	
		Consumption	Expenditure
Total	7.5	See Note 4	See Note 4
Electricity	1.2	See Note 4	See Note 4
Natural Gas	4.6	See Note 4	See Note 4
Fuel Oil/Kerosene	1.3	See Note 4	See Note 4

Table B-3. Water-Heating

	Households[2] (MM)	Average per Household Using the Fuel as Water Heating Source	
		Consumption	Expenditure
Total	7.5	See Note 4	See Note 4
Electricity	2.1	See Note 4	See Note 4
Natural Gas	4.3	See Note 4	See Note 4
Fuel Oil/Kerosene	0.8	See Note 4	See Note 4

Table B-4. Electric Air Conditioning

	Households[2] (MM)	Average per Household	
		Consumption	Expenditure
Central Air	2.2	See Note 4	See Note 4
Room/Wall	4.6		

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

3 Some households may use multiple heating fuels. Averages include main (primary) and secondary space heating applications. 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 DOE's Energy Information Administration's Residential Energy Consumption Survey.

4 2020 consumption and expenditures to be released in June of 2023 and will be included in future issues of Patterns & Trends.

Appendix C. County Level Estimates

Estimated Annual Gasoline Sales by County in New York State, 2018–2020

Table C-1. (In Thousand Gallons)

County	2018	2019	2020
New York State	**5,840,676**	**5,759,723**	**5,111,875**
New York City	**1,119,201**	**1,124,765**	**970,366**
Rest of State	**4,721,475**	**4,634,958**	**4,141,509**
Albany	130,851	131,209	112,513
Alleghany	14,957	15,040	14,181
Broome	106,999	107,699	93,347
Cattaraugus	24,407	21,138	19,021
Cayuga	32,814	24,758	22,103
Chautauqua	47,720	46,720	40,767
Chemung	37,973	39,246	32,504
Chenango	24,161	22,936	21,132
Clinton	48,535	48,552	39,664
Columbia	49,212	49,995	48,863
Cortland	25,728	26,773	23,902
Delaware	20,415	19,388	18,557
Dutchess	118,228	118,112	99,635
Erie	329,057	326,258	271,471
Essex	18,700	18,994	17,525
Franklin	17,252	17,761	16,165
Fulton	25,594	18,691	17,694
Genesee	53,771	49,641	48,076
Greene	28,624	28,941	24,550
Hamilton	3,054	3,224	2,689
Herkimer	27,392	27,722	26,305
Jefferson	53,933	56,557	51,831
Lewis	12,097	12,367	11,664
Livingston	37,237	36,961	32,963
Madison	20,202	17,984	16,285
Monroe	268,037	267,635	239,287
Montgomery	37,580	37,876	35,962
Nassau	530,167	541,826	469,074
Niagara	67,537	65,975	56,986
Oneida	98,102	87,315	80,111
Onondaga	226,778	227,961	199,459
Ontario	64,408	65,002	55,646
Orange	187,511	195,755	169,404
Orleans	11,410	10,825	10,394
Oswego	50,619	43,119	40,421
Otsego	30,224	29,561	26,468
Putnam	50,142	51,683	45,891
Rensselaer	72,759	75,946	65,856
Rockland	70,850	73,461	71,618
St. Lawrence	42,040	44,689	40,555
Saratoga	119,491	115,967	102,532
Schenectady	69,375	69,781	59,349
Schoharie	14,738	14,343	13,508
Schuyler	8,329	8,515	7,678
Seneca	32,139	23,539	26,552
Steuben	60,049	58,960	52,364
Suffolk	680,480	686,940	614,474
Sullivan	36,646	37,194	35,156
Tioga	29,260	29,091	25,642
Tompkins	33,002	27,588	24,429
Ulster	89,560	90,873	79,479
Warren	46,692	45,954	43,295
Washington	19,467	19,958	18,863
Wayne	40,496	39,804	37,120
Westchester	299,999	236,740	248,307
Wyoming	16,896	16,297	14,330
Yates	7,780	8,120	7,889

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

Estimated Annual Residential Energy Consumption by County in New York State, 2006–2020

Table C-2.

Residential Energy Consumption	Natural Gas		Propane		Electricity		Distillate		Kerosene		Wood	
	Bcf		Mbbl		GWh		Mbbl		Mbbl		MCords	
County	2020	2006	2020	2006	2020	2006	2020	2006	2020	2006	2020	2006
Albany	11.4	8.5	88	43	1,845	1,281	121	210	5	14	21	27
Allegany	1.4	1.1	56	34	163	160	16	26	1	2	28	50
Bronx	15.2	10.2	124	70	2,115	2,006	970	2,501	40	168	0	3
Broome	7.6	5.6	160	91	1,060	687	125	144	5	10	29	49
Cattaraugus	2.4	1.8	109	78	366	368	25	40	1	3	35	69
Cayuga	2.2	1.7	109	75	283	269	59	84	2	6	24	41
Chautauqua	5.1	4.1	116	73	644	594	18	25	1	2	29	55
Chemung	3.9	2.8	59	28	395	262	33	36	1	2	13	24
Chenango	0.5	0.3	78	43	308	249	101	116	4	8	32	50
Clinton	0.6	0.3	56	20	980	735	213	208	9	14	33	43
Columbia	0.5	0.3	92	41	311	344	177	218	7	15	19	33
Cortland	1.3	0.9	44	27	178	180	32	45	1	3	17	24
Delaware	0.4	0.3	73	39	202	189	126	144	5	10	40	60
Dutchess	4.3	2.8	156	80	1,356	1,102	720	839	29	56	24	37
Erie	47.3	34.2	166	124	2,190	1,783	58	105	2	7	25	69
Essex	0.1	0.1	75	31	289	254	146	131	6	9	33	40
Franklin	0.3	0.1	73	25	270	238	164	163	7	11	39	40
Fulton	1.2	0.9	63	32	178	144	90	107	4	7	22	34
Genesee	2.1	1.5	75	54	207	195	34	49	1	3	9	22
Greene	0.3	0.1	68	36	205	185	131	174	5	12	15	26
Hamilton	0.0	0.0	11	9	10	17	13	18	1	1	4	9
Herkimer	1.8	1.2	56	29	311	270	97	111	4	7	30	39
Jefferson	2.8	1.8	172	88	772	591	98	134	4	9	34	50
Kings	47.4	45.2	264	196	3,075	2,581	459	1,804	19	121	2	9
Lewis	0.3	0.1	53	23	75	74	56	72	2	5	36	55
Livingston	1.8	1.3	97	66	285	292	38	50	2	3	20	35
Madison	1.6	1.2	85	46	260	258	85	109	3	7	20	35
Monroe	35.2	25.4	156	90	4,180	2,967	76	149	3	10	17	37
Montgomery	1.3	1.0	32	18	166	128	64	86	3	6	11	20
Nassau	27.1	23.5	151	79	1,501	2,024	1,346	3,086	55	208	4	12
New York	20.3	15.2	145	120	6,277	6,730	787	2,731	32	184	3	2
Niagara	10.2	7.3	116	83	702	558	56	96	2	6	15	28
Oneida	7.5	5.7	143	74	950	804	189	270	8	18	37	51
Onondaga	18.9	14.6	141	93	2,850	2,112	99	150	4	10	23	42
Ontario	4.0	2.7	147	100	588	428	50	73	2	5	21	36
Orange	6.1	6.2	130	103	836	985	347	643	14	43	16	34
Orleans	1.1	0.7	99	53	151	155	36	48	1	3	15	23
Oswego	2.9	2.1	227	161	513	369	69	108	3	7	54	77
Otsego	0.6	0.4	95	69	254	235	116	161	5	11	39	56
Putnam	0.3	0.3	34	28	419	640	204	357	8	24	5	13
Queens	42.4	40.2	229	171	2,169	2,774	621	2,180	25	147	1	7
Rensselaer	4.3	3.0	129	72	711	623	195	251	8	17	35	48
Richmond	12.6	13.6	37	33	403	394	62	195	3	13	1	1
Rockland	7.9	9.0	20	18	491	545	27	52	1	3	2	4
St. Lawrence	2.7	1.5	141	59	542	396	184	216	8	15	83	100
Saratoga	8.0	5.0	248	145	1,026	845	182	245	7	16	29	59
Schenectady	5.8	4.4	53	28	660	518	51	98	2	7	6	11
Schoharie	0.1	0.0	53	25	168	171	75	104	3	7	22	35
Schuyler	0.2	0.2	51	35	98	78	20	27	1	2	9	16
Seneca	0.9	0.6	67	50	183	119	25	32	1	2	9	10
Steuben	3.2	2.4	115	95	458	315	37	57	1	4	47	71
Suffolk	20.7	19.5	242	182	2,178	3,082	2,283	4,313	93	290	24	47
Sullivan	0.2	0.1	125	89	415	358	244	247	10	17	30	44
Tioga	1.0	0.7	82	40	225	147	91	114	4	8	22	33
Tompkins	2.8	1.9	115	75	798	547	48	60	2	4	28	32
Ulster	2.1	1.4	209	110	734	636	455	588	19	40	50	61
Warren	1.9	1.4	95	49	344	300	95	118	4	8	19	27
Washington	0.8	0.6	78	52	234	212	142	161	6	11	31	57
Wayne	3.1	2.1	135	83	482	431	59	82	2	6	27	43
Westchester	15.3	14.1	118	91	1,837	2,154	921	1,984	38	134	7	15
Wyoming	1.1	0.8	61	36	231	196	21	30	1	2	19	32
Yates	0.4	0.3	55	45	151	142	15	23	1	2	13	22
New York State	**437.1**	**356.5**	**6,652**	**4,155**	**52,257**	**48,427**	**13,495**	**26,797**	**551**	**1,803**	**1,410**	**2,233**

Estimated Annual Residential Energy Consumption by County in New York State (TBtu), 2006–2020

Table C-3.

Residential Energy Consumption	Natural Gas (TBtu)		Propane (TBtu)		Electricity (TBtu)		Distillate (TBtu)		Kerosene (TBtu)		Wood (TBtu)		Solar (TBtu)	
County	2020	2006	2020	2006	2020	2006	2020	2006	2020	2006	2020	2006	2020	2006
Albany	11.8	8.7	0.3	0.2	6.3	4.4	0.7	1.2	0.0	0.1	0.4	0.5	0.2	0.0
Allegany	1.4	1.1	0.2	0.1	0.6	0.5	0.1	0.1	0.0	0.0	0.6	1.0	0.0	0.0
Bronx	15.7	10.4	0.5	0.3	7.2	6.8	5.6	14.5	0.2	1.0	0.0	0.1	0.3	0.1
Broome	7.9	5.7	0.6	0.3	3.6	2.3	0.7	0.8	0.0	0.1	0.6	1.0	0.0	0.0
Cattaraugus	2.5	1.9	0.4	0.3	1.2	1.3	0.1	0.2	0.0	0.0	0.7	1.4	0.0	0.0
Cayuga	2.3	1.7	0.4	0.3	1.0	0.9	0.3	0.5	0.0	0.0	0.5	0.8	0.0	0.0
Chautauqua	5.3	4.2	0.4	0.3	2.2	2.0	0.1	0.1	0.0	0.0	0.6	1.1	0.1	0.0
Chemung	4.0	2.9	0.2	0.1	1.3	0.9	0.2	0.2	0.0	0.0	0.3	0.5	0.0	0.0
Chenango	0.5	0.3	0.3	0.2	1.0	0.8	0.6	0.7	0.0	0.0	0.6	1.0	0.0	0.0
Clinton	0.7	0.3	0.2	0.1	3.3	2.5	1.2	1.2	0.0	0.1	0.7	0.9	0.1	0.0
Columbia	0.5	0.3	0.4	0.2	1.1	1.2	1.0	1.3	0.0	0.1	0.4	0.7	0.2	0.0
Cortland	1.3	0.9	0.2	0.1	0.6	0.6	0.2	0.3	0.0	0.0	0.3	0.5	0.1	0.0
Delaware	0.4	0.3	0.3	0.1	0.7	0.6	0.7	0.8	0.0	0.1	0.8	1.2	0.1	0.0
Dutchess	4.5	2.8	0.6	0.3	4.6	3.8	4.1	4.9	0.2	0.3	0.5	0.7	0.5	0.0
Erie	48.9	35.0	0.6	0.5	7.5	6.1	0.3	0.6	0.0	0.0	0.5	1.4	0.2	0.0
Essex	0.1	0.1	0.3	0.1	1.0	0.9	0.8	0.8	0.0	0.0	0.7	0.8	0.0	0.0
Franklin	0.3	0.1	0.3	0.1	0.9	0.8	0.9	0.9	0.0	0.1	0.8	0.8	0.0	0.0
Fulton	1.3	1.0	0.2	0.1	0.6	0.5	0.5	0.6	0.0	0.0	0.4	0.7	0.0	0.0
Genesee	2.2	1.5	0.3	0.2	0.7	0.7	0.2	0.3	0.0	0.0	0.2	0.4	0.1	0.0
Greene	0.3	0.1	0.3	0.1	0.7	0.6	0.8	1.0	0.0	0.1	0.3	0.5	0.1	0.0
Hamilton	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.0	0.0
Herkimer	1.9	1.2	0.2	0.1	1.1	0.9	0.6	0.6	0.0	0.0	0.6	0.8	0.2	0.0
Jefferson	2.9	1.9	0.7	0.3	2.6	2.0	0.6	0.8	0.0	0.1	0.7	1.0	0.0	0.0
Kings	49.0	46.2	1.0	0.8	10.5	8.8	2.6	10.5	0.1	0.7	0.0	0.2	0.6	0.2
Lewis	0.3	0.1	0.2	0.1	0.3	0.3	0.3	0.4	0.0	0.0	0.7	1.1	0.0	0.0
Livingston	1.9	1.3	0.4	0.3	1.0	1.0	0.2	0.3	0.0	0.0	0.4	0.7	0.1	0.0
Madison	1.7	1.3	0.3	0.2	0.9	0.9	0.5	0.6	0.0	0.0	0.4	0.7	0.0	0.0
Monroe	36.4	25.9	0.6	0.3	14.3	10.1	0.4	0.9	0.0	0.1	0.3	0.7	0.2	0.0
Montgomery	1.3	1.0	0.1	0.1	0.6	0.4	0.4	0.5	0.0	0.0	0.2	0.4	0.0	0.0
Nassau	28.1	24.0	0.6	0.3	5.1	6.9	7.7	17.9	0.3	1.2	0.1	0.2	1.2	0.0
New York	21.0	15.5	0.6	0.5	21.4	23.0	4.5	15.8	0.2	1.0	0.1	0.0	0.6	0.1
Niagara	10.5	7.5	0.4	0.3	2.4	1.9	0.3	0.6	0.0	0.0	0.3	0.6	0.1	0.0
Oneida	7.7	5.8	0.5	0.3	3.2	2.7	1.1	1.6	0.0	0.1	0.7	1.0	0.3	0.0
Onondaga	19.5	14.9	0.5	0.4	9.7	7.2	0.6	0.9	0.0	0.1	0.5	0.8	0.2	0.0
Ontario	4.1	2.8	0.6	0.4	2.0	1.5	0.3	0.4	0.0	0.0	0.4	0.7	0.1	0.0
Orange	6.3	6.3	0.5	0.4	2.9	3.4	2.0	3.7	0.1	0.2	0.3	0.7	0.2	0.0
Orleans	1.1	0.7	0.4	0.2	0.5	0.5	0.2	0.3	0.0	0.0	0.3	0.5	0.0	0.0
Oswego	3.0	2.2	0.9	0.6	1.8	1.3	0.4	0.6	0.0	0.0	1.1	1.5	0.1	0.0
Otsego	0.7	0.4	0.4	0.3	0.9	0.8	0.7	0.9	0.0	0.1	0.8	1.1	0.1	0.0
Putnam	0.3	0.3	0.1	0.1	1.4	2.2	1.2	2.1	0.0	0.1	0.1	0.3	0.0	0.0
Queens	43.8	41.1	0.9	0.7	7.4	9.5	3.6	12.6	0.1	0.8	0.0	0.1	0.5	0.1
Rensselaer	4.5	3.0	0.5	0.3	2.4	2.1	1.1	1.5	0.0	0.1	0.7	1.0	0.2	0.0
Richmond	13.0	13.9	0.1	0.1	1.4	1.3	0.4	1.1	0.0	0.1	0.0	0.0	0.5	0.0
Rockland	8.2	9.2	0.1	0.1	1.7	1.9	0.2	0.3	0.0	0.0	0.0	0.1	0.2	0.0
St. Lawrence	2.8	1.5	0.5	0.2	1.8	1.4	1.1	1.3	0.0	0.1	1.7	2.0	0.0	0.0
Saratoga	8.3	5.1	1.0	0.6	3.5	2.9	1.0	1.4	0.0	0.1	0.6	1.2	0.1	0.1
Schenectady	5.9	4.5	0.2	0.1	2.3	1.8	0.3	0.6	0.0	0.0	0.1	0.2	0.2	0.0
Schoharie	0.2	0.0	0.2	0.1	0.6	0.6	0.4	0.6	0.0	0.0	0.4	0.7	0.0	0.0
Schuyler	0.2	0.2	0.2	0.1	0.3	0.3	0.1	0.2	0.0	0.0	0.2	0.3	0.0	0.0
Seneca	0.9	0.6	0.3	0.2	0.6	0.4	0.1	0.2	0.0	0.0	0.2	0.2	0.0	0.0
Steuben	3.3	2.4	0.4	0.4	1.6	1.1	0.2	0.3	0.0	0.0	0.9	1.4	0.0	0.0
Suffolk	21.4	19.9	0.9	0.7	7.4	10.5	13.1	25.0	0.5	1.6	0.5	0.9	1.4	0.1
Sullivan	0.2	0.1	0.5	0.3	1.4	1.2	1.4	1.4	0.1	0.1	0.6	0.9	0.1	0.0
Tioga	1.1	0.7	0.3	0.2	0.8	0.5	0.5	0.7	0.0	0.0	0.4	0.7	0.2	0.0
Tompkins	2.9	1.9	0.4	0.3	2.7	1.9	0.3	0.3	0.0	0.0	0.6	0.6	0.2	0.0
Ulster	2.2	1.4	0.8	0.4	2.5	2.2	2.6	3.4	0.1	0.2	1.0	1.2	0.6	0.0
Warren	2.0	1.4	0.4	0.2	1.2	1.0	0.5	0.7	0.0	0.0	0.4	0.5	0.3	0.0
Washington	0.8	0.6	0.3	0.2	0.8	0.7	0.8	0.9	0.0	0.1	0.6	1.1	0.1	0.0
Wayne	3.2	2.2	0.5	0.3	1.6	1.5	0.3	0.5	0.0	0.0	0.5	0.9	0.0	0.0
Westchester	15.8	14.4	0.5	0.4	6.3	7.3	5.3	11.5	0.2	0.8	0.1	0.3	0.3	0.0
Wyoming	1.1	0.8	0.2	0.1	0.8	0.7	0.1	0.2	0.0	0.0	0.4	0.6	0.0	0.0
Yates	0.4	0.3	0.2	0.2	0.5	0.5	0.1	0.1	0.0	0.0	0.3	0.4	0.0	0.0
New York State	**451.8**	**364.3**	**25.6**	**16.0**	**178.3**	**165.2**	**77.7**	**155.5**	**3.1**	**10.2**	**28.2**	**44.7**	**11.3**	**1.0**

Appendix D-1. Occupied Housing Units by Type of Space Heating Fuel by County in New York State, Five-Year Estimates, 2016–2020

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	7,417,224	4,403,117	316,900	925,349	1,451,030	17,610	118,547	7,351	86,022	91,298
New York City	3,191,691	2,080,267	73,089	410,458	499,588	1,908	1,445	2,607	49,288	73,041
Bronx	510,135	242,114	11,745	61,500	169,331	641	53	314	7,111	17,326
Kings	972,314	747,427	24,855	88,351	79,187	420	330	696	12,462	18,586
New York	758,720	350,206	14,813	196,727	148,075	556	643	712	21,415	25,573
Queens	783,362	594,725	19,085	55,369	95,123	291	240	491	7,440	10,598
Richmond	167,160	145,795	2,591	8,511	7,872	0	179	394	860	958
Rest of State	4,225,533	2,322,850	243,811	514,891	951,442	15,702	117,102	4,744	36,734	18,257
Albany	128,122	85,139	3,936	25,095	9,879	185	1,956	123	834	975
Alleghany	18,028	9,466	2,269	2,012	1,161	427	2,436	6	231	20
Broome	79,528	48,375	6,071	12,262	8,656	517	2,359	20	776	492
Cattaraugus	31,999	16,846	4,519	4,614	1,904	406	3,118	9	498	85
Cayuga	30,870	15,126	4,435	3,516	4,396	429	2,097	14	718	139
Chautauqua	53,625	35,367	4,801	8,164	1,385	88	2,525	25	907	363
Chemung	34,328	23,896	2,190	4,446	2,208	271	1,061	10	138	108
Chenango	20,834	3,304	2,942	3,557	7,016	699	2,611	16	598	91
Clinton	31,557	3,595	1,878	10,048	13,083	83	2,366	28	353	123
Columbia	25,323	3,123	3,579	3,721	12,675	48	1,609	80	345	143
Cortland	17,980	9,101	1,836	2,257	2,427	507	1,493	27	268	64
Delaware	18,930	2,367	2,557	2,162	8,113	282	3,014	21	372	42
Dutchess	110,095	29,485	6,309	16,818	53,569	128	2,108	221	947	510
Erie	392,910	346,292	7,232	29,192	4,609	144	2,350	104	1,983	1,004
Essex	16,182	660	2,288	2,684	8,150	25	2,162	0	133	80
Franklin	18,880	1,359	2,280	2,593	9,444	202	2,584	7	317	94
Fulton	22,406	8,410	2,539	2,180	6,634	97	1,902	22	466	156
Genesee	24,174	14,387	3,065	2,603	2,547	219	775	40	494	44
Greene	17,681	1,776	2,609	2,392	9,141	45	1,213	25	446	34
Hamilton	1,416	23	333	86	690	1	260	3	20	0
Herkimer	25,093	10,672	1,926	3,276	6,126	301	2,193	75	481	43
Jefferson	43,046	17,639	6,350	8,719	6,606	41	2,711	11	661	308
Lewis	10,398	1,618	1,769	762	3,407	41	2,568	3	212	18
Livingston	24,496	12,095	3,786	3,395	2,733	273	1,694	27	427	66
Madison	25,959	10,712	3,356	3,126	6,143	583	1,663	15	342	19
Monroe	305,210	236,759	6,237	51,237	5,590	129	1,490	82	2,110	1,576
Montgomery	19,621	9,036	1,366	2,182	5,063	267	1,054	19	419	215
Nassau	449,967	265,836	8,784	26,767	144,064	93	462	774	1,994	1,193
Niagara	90,022	70,051	4,731	8,783	4,186	89	1,306	27	541	308
Oneida	90,675	52,566	5,976	12,154	14,531	307	3,350	134	1,169	488
Onondaga	187,349	131,659	5,838	36,184	7,520	855	2,072	106	1,696	1,419
Ontario	45,711	26,247	5,775	7,045	3,598	402	1,759	56	679	150
Orange	130,428	63,129	8,049	15,871	39,529	229	2,064	145	983	429
Orleans	16,634	7,091	3,759	1,760	2,528	61	1,211	0	172	52
Oswego	46,597	19,718	9,181	6,361	5,139	550	4,654	69	788	137
Ostego	23,768	4,293	3,795	3,099	8,541	203	3,343	27	326	141
Putnam	34,915	3,221	1,923	7,306	21,366	30	653	21	272	123
Rensselaer	65,455	30,954	5,502	9,290	15,320	70	3,238	113	734	234
Rockland	101,167	85,572	1,287	9,654	3,209	83	314	161	455	432
St. Lawrence	41,925	14,661	4,514	5,291	10,816	160	5,658	16	445	364
Saratoga	95,898	55,076	10,168	12,843	13,646	347	2,499	63	970	286
Schenectady	57,479	41,185	2,246	8,598	4,024	39	555	104	425	303
Schoharie	12,780	987	2,083	2,019	5,410	129	1,836	19	254	43
Schuyler	7,402	1,313	2,008	1,170	1,435	433	729	0	291	23
Seneca	13,784	5,659	2,631	2,195	1,772	429	731	5	282	80
Steuben	40,099	21,332	4,538	5,551	2,659	1,337	4,004	22	585	71
Suffolk	495,667	197,881	13,764	37,854	238,124	334	2,916	927	2,334	1,533
Sullivan	28,762	1,114	4,411	4,480	15,776	227	2,237	32	390	95
Tioga	20,643	6,236	2,969	2,483	6,048	868	1,696	74	221	48
Tompkins	40,817	18,641	4,616	9,791	3,554	719	2,374	108	629	385
Ulster	70,088	14,241	8,265	8,885	33,028	131	4,213	249	739	337
Warren	29,034	12,475	3,667	4,053	6,697	87	1,587	115	288	65
Washington	24,054	5,217	2,999	2,743	10,031	203	2,518	61	185	97
Wayne	37,281	19,482	5,081	5,545	4,058	242	2,138	0	441	294
Westchester	353,485	180,473	8,314	39,513	118,960	115	991	262	2,629	2,228
Wyoming	16,055	7,271	2,420	2,789	1,502	195	1,627	15	216	20
Yates	8,901	2,641	2,059	1,715	1,016	297	995	6	105	67

Appendix D-2. Occupied Housing Units by Type of Space Heating Fuel by County in New York State, One-Year Estimates, 2019, [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	All Other Fuels	No Fuel Used
New York State	7,446,812	4,519,999	319,576	911,445	1,393,560	16,959	79,096	83,469
New York City	3,211,033	2,154,216	63,946	405,735	473,788	1,588	42,185	65,492
Bronx	513,890	265,500	9,168	54,331	167,620	393	5,078	11,404
Kings	978,091	764,741	22,369	90,490	70,759	227	10,132	18,567
New York	768,203	375,735	14,664	200,466	133,620	768	18,923	22,680
Queens	784,552	600,522	15,895	53,155	93,753	200	7,840	12,020
Richmond	166,297	147,718	1,850	7,293	8,036	0	212	821
Rest of State	3,834,788	2,250,657	198,412	455,603	799,626	9,787	30,864	16,553
Albany	128,284	88,693	3,300	22,790	10,323	0	871	638
Broome	79,309	49,014	5,694	12,343	7,695	669	785	643
Cattaraugus	33,056	17,635	4,647	4,372	2,512	532	346	211
Cayuga	31,489	15,269	5,087	3,483	4,392	522	840	32
Chautauqua	55,345	36,170	4,716	9,148	1,607	104	1,352	195
Chemung	33,490	23,926	2,184	3,823	1,778	352	152	97
Clinton	31,422	4,027	2,972	11,240	10,887	82	166	82
Dutchess	110,529	30,712	6,821	15,656	53,031	101	978	1,236
Erie	398,326	350,703	7,085	29,479	4,446	116	2,569	1,131
Jefferson	41,214	16,362	7,450	8,820	5,559	48	598	83
Livingston	23,409	11,370	3,579	3,065	3,154	139	718	20
Madison	25,986	11,354	3,379	3,336	5,674	581	335	0
Monroe	305,284	241,322	5,136	48,171	5,161	125	2,229	1,339
Nassau	449,798	275,854	8,208	24,206	138,093	0	1,247	1,093
Niagara	90,625	66,552	5,637	12,475	4,114	61	579	230
Oneida	90,273	53,410	6,111	11,969	13,196	376	1,281	165
Onondaga	183,218	127,795	7,025	33,009	8,305	1,060	2,413	2,057
Ontario	46,025	27,140	5,408	7,528	3,980	265	389	101
Orange	131,421	62,847	8,180	17,277	39,017	122	783	385
Oswego	46,640	18,653	9,800	5,727	7,053	417	397	235
Putnam	34,470	3,198	3,112	7,196	19,251	89	619	315
Rensselaer	65,790	29,834	4,806	10,806	16,152	184	599	444
Rockland	101,424	83,859	1,218	12,042	2,457	45	870	444
St. Lawrence	42,832	15,797	5,306	5,653	9,598	285	787	221
Saratoga	93,547	55,608	9,910	11,926	12,237	100	736	182
Schenectady	62,534	45,208	2,450	8,687	4,885	0	260	196
Steuben	39,283	19,830	5,617	5,408	2,469	1,188	570	37
Suffolk	499,744	212,060	15,744	36,130	228,673	992	2,206	1,338
Sullivan	28,960	1,961	4,588	4,913	15,105	318	553	99
Tompkins	40,322	19,354	4,176	9,775	3,282	520	505	301
Ulster	69,376	15,442	9,254	8,353	32,234	36	390	264
Warren	29,593	13,996	4,698	3,732	5,509	160	82	77
Wayne	36,634	19,733	4,611	6,559	3,368	198	447	67
Westchester	355,136	185,969	10,503	36,506	114,429	0	3,212	2,595

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

Appendix D-3. New York State Population Estimates by County, 2009–2019

Table D-3.

County	July 2009	July 2010	July 2011	July 2012	July 2013	July 2014	July 2015	July 2016	July 2017	July 2018	July 2019
New York State	19,378,144	19,399,878	19,499,241	19,572,932	19,624,447	19,651,049	19,654,666	19,633,428	19,589,572	19,530,351	19,453,561
Albany	304,208	304,086	304,596	305,723	306,589	307,151	307,433	307,597	307,717	306,585	305,506
Alleghany	48,923	48,971	48,800	48,210	47,900	47,652	47,334	47,044	46,639	46,332	46,091
Bronx	1,384,580	1,387,298	1,397,335	1,411,496	1,421,928	1,430,942	1,440,005	1,444,417	1,440,625	1,432,087	1,418,207
Broome	200,675	200,481	199,363	198,667	197,914	197,251	195,928	194,498	193,100	191,925	190,488
Cattaraugus	80,337	80,218	79,815	79,348	78,996	78,677	77,926	77,658	77,176	76,726	76,117
Cayuga	80,008	79,895	79,693	79,505	79,088	78,762	78,298	77,674	77,457	77,121	76,576
Chautauqua	134,907	134,725	134,209	133,304	132,852	131,751	130,529	129,206	128,372	127,472	126,903
Chemung	88,847	88,895	88,899	89,137	88,199	87,177	86,705	85,644	84,736	83,935	83,456
Chenango	50,511	50,399	50,182	49,883	49,477	49,319	48,772	48,315	47,805	47,445	47,207
Clinton	82,131	82,096	81,728	81,714	81,523	81,463	80,718	80,500	80,531	80,679	80,485
Columbia	63,066	63,036	62,528	62,449	62,170	61,942	61,434	60,835	60,338	59,785	59,461
Cortland	49,290	49,279	49,380	49,023	48,905	48,740	48,290	47,915	47,815	47,722	47,581
Deleware	47,962	47,888	47,584	47,215	46,803	46,562	45,891	45,393	45,028	44,526	44,135
Dutchess	297,454	297,728	298,133	297,023	296,268	295,127	294,039	293,029	293,545	293,939	294,218
Erie	919,134	919,152	919,843	919,906	920,869	921,755	920,644	918,678	919,034	919,717	918,702
Essex	39,373	39,360	39,271	38,875	38,601	38,323	37,965	37,671	37,487	37,288	36,885
Franklin	51,601	51,645	51,545	51,791	51,212	51,096	50,540	51,081	50,465	50,279	50,022
Fulton	55,513	55,455	55,112	54,845	54,345	53,932	53,801	53,610	53,802	53,633	53,383
Genesee	59,934	59,928	59,880	59,672	59,112	58,725	58,462	58,013	57,798	57,487	57,280
Greene	49,214	49,139	48,857	48,587	48,308	47,964	47,616	47,494	47,442	47,381	47,188
Hamilton	4,841	4,851	4,826	4,803	4,766	4,700	4,699	4,556	4,471	4,432	4,416
Herkimer	64,469	64,470	64,386	64,227	63,883	63,384	62,652	62,436	62,163	61,713	61,319
Jefferson	116,232	116,592	117,752	120,235	118,490	117,971	116,371	112,980	113,157	111,866	109,834
Kings	2,504,721	2,509,828	2,540,817	2,568,450	2,587,684	2,601,513	2,608,794	2,608,423	2,594,676	2,578,074	2,559,903
Lewis	27,090	27,077	27,027	27,196	27,098	27,089	26,827	26,647	26,605	26,486	26,296
Livingston	65,206	65,240	64,849	64,796	64,627	64,585	64,344	64,000	63,483	63,213	62,914
Madison	73,452	73,440	72,887	72,414	72,457	72,210	71,636	71,387	70,942	71,117	70,941
Monroe	744,394	744,580	746,751	747,344	748,290	747,364	745,577	743,770	742,724	742,864	741,770
Montgomery	50,264	50,307	49,911	49,829	49,743	49,679	49,564	49,169	49,163	49,394	49,221
Nassau	1,339,880	1,341,669	1,346,223	1,349,616	1,352,193	1,354,705	1,354,840	1,355,952	1,357,293	1,357,534	1,356,924
New York	1,586,381	1,588,767	1,608,293	1,623,911	1,627,491	1,630,678	1,636,063	1,635,443	1,630,698	1,629,055	1,628,706
Niagara	216,480	216,475	215,719	214,713	214,105	213,305	212,358	211,554	210,848	210,060	209,281
Oneida	234,860	234,756	234,218	233,765	233,347	232,598	231,264	230,375	230,011	229,474	228,671
Onondaga	467,067	467,533	467,614	467,030	468,146	467,285	466,277	464,109	461,795	461,649	460,528
Ontario	108,099	108,176	108,599	108,611	109,044	109,334	109,271	109,229	109,538	109,738	109,777
Orange	372,826	373,445	374,097	373,699	374,320	374,845	375,803	377,799	379,758	382,126	384,940
Orleans	42,890	42,851	42,648	42,391	42,229	41,861	41,481	41,247	40,786	40,655	40,352
Oswego	122,105	122,137	121,981	121,458	121,170	120,590	119,735	118,895	118,427	117,515	117,124
Ostego	62,278	62,259	61,971	61,747	61,614	60,950	60,504	60,132	59,920	59,810	59,493
Putnam	99,654	99,667	99,827	99,625	99,572	99,438	99,185	98,761	98,856	98,814	98,320
Queens	2,230,619	2,234,701	2,255,482	2,272,222	2,287,185	2,298,736	2,305,838	2,306,830	2,295,808	2,274,605	2,253,858
Rensselaer	159,433	159,340	159,589	159,437	159,545	159,666	159,436	159,294	159,200	159,283	158,714
Richmond	468,730	469,615	471,021	470,614	471,803	471,937	472,349	474,040	475,671	476,260	476,143
Rockland	311,691	312,499	315,452	317,196	319,284	321,119	322,919	323,258	324,622	325,522	325,789
St. Lawrence	111,940	111,812	112,277	112,355	111,931	111,437	110,348	109,449	108,699	108,327	107,740
Saratoga	219,598	220,109	221,111	222,483	224,087	224,513	226,078	227,122	229,276	230,170	229,863
Schenectady	154,751	154,861	154,864	155,016	154,944	155,016	154,733	154,475	154,710	155,079	155,299
Schoharie	32,723	32,686	32,618	32,039	31,900	31,767	31,405	31,304	31,255	31,146	30,999
Schuyler	18,362	18,334	18,413	18,498	18,382	18,176	18,027	17,967	17,913	17,884	17,807
Seneca	35,248	35,266	35,380	35,388	35,250	34,879	34,801	34,710	34,246	34,179	34,016
Steuben	98,982	99,005	99,148	98,925	98,843	98,165	97,551	96,958	96,360	95,860	95,379
Suffolk	1,493,116	1,494,339	1,498,892	1,496,982	1,497,346	1,495,525	1,491,967	1,486,406	1,483,358	1,480,830	1,476,601
Sullivan	77,501	77,476	77,053	76,931	76,945	75,634	74,832	74,922	74,994	75,399	75,432
Tioga	51,049	51,008	50,875	50,278	50,103	49,824	49,355	48,824	48,609	48,441	48,203
Tompkins	101,592	101,740	101,821	102,726	103,553	103,391	103,006	102,942	102,664	102,419	102,180
Ulster	182,519	182,418	182,448	181,538	180,698	180,400	179,658	179,042	178,635	178,418	177,573
Warren	65,692	65,665	65,736	65,417	65,083	64,866	64,420	64,438	64,365	64,215	63,944
Washington	63,254	63,356	63,091	63,003	62,765	62,475	62,246	61,795	61,559	61,274	61,204
Wayne	93,751	93,751	93,256	93,029	92,339	91,801	91,291	90,758	90,429	90,200	89,918
Westchester	949,218	950,601	956,262	959,585	964,567	967,044	968,773	970,267	969,689	968,213	967,506
Wyoming	42,154	42,126	41,849	41,700	41,359	41,134	40,930	40,432	40,282	40,023	39,859
Yates	25,364	25,376	25,454	25,337	25,207	25,149	25,128	25,059	25,002	24,951	24,913

Appendix E. New York State Degree Days

New York State Heating and Cooling Degree-Days 2006–2020

Figure E-1

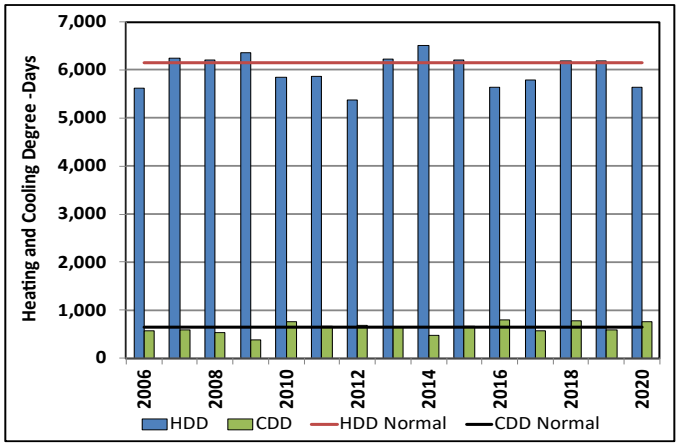


Table E-1. (Monthly Heating Degree-Days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
2006	951	997	886	487	254	53	1	15	136	442	571	828	5,621
2007	1,054	1,213	939	622	218	40	16	23	74	243	752	1,045	6,239
2008	1,085	1,053	930	450	315	22	1	18	107	455	743	1,031	6,210
2009	1,367	997	890	497	240	71	18	16	140	476	583	1,073	6,368
2010	1,183	1,021	715	386	175	35	6	5	91	394	693	1,153	5,857
2011	1,292	1,051	910	490	193	33	0	4	70	381	569	876	5,869
2012	1,038	894	601	508	146	51	0	7	117	347	775	889	5,373
2013	1,102	1,028	936	540	230	54	3	9	166	350	771	1,042	6,231
2014	1,313	1,150	1,087	568	207	25	7	16	116	335	768	925	6,517
2015	1,304	1,378	1,073	542	133	64	5	6	47	429	560	662	6,203
2016	1,124	970	711	579	265	34	0	0	33	284	639	1,003	5,642
2017	1,010	843	994	406	281	64	2	25	85	235	716	1,129	5,790
2018	1,236	854	911	702	182	49	1	0	76	417	795	960	6,183
2019	1,198	989	944	488	249	48	0	10	79	343	821	1,013	6,182
2020	990	933	735	615	293	47	0	5	114	366	574	962	5,634
Normal	1,207	1,021	892	516	232	46	1	13	105	397	679	1,038	6,147

Table E-2. (Monthly Cooling Degree-Days)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
2006	0	0	0	0	24	104	251	170	14	0	0	0	563
2007	0	0	0	0	26	104	169	188	76	28	0	0	591
2008	0	0	0	0	3	144	224	96	65	0	0	0	532
2009	0	0	0	9	5	43	107	191	20	0	0	0	375
2010	0	0	0	0	42	142	295	196	75	1	0	0	751
2011	0	0	0	0	39	97	280	169	84	1	0	0	670
2012	0	0	0	4	44	105	271	203	59	2	0	0	688
2013	0	0	0	0	32	113	301	135	57	6	0	0	644
2014	0	0	0	0	13	93	183	106	69	7	0	0	471
2015	0	0	0	0	56	82	213	200	119	0	0	0	670
2016	0	0	0	0	43	86	253	279	123	15	0	0	799
2017	0	0	0	4	19	111	197	136	89	19	0	0	575
2018	0	0	0	0	25	86	260	267	121	17	0	0	776
2019	0	0	0	0	11	85	283	168	38	11	0	0	596
2020	0	0	0	0	24	132	322	218	59	0	0	0	755
Normal	0	0	0	0	18	119	233	200	64	3	0	0	637

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

Appendix F-1. New York State Electricity Prices by Sector by Utility[1] in Nominal Dollars, 2006–2020

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
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
2013	16.86	26.99	20.65	11.68	14.18	19.46	13.31
2014	18.78	28.85	20.52	13.01	15.85	23.24	14.22
2015	17.67	26.30	19.19	12.00	13.31	20.82	13.07
2016	16.48	24.91	18.94	11.50	12.08	19.40	12.72
2017	17.04	25.34	19.77	11.93	12.61	22.24	13.51
2018	18.59	26.36	20.68	12.53	12.59	20.53	13.98
2019	17.19	25.30	20.39	11.39	12.54	19.41	12.85
2020	17.57	26.15	21.22	11.49	12.64	18.65	12.61

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
2006	10.12	18.37	18.75	12.25	14.35	12.09	11.23
2007	11.26	19.27	17.76	12.05	15.38	13.53	11.00
2008	13.28	21.20	18.59	12.46	16.84	14.70	11.36
2009	12.12	19.64	17.39	9.23	12.66	13.01	10.12
2010	12.64	20.38	19.27	10.21	13.69	14.31	11.88
2011	12.13	20.70	18.12	9.62	13.13	13.64	11.39
2012	12.47	20.04	17.23	9.40	10.69	12.29	11.72
2013	13.21	20.61	18.62	11.52	12.06	14.61	13.04
2014	15.53	22.16	18.82	13.05	13.33	17.36	13.50
2015	13.94	20.57	17.46	11.41	10.89	15.29	12.31
2016	12.67	19.13	16.72	10.36	9.49	13.40	11.80
2017	12.89	19.73	18.75	10.27	9.73	14.65	12.26
2018	14.01	19.30	18.79	11.13	9.99	13.66	13.17
2019	13.01	18.70	18.27	9.62	8.79	13.30	11.41
2020	13.23	20.16	18.81	9.66	8.60	13.69	10.88

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
2006	7.66	16.82	N/A	7.25	18.31	8.54	8.17
2007	8.53	18.02	N/A	6.81	17.05	9.85	7.99
2008	12.47	19.56	N/A	7.19	20.44	11.94	8.26
2009	10.52	18.05	N/A	5.53	15.36	7.59	6.47
2010	11.15	18.92	N/A	6.04	15.00	8.08	8.90
2011	10.01	18.65	N/A	5.84	15.47	7.04	8.50
2012	10.27	17.26	N/A	5.47	10.58	5.80	9.36
2013	10.69	18.30	N/A	5.98	8.10	8.03	11.71
2014	13.02	20.18	N/A	8.81	8.65	11.09	12.07
2015	10.92	16.70	N/A	7.21	6.35	8.73	10.50
2016	9.76	16.68	N/A	6.56	5.34	8.39	9.82
2017	10.41	17.18	N/A	6.56	5.78	7.18	10.90
2018	11.13	16.72	N/A	9.34	6.44	7.78	13.06
2019	10.11	14.70	N/A	7.42	5.00	5.45	10.88
2020	9.93	15.58	N/A	7.47	4.95	4.32	10.02

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

Appendix F-2. New York State Electricity Customers by Sector by Utility, 2006–2020

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/ Other	Total
2006	Bundled	246,921	2,527,297	988,501	701,371	1,343,802	137,776	258,345	139,591	17,061	0	3,966	6,364,631
2006	Delivery	2,698	201,652	22	50,960	94,454	51,982	61,026	0	0	0	0	462,794
2006	**Total**	**249,619**	**2,728,949**	**988,523**	**752,331**	**1,438,256**	**189,758**	**319,371**	**139,591**	**17,061**	**0**	**3,966**	**6,827,425**
2007	Bundled	248,621	2,403,262	989,705	679,298	1,308,819	138,326	264,226	140,145	17,176	0	3,959	6,193,537
2007	Delivery	3,227	344,996	22	77,757	133,645	52,626	55,598	0	0	0	0	667,871
2007	**Total**	**251,848**	**2,748,258**	**989,727**	**757,055**	**1,442,464**	**190,952**	**319,824**	**140,145**	**17,176**	**0**	**3,959**	**6,861,408**
2008	Bundled	244,470	2,312,650	991,385	653,965	1,271,407	138,899	261,889	140,970	17,341	0	3,954	6,036,930
2008	Delivery	9,240	456,629	7	104,749	175,420	53,345	58,923	0	0	0	0	858,313
2008	**Total**	**253,710**	**2,769,279**	**991,392**	**758,714**	**1,446,827**	**192,244**	**320,812**	**140,970**	**17,341**	**0**	**3,954**	**6,895,243**
2009	Bundled	240,551	2,280,223	995,350	636,962	1,245,334	140,244	259,569	141,014	17,692	0	3,963	5,960,902
2009	Delivery	12,358	500,463	1	120,867	204,921	52,623	62,434	0	0	0	0	953,667
2009	**Total**	**252,909**	**2,780,686**	**995,351**	**757,829**	**1,450,255**	**192,867**	**322,003**	**141,014**	**17,692**	**0**	**3,963**	**6,914,569**
2010	Bundled	237,920	2,288,286	997,361	611,712	1,224,605	132,344	256,607	141,325	17,601	0	3,962	5,911,723
2010	Delivery	15,555	519,200	1	149,116	230,164	61,103	68,054	0	0	0	0	1,043,193
2010	**Total**	**253,475**	**2,807,486**	**997,362**	**760,828**	**1,454,769**	**193,447**	**324,661**	**141,325**	**17,601**	**0**	**3,962**	**6,954,916**
2011	Bundled	235,742	2,263,566	997,520	587,353	1,199,358	128,238	249,138	141,530	17,566	0	3,973	5,823,984
2011	Delivery	18,413	569,199	1	174,488	258,822	65,413	77,311	0	0	0	0	1,163,647
2011	**Total**	**254,155**	**2,832,765**	**997,521**	**761,841**	**1,458,180**	**193,651**	**326,449**	**141,530**	**17,566**	**0**	**3,973**	**6,987,631**
2012	Bundled	225,159	2,161,397	998,404	576,672	1,174,731	120,892	245,761	87,856	6,056	0	69,578	5,666,506
2012	Delivery	28,250	688,186	71	184,793	286,703	73,344	82,820	0	0	0	67	1,344,234
2012	**Total**	**253,409**	**2,849,583**	**998,475**	**761,465**	**1,461,434**	**194,236**	**328,581**	**87,856**	**6,056**	**0**	**69,645**	**7,010,740**
2013	Bundled	217,523	2,113,173	996,217	574,429	1,165,012	117,183	246,295	87,961	6,067	0	69,867	5,593,727
2013	Delivery	36,370	746,375	215	187,235	301,568	78,084	83,885	0	0	0	407	1,434,139
2013	**Total**	**253,893**	**2,859,548**	**996,432**	**761,664**	**1,466,580**	**195,267**	**330,180**	**87,961**	**6,067**	**0**	**70,274**	**7,027,866**
2014	Bundled	213,187	2,135,972	996,453	583,185	1,164,691	117,671	253,092	87,775	6,060	7,650	62,556	5,628,292
2014	Delivery	41,162	733,909	63	180,404	306,231	78,179	78,275	0	0	0	314	1,418,537
2014	**Total**	**254,349**	**2,869,881**	**996,516**	**763,589**	**1,470,922**	**195,850**	**331,367**	**87,775**	**6,060**	**7,650**	**62,870**	**7,046,829**
2015	Bundled	213,731	2,196,201	1,002,930	597,341	1,189,904	121,745	261,440	87,923	6,064	17,014	53,368	5,747,661
2015	Delivery	42,047	689,832	27	166,909	285,904	75,159	71,316	0	0	0	242	1,331,436
2015	**Total**	**255,778**	**2,886,033**	**1,002,957**	**764,250**	**1,475,808**	**196,904**	**332,756**	**87,923**	**6,064**	**17,014**	**53,610**	**7,079,097**
2016	Bundled	226,402	2,187,429	1,005,734	608,584	1,220,352	128,099	270,864	87,954	7,925	30,846	39,213	5,813,402
2016	Delivery	39,659	708,600	25	158,370	264,515	70,232	63,886	0	0	0	212	1,305,499
2016	**Total**	**266,061**	**2,896,029**	**1,005,759**	**766,954**	**1,484,867**	**198,331**	**334,750**	**87,954**	**7,925**	**30,846**	**39,425**	**7,118,901**
2017	Bundled	222,189	2,211,235	1,008,452	622,558	1,243,100	132,675	279,183	88,007	7,921	42,502	28,115	5,885,937
2017	Delivery	35,122	699,045	41	148,970	250,597	66,670	57,853	0	0	0	178	1,258,476
2017	**Total**	**257,311**	**2,910,280**	**1,008,493**	**771,528**	**1,493,697**	**199,345**	**337,036**	**88,007**	**7,921**	**42,502**	**28,293**	**7,144,413**
2018	Bundled	227,332	2,315,745	1,011,494	642,348	1,269,781	140,570	290,274	88,394	7,917	52,792	17,974	6,064,621
2018	Delivery	31,996	618,530	40	133,673	231,640	60,588	49,651	0	0	0	167	1,126,285
2018	**Total**	**259,328**	**2,934,275**	**1,011,534**	**776,021**	**1,501,421**	**201,158**	**339,925**	**88,394**	**7,917**	**52,792**	**18,141**	**7,190,906**
2019	Bundled	222,451	2,372,477	1,015,686	649,945	1,285,489	141,580	296,612	141,417	17,738	57,937	-53,152	6,148,180
2019	Delivery	38,645	587,472	23	128,303	222,218	61,498	45,046	0	0	0	0	1,083,205
2019	**Total**	**261,096**	**2,959,949**	**1,015,709**	**778,248**	**1,507,707**	**203,078**	**341,658**	**141,417**	**17,738**	**57,937**	**-53,152**	**7,231,385**
2020	Bundled	211,342	2,402,283	1,020,864	656,837	1,307,935	142,401	302,686	67,330	N/A	63,846	33,241	6,208,765
2020	Delivery	52,080	538,931	8	125,533	206,712	61,576	390,840	0	N/A	0	0	1,375,680
2020	**Total**	**263,422**	**2,941,214**	**1,020,872**	**782,370**	**1,514,647**	**203,977**	**693,526**	**67,330**	**N/A**	**63,846**	**33,241**	**7,584,445**

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/ Other	Total
2006	Bundled	42,938	390,897	117,700	86,541	123,449	21,335	23,640	21,242	448	0	576	828,766
2006	Delivery	1,762	82,833	2,198	26,467	38,815	8,725	15,378	0	0	0	0	176,178
2006	**Total**	**44,700**	**473,730**	**119,898**	**113,008**	**162,264**	**30,060**	**39,018**	**21,242**	**448**	**0**	**576**	**1,004,944**
2007	Bundled	43,399	391,071	117,844	81,786	117,655	21,622	24,108	20,900	472	0	575	819,432
2007	Delivery	1,870	95,745	2,200	30,200	45,916	8,768	14,732	0	0	0	0	199,431
2007	**Total**	**45,269**	**486,816**	**120,044**	**111,986**	**163,571**	**30,390**	**38,840**	**20,900**	**472**	**0**	**575**	**1,018,863**
2008	Bundled	42,761	391,694	117,966	76,284	109,098	21,563	23,916	21,025	480	0	570	805,357
2008	Delivery	2,990	99,653	2,544	36,222	55,040	9,051	15,326	0	0	0	0	220,826
2008	**Total**	**45,751**	**491,347**	**120,510**	**112,506**	**164,138**	**30,614**	**39,242**	**21,025**	**480**	**0**	**570**	**1,026,183**
2009	Bundled	40,613	391,850	118,095	75,082	104,171	20,769	22,832	21,016	483	0	564	795,475
2009	Delivery	4,969	104,455	2,917	39,945	60,354	9,920	16,779	0	0	0	0	239,339
2009	**Total**	**45,582**	**496,305**	**121,012**	**115,027**	**164,525**	**30,689**	**39,611**	**21,016**	**483**	**0**	**564**	**1,034,814**
2010	Bundled	39,196	388,876	118,320	71,547	101,607	19,322	22,285	21,191	487	0	564	783,395
2010	Delivery	6,222	110,876	2,547	43,011	63,113	11,424	17,672	0	0	0	0	254,865
2010	**Total**	**45,418**	**499,752**	**120,867**	**114,558**	**164,720**	**30,746**	**39,957**	**21,191**	**487**	**0**	**564**	**1,038,260**
2011	Bundled	37,576	371,054	117,917	68,473	98,730	18,672	21,372	21,381	491	0	554	756,220
2011	Delivery	7,726	124,704	2,762	46,158	67,587	12,185	18,647	0	0	0	3	279,772
2011	**Total**	**45,302**	**495,758**	**120,679**	**114,631**	**166,317**	**30,857**	**40,019**	**21,381**	**491**	**0**	**557**	**1,035,992**
2012	Bundled	35,638	349,340	117,568	67,874	98,886	17,759	20,516	12,276	202	0	10,019	730,078
2012	Delivery	9,485	144,982	2,959	47,984	70,541	13,188	19,047	0	0	0	4	308,190
2012	**Total**	**45,123**	**494,322**	**120,527**	**115,858**	**169,427**	**30,947**	**39,563**	**12,276**	**202**	**0**	**10,023**	**1,038,268**
2013	Bundled	34,217	341,327	116,388	69,136	97,955	16,935	20,991	12,255	210	0	9,971	719,385
2013	Delivery	11,044	152,969	3,755	48,703	71,720	14,154	18,639	0	0	0	29	321,013
2013	**Total**	**45,261**	**494,296**	**120,143**	**117,839**	**169,675**	**31,089**	**39,630**	**12,255**	**210**	**0**	**10,000**	**1,040,398**
2014	Bundled	33,384	342,181	116,293	69,443	94,509	16,848	21,250	12,093	213	23	9,902	716,139
2014	Delivery	11,856	156,644	4,881	48,422	74,452	14,381	18,759	0	0	0	37	329,432
2014	**Total**	**45,240**	**498,825**	**121,174**	**117,865**	**168,961**	**31,229**	**40,009**	**12,093**	**213**	**23**	**9,939**	**1,045,571**
2015	Bundled	33,288	349,478	112,610	70,993	98,408	16,322	21,193	12,124	207	27	9,829	724,479
2015	Delivery	12,324	161,479	3,536	47,146	71,998	15,099	19,022	0	0	0	53	330,657
2015	**Total**	**45,612**	**510,957**	**116,146**	**118,139**	**170,406**	**31,421**	**40,215**	**12,124**	**207**	**27**	**9,882**	**1,055,136**
2016	Bundled	34,264	358,352	112,922	73,348	102,502	16,542	21,958	11,870	232	132	9,744	741,866
2016	Delivery	12,206	164,550	3,544	46,882	70,240	15,168	18,375	0	0	0	65	331,030
2016	**Total**	**46,470**	**522,902**	**116,466**	**120,230**	**172,742**	**31,710**	**40,333**	**11,870**	**232**	**132**	**9,809**	**1,072,896**
2017	Bundled	34,900	372,504	115,173	74,565	105,040	17,103	22,538	12,109	234	87	9,953	764,206
2017	Delivery	11,158	162,548	3,978	45,768	69,264	14,860	18,031	0	0	0	76	325,683
2017	**Total**	**46,058**	**535,052**	**119,151**	**120,333**	**174,304**	**31,963**	**40,569**	**12,109**	**234**	**87**	**10,029**	**1,089,889**
2018	Bundled	36,284	386,512	116,181	75,867	107,628	17,760	22,898	11,967	237	211	9,851	785,396
2018	Delivery	10,372	161,119	4,060	44,946	68,421	14,523	17,727	0	0	0	86	321,254
2018	**Total**	**46,656**	**547,631**	**120,241**	**120,813**	**176,049**	**32,283**	**40,625**	**11,967**	**237**	**211**	**9,937**	**1,106,650**
2019	Bundled	35,776	400,615	117,786	78,268	110,404	18,108	23,505	18,498	527	176	264	803,927
2019	Delivery	11,350	157,612	1,982	44,287	67,190	14,338	17,631	0	0	0	0	314,390
2019	**Total**	**47,126**	**558,227**	**119,768**	**122,555**	**177,594**	**32,446**	**41,136**	**18,498**	**527**	**176**	**264**	**1,118,317**
2020	Bundled	32,912	425,378	121,254	78,979	112,928	18,170	23,411	8,907	N/A	178	13,501	835,618
2020	Delivery	14,442	149,972	394	44,260	66,147	14,384	17,521	0	N/A	0	0	307,120
2020	**Total**	**47,354**	**575,350**	**121,648**	**123,239**	**179,075**	**32,554**	**40,932**	**8,907**	**N/A**	**178**	**13,501**	**1,142,738**

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/ Other	Total
2006	Bundled	959	259	N/A	1,644	874	78	493	1,539	2	0	13	5,861
2006	Delivery	89	585	N/A	1,040	932	33	568	2	0	0	0	3,249
2006	**Total**	**1,048**	**844**	**N/A**	**2,684**	**1,806**	**111**	**1,061**	**1,541**	**2**	**0**	**13**	**9,110**
2007	Bundled	1,181	247	N/A	1,415	817	73	472	1,406	2	0	11	5,624
2007	Delivery	89	612	N/A	1,170	958	36	548	2	0	0	0	3,415
2007	**Total**	**1,270**	**859**	**N/A**	**2,585**	**1,775**	**109**	**1,020**	**1,408**	**2**	**0**	**11**	**9,039**
2008	Bundled	1,027	238	N/A	1,215	768	71	438	1,401	2	0	10	5,170
2008	Delivery	134	620	N/A	1,299	973	36	544	2	0	0	0	3,608
2008	**Total**	**1,161**	**858**	**N/A**	**2,514**	**1,741**	**107**	**982**	**1,403**	**2**	**0**	**10**	**8,778**
2009	Bundled	905	223	N/A	1,056	755	67	406	1,385	2	0	10	4,809
2009	Delivery	191	625	N/A	1,375	975	38	540	2	0	0	0	3,746
2009	**Total**	**1,096**	**848**	**N/A**	**2,431**	**1,730**	**105**	**946**	**1,387**	**2**	**0**	**10**	**8,555**
2010	Bundled	864	184	N/A	939	748	57	364	1,411	2	0	10	4,579
2010	Delivery	214	625	N/A	1,409	952	43	539	2	0	0	0	3,784
2010	**Total**	**1,078**	**809**	**N/A**	**2,348**	**1,700**	**100**	**903**	**1,413**	**2**	**0**	**10**	**8,363**
2011	Bundled	834	130	N/A	853	702	52	325	1,406	2	0	10	4,314
2011	Delivery	246	636	N/A	1,425	983	47	556	2	0	0	0	3,895
2011	**Total**	**1,080**	**766**	**N/A**	**2,278**	**1,685**	**99**	**881**	**1,408**	**2**	**0**	**10**	**8,209**
2012	Bundled	789	97	N/A	796	655	48	333	448	0	0	969	4,135
2012	Delivery	272	666	N/A	1,414	1,017	49	587	2	0	0	0	4,007
2012	**Total**	**1,061**	**763**	**N/A**	**2,210**	**1,672**	**97**	**920**	**450**	**0**	**0**	**969**	**8,142**
2013	Bundled	799	85	N/A	758	630	47	314	442	0	1	886	3,962
2013	Delivery	272	679	N/A	1,397	1,026	43	579	2	0	0	0	3,998
2013	**Total**	**1,071**	**764**	**N/A**	**2,155**	**1,656**	**90**	**893**	**444**	**0**	**1**	**886**	**7,960**
2014	Bundled	763	93	N/A	725	588	42	293	441	0	1	895	3,841
2014	Delivery	295	675	N/A	1,377	1,048	55	568	2	0	0	1	4,021
2014	**Total**	**1,058**	**768**	**N/A**	**2,102**	**1,636**	**97**	**861**	**443**	**0**	**1**	**896**	**7,862**
2015	Bundled	727	81	N/A	682	569	42	282	429	0	0	887	3,699
2015	Delivery	316	679	N/A	1,266	1,054	54	559	2	0	0	1	3,931
2015	**Total**	**1,043**	**760**	**N/A**	**1,948**	**1,623**	**96**	**841**	**431**	**0**	**0**	**888**	**7,630**
2016	Bundled	745	69	N/A	700	560	45	300	427	0	0	890	3,736
2016	Delivery	304	693	N/A	1,280	1,045	56	529	2	0	0	1	3,910
2016	**Total**	**1,049**	**762**	**N/A**	**1,980**	**1,605**	**101**	**829**	**429**	**0**	**0**	**891**	**7,646**
2017	Bundled	724	67	N/A	687	556	50	294	414	0	0	376	3,168
2017	Delivery	291	700	N/A	1,235	1,036	55	510	1	0	0	1	3,829
2017	**Total**	**1,015**	**767**	**N/A**	**1,922**	**1,592**	**105**	**804**	**415**	**0**	**0**	**377**	**6,997**
2018	Bundled	766	59	N/A	653	560	48	289	419	0	0	350	3,144
2018	Delivery	275	694	N/A	1,199	1,026	57	487	1	0	0	1	3,740
2018	**Total**	**1,041**	**753**	**N/A**	**1,852**	**1,586**	**105**	**776**	**420**	**0**	**0**	**351**	**6,884**
2019	Bundled	749	52	N/A	608	560	53	279	1,407	0	0	19	3,727
2019	Delivery	292	691	N/A	1,182	1,022	58	468	0	0	0	0	3,713
2019	**Total**	**1,041**	**743**	**N/A**	**1,790**	**1,582**	**111**	**747**	**1,407**	**0**	**0**	**19**	**7,440**
2020	Bundled	690	46	N/A	590	568	43	276	315	0	0	1,343	3,871
2020	Delivery	318	676	N/A	1,138	1,012	61	457	0	0	0	0	3,662
2020	**Total**	**1,008**	**722**	**N/A**	**1,728**	**1,580**	**104**	**733**	**315**	**0**	**0**	**1,343**	**7,533**

Electricity Customers by Sector and by Power Marketer

Top 10 power marketers in each sector and total of all power marketers.

Table F-2d. Residential Sector Electricity Customers by Power Marketers

Year	Ambit Energy Holdings, LLC	Constellation New Energy, Inc	Direct Energy Services	Just Energy New York Corp.	IDT Energy, Inc.	Green Mountain Energy Company	Family Energy, Inc. New York	Major Energy Electric Services	Agway Energy Services, LLC	Viridian Energy NY LLC	Total All Power Marketers
2006	N/A	N/A	18,216	N/A	N/A	N/A	N/A	N/A	36,827	N/A	422,016
2007	N/A	N/A	26,713	N/A	164,717	N/A	N/A	N/A	33,575	N/A	737,923
2008	75,395	N/A	51,501	35,872	183,116	N/A	N/A	N/A	29,304	N/A	940,815
2009	70,935	N/A	71,100	59,501	199,349	N/A	N/A	N/A	30,445	N/A	967,457
2010	103,237	N/A	60,497	86,396	182,071	N/A	N/A	9,788	32,943	N/A	1,039,714
2011	166,899	N/A	43,973	112,900	186,311	N/A	N/A	17,170	37,015	N/A	1,126,903
2012	210,320	N/A	38,325	136,535	135,729	35,735	N/A	24,693	41,209	9,115	1,150,844
2013	209,393	N/A	186,139	143,969	121,764	49,030	N/A	24,790	40,437	20,051	1,141,026
2014	193,934	N/A	177,777	120,742	110,185	51,708	37,160	29,062	37,921	40,528	1,785,034
2015	165,468	N/A	159,084	100,350	101,066	59,964	56,639	37,035	36,262	39,564	1,331,839
2016	150,267	1,442	137,925	84,650	83,580	71,261	56,170	34,571	37,286	35,540	1,215,960
2017	142,814	110,293	109,393	70,021	68,465	75,096	49,503	33,868	36,228	30,933	1,147,381
2018	131,112	129,450	99,388	60,017	47,574	78,173	45,891	34,738	32,338	20,545	1,126,285
2019	125,237	148,790	89,867	55,463	37,705	82,136	44,429	25,328	26,419	15,258	1,090,148
2020	117,325	156,706	96,179	43,649	30,253	82,642	38,183	16,249	22,040	12,247	1,012,618

Table F-2e. Commercial Sector Electricity Customers by Power Marketers

Year	Constellation New Energy, Inc	Strategic Energy LLC	ENGIE Resources LLC	Calpine Energy Solutions, LLC	Hudson Energy Services	Consolidated Edison Sol Inc	Champion Energy Services	Plymouth Rock Energy, LLC	Agera Energy LLC	Bluerock Energy, Inc.	Total All Power Marketers
2006	597	3,614	226	18	N/A	7,045	N/A	N/A	N/A	N/A	155,423
2007	630	4,630	2,664	31	4,500	7,282	N/A	N/A	N/A	1,829	196,494
2008	1,079	3,391	4,079	46	11,966	6,524	N/A	N/A	N/A	3,507	237,883
2009	847	3,391	388	56	8,415	9,018	N/A	N/A	N/A	5,912	211,908
2010	799	3,208	384	47	9,458	9,572	N/A	N/A	N/A	6,537	208,409
2011	812	2,612	513	46	16,763	12,128	N/A	245	N/A	7,841	210,580
2012	777	2,282	660	37	16,148	9,980	N/A	7,048	N/A	7,939	220,440
2013	742	4,238	631	42	15,066	8,378	N/A	12,468	N/A	8,327	212,607
2014	1,148	4,680	613	76	13,624	9,028	60	7,353	N/A	8,666	243,802
2015	2,074	9,895	604	169	11,477	14,972	188	6,021	669	10,627	246,574
2016	2,584	9,920	741	172	10,480	14,830	276	5,377	3,002	10,947	227,226
2017	30,647	20,773	999	194	9,002	4,979	351	5,904	3,963	10,716	243,995
2018	47,379	N/A	1,100	194	8,258	N/A	483	7,189	3,703	9,087	321,254
2019	57,299	N/A	1,313	187	8,118	N/A	554	8,307	3,067	633	252,540
2020	57,606	N/A	1,485	111	7,660	N/A	889	N/A	89	N/A	246,431

Table F-2f. Industrial Sector Electricity Customers by Power Marketers

Year	Constellation New Energy, Inc	Strategic Energy LLC	Constellation Energy Services NY, Inc.	ENGIE Resources LLC	TransCanada Power Marketing, Ltd.	EDF Energy Services, LLC	Calpine Energy Solutions, LLC	EnergyMark, LLC	Great Eastern Energy	Linde Energy Services, Inc.	Total All Power Marketers
2006	1	231	414	N/A	N/A	N/A	1	N/A	N/A	N/A	10,222
2007	3	296	531	264	N/A	N/A	1	N/A	N/A	N/A	7,175
2008	5	216	534	403	N/A	N/A	2	N/A	N/A	N/A	6,413
2009	4	216	456	95	N/A	N/A	6	N/A	N/A	N/A	7,044
2010	73	205	420	107	6	N/A	9	N/A	N/A	1	6,305
2011	90	167	421	184	91	N/A	9	N/A	N/A	1	7,144
2012	92	146	438	155	116	N/A	7	5	N/A	3	9,777
2013	82	271	463	74	95	N/A	7	42	N/A	3	17,085
2014	84	299	509	89	116	N/A	6	65	N/A	3	8,776
2015	103	5,085	592	89	89	4	6	89	4,801	3	11,017
2016	117	4,628	568	93	56	5	6	93	2,750	3	8,407
2017	819	1,443	589	114	47	10	6	97	2,107	3	5,397
2018	1,220	N/A	N/A	137	14	33	6	104	34	N/A	3,740
2019	1,343	N/A	N/A	164	N/A	36	5	117	2	N/A	3,529
2020	1,281	N/A	N/A	185	N/A	9	5	134	N/A	N/A	2,365

Appendix F-3. New York State Electricity Sales by Sector by Utility, 2006–2020

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/Other	Total
2006	Bundled	2,005	12,590	9,278	5,649	10,248	1,035	1,983	1,832	164	0	34	44,817
2006	Delivery	26	1,045	0	500	899	537	594	0	0	0	0	3,602
2006	**Total**	**2,030**	**13,635**	**9,278**	**6,149**	**11,146**	**1,572**	**2,577**	**1,832**	**164**	**0**	**34**	**48,419**
2007	Bundled	2,087	12,312	9,508	5,659	10,140	1,131	2,097	1,879	168	0	35	45,017
2007	Delivery	31	1,796	0	640	1,228	515	568	0	0	0	0	4,778
2007	**Total**	**2,118**	**14,108**	**9,508**	**6,299**	**11,368**	**1,646**	**2,665**	**1,879**	**168**	**0**	**35**	**49,795**
2008	Bundled	2,004	11,720	9,512	5,297	9,637	1,130	2,013	1,880	166	0	35	43,394
2008	Delivery	80	2,333	0	976	1,155	529	560	0	0	0	0	5,633
2008	**Total**	**2,084**	**14,053**	**9,512**	**6,273**	**10,792**	**1,659**	**2,573**	**1,880**	**166**	**0**	**35**	**49,027**
2009	Bundled	1,916	10,952	9,211	5,107	9,361	1,076	1,987	1,876	166	0	36	41,689
2009	Delivery	107	2,497	0	1,115	1,771	485	575	0	0	0	0	6,550
2009	**Total**	**2,023**	**13,449**	**9,211**	**6,223**	**11,132**	**1,561**	**2,562**	**1,876**	**166**	**0**	**36**	**48,239**
2010	Bundled	1,959	11,518	9,972	5,121	9,543	1,115	2,035	1,849	169	0	36	43,315
2010	Delivery	139	2,837	0	1,398	2,039	575	642	0	0	0	0	7,630
2010	**Total**	**2,098**	**14,355**	**9,972**	**6,519**	**11,582**	**1,690**	**2,677**	**1,849**	**169**	**0**	**36**	**50,946**
2011	Bundled	1,945	11,404	9,849	4,984	9,367	1,025	1,999	1,926	171	0	38	42,707
2011	Delivery	164	3,045	0	1,648	2,302	644	729	0	0	0	0	8,533
2011	**Total**	**2,109**	**14,449**	**9,849**	**6,632**	**11,669**	**1,669**	**2,729**	**1,926**	**171**	**0**	**38**	**51,240**
2012	Bundled	1,801	10,718	9,734	4,848	9,036	955	1,927	1,136	63	0	825	41,042
2012	Delivery	249	3,619	1	1,749	2,559	711	762	0	0	0	1	9,650
2012	**Total**	**2,049**	**14,337**	**9,735**	**6,597**	**11,595**	**1,665**	**2,688**	**1,136**	**63**	**0**	**825**	**50,692**
2013	Bundled	1,760	10,273	9,533	4,950	9,012	927	1,921	1,189	66	0	909	40,540
2013	Delivery	327	3,884	3	1,802	2,702	750	765	0	0	0	4	10,237
2013	**Total**	**2,087**	**14,157**	**9,536**	**6,752**	**11,715**	**1,678**	**2,686**	**1,189**	**66**	**0**	**912**	**50,777**
2014	Bundled	1,685	9,869	9,389	5,015	8,915	877	1,947	1,229	67	31	967	39,991
2014	Delivery	362	3,698	1	1,719	2,747	748	706	0	0	0	3	9,984
2014	**Total**	**2,047**	**13,568**	**9,390**	**6,734**	**11,661**	**1,626**	**2,653**	**1,229**	**67**	**31**	**970**	**49,975**
2015	Bundled	1,712	10,534	9,611	5,167	9,158	913	2,016	1,213	66	133	962	41,486
2015	Delivery	369	3,602	0	1,595	2,561	750	648	0	0	0	2	9,527
2015	**Total**	**2,081**	**14,136**	**9,611**	**6,762**	**11,719**	**1,663**	**2,664**	**1,213**	**66**	**133**	**965**	**51,013**
2016	Bundled	1,784	10,400	9,463	5,124	9,292	972	2,152	1,133	72	245	931	41,569
2016	Delivery	334	3,822	0	1,495	2,308	711	590	0	0	0	2	9,263
2016	**Total**	**2,118**	**14,221**	**9,463**	**6,619**	**11,600**	**1,683**	**2,742**	**1,133**	**72**	**245**	**933**	**50,831**
2017	Bundled	1,698	9,924	9,087	5,161	9,134	933	2,132	1,132	71	310	914	40,496
2017	Delivery	282	3,646	2	1,406	2,113	624	511	0	0	0	2	8,584
2017	**Total**	**1,980**	**13,570**	**9,089**	**6,566**	**11,247**	**1,556**	**2,643**	**1,132**	**71**	**310**	**915**	**49,081**
2018	Bundled	1,889	10,797	9,538	5,637	9,953	1,047	2,352	1,222	75	355	999	43,863
2018	Delivery	277	3,467	1	1,337	2,116	621	470	0	0	0	0	8,288
2018	**Total**	**2,166**	**14,264**	**9,539**	**6,973**	**12,069**	**1,668**	**2,822**	**1,222**	**75**	**355**	**999**	**52,152**
2019	Bundled	1,742	10,594	9,076	5,588	9,632	1,038	2,293	1,672	118	420	37	42,210
2019	Delivery	316	3,177	0	1,205	1,943	578	406	0	0	0	0	7,625
2019	**Total**	**2,058**	**13,771**	**9,076**	**6,793**	**11,575**	**1,616**	**2,699**	**1,672**	**118**	**420**	**37**	**49,835**
2020	Bundled	312	2,905	2,030	671	1,302	205	312	61	N/A	81	1,199	9,079
2020	Delivery	53	538	0	84	158	70	31	0	N/A	0	0	933
2020	**Total**	**365**	**3,443**	**2,030**	**755**	**1,460**	**275**	**343**	**61**	**N/A**	**81**	**1,199**	**10,011**

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/ Other	Total
2006	Bundled	1,521	13,230	8,825	2,532	5,075	1,133	897	1,149	20	0	18	34,399
2006	Delivery	469	25,435	1,242	2,968	7,964	789	2,161	0	0	0	0	41,029
2006	**Total**	**1,989**	**38,665**	**10,067**	**5,500**	**13,040**	**1,922**	**3,058**	**1,149**	**20**	**0**	**18**	**75,428**
2007	Bundled	1,615	12,743	8,969	2,447	4,691	1,189	931	1,188	23	0	18	33,814
2007	Delivery	455	27,333	1,342	3,226	8,530	778	2,367	0	0	0	0	44,030
2007	**Total**	**2,070**	**40,077**	**10,310**	**5,672**	**13,221**	**1,967**	**3,298**	**1,188**	**23**	**0**	**18**	**77,844**
2008	Bundled	1,576	12,679	8,542	2,280	4,135	1,152	846	1,160	24	0	18	32,412
2008	Delivery	453	27,604	1,552	3,405	8,742	841	2,345	0	0	0	0	44,942
2008	**Total**	**2,029**	**40,282**	**10,094**	**5,684**	**12,877**	**1,993**	**3,191**	**1,160**	**24**	**0**	**18**	**77,354**
2009	Bundled	1,297	12,324	8,305	2,002	4,016	981	711	1,119	27	0	17	30,801
2009	Delivery	684	26,821	1,474	3,518	8,726	934	2,387	0	0	0	0	44,545
2009	**Total**	**1,981**	**39,145**	**9,779**	**5,521**	**12,742**	**1,916**	**3,098**	**1,119**	**27**	**0**	**17**	**75,346**
2010	Bundled	1,183	12,417	8,854	1,774	3,873	833	657	1,109	26	0	18	30,745
2010	Delivery	820	28,053	1,274	3,759	8,972	1,130	2,523	0	0	0	0	46,531
2010	**Total**	**2,003**	**40,470**	**10,128**	**5,534**	**12,845**	**1,963**	**3,180**	**1,109**	**26**	**0**	**18**	**77,276**
2011	Bundled	1,052	11,082	8,771	1,581	3,453	696	612	1,138	30	0	17	28,432
2011	Delivery	946	28,600	1,223	3,999	9,353	1,270	2,582	0	0	0	0	47,974
2011	**Total**	**1,998**	**39,683**	**9,994**	**5,581**	**12,806**	**1,967**	**3,193**	**1,138**	**30**	**0**	**17**	**76,406**
2012	Bundled	900	9,788	8,661	1,522	3,232	601	576	833	18	0	302	26,433
2012	Delivery	1,066	29,604	1,292	4,220	9,461	1,335	2,607	0	0	0	0	49,585
2012	**Total**	**1,966**	**39,392**	**9,953**	**5,742**	**12,693**	**1,935**	**3,183**	**833**	**18**	**0**	**302**	**76,018**
2013	Bundled	849	9,744	8,499	1,438	3,290	571	602	846	19	0	429	26,288
2013	Delivery	1,118	29,832	1,578	4,310	9,316	1,357	2,542	0	0	0	1	50,055
2013	**Total**	**1,967**	**39,576**	**10,077**	**5,748**	**12,606**	**1,928**	**3,144**	**846**	**19**	**0**	**430**	**76,342**
2014	Bundled	802	9,783	8,344	1,413	3,220	524	612	858	21	7	676	26,261
2014	Delivery	1,149	29,810	1,633	4,201	9,504	1,417	2,564	0	0	0	2	50,280
2014	**Total**	**1,951**	**39,593**	**9,977**	**5,614**	**12,724**	**1,941**	**3,176**	**858**	**21**	**7**	**678**	**76,541**
2015	Bundled	774	9,585	8,221	1,365	2,945	501	542	866	22	11	675	25,507
2015	Delivery	1,209	30,204	1,774	4,453	9,771	1,476	2,608	0	0	0	4	51,498
2015	**Total**	**1,983**	**39,789**	**9,995**	**5,818**	**12,716**	**1,977**	**3,149**	**866**	**22**	**11**	**679**	**77,006**
2016	Bundled	771	9,424	8,083	1,416	3,113	517	538	841	19	15	818	25,555
2016	Delivery	1,177	30,081	1,747	4,363	9,470	1,479	2,629	0	0	0	6	50,952
2016	**Total**	**1,949**	**39,505**	**9,830**	**5,779**	**12,583**	**1,997**	**3,166**	**841**	**19**	**15**	**824**	**76,507**
2017	Bundled	792	9,242	7,821	1,490	3,142	520	534	841	18	12	838	25,252
2017	Delivery	1,143	29,516	1,820	4,279	9,347	1,408	2,563	0	0	0	6	50,081
2017	**Total**	**1,934**	**38,758**	**9,641**	**5,769**	**12,488**	**1,928**	**3,097**	**841**	**18**	**12**	**845**	**75,333**
2018	Bundled	843	9,598	7,875	1,540	3,393	561	579	852	21	24	873	26,158
2018	Delivery	1,156	29,808	1,877	4,326	9,391	1,434	2,589	0	0	0	0	50,581
2018	**Total**	**1,998**	**39,406**	**9,752**	**5,866**	**12,784**	**1,996**	**3,167**	**852**	**21**	**24**	**873**	**76,739**
2019	Bundled	782	9,922	8,440	1,602	3,439	557	635	1,094	34	34	522	27,062
2019	Delivery	1,171	28,497	1,039	4,310	9,054	1,403	2,529	0	0	0	0	48,002
2019	**Total**	**1,953**	**38,418**	**9,478**	**5,911**	**12,494**	**1,960**	**3,164**	**1,094**	**34**	**34**	**522**	**75,063**
2020	Bundled	738	9,382	8,238	1,505	3,340	591	631	514	N/A	34	1,053	26,025
2020	Delivery	1,072	25,487	500	3,916	8,425	1,232	2,307	0	N/A	0	0	42,938
2020	**Total**	**1,810**	**34,869**	**8,738**	**5,421**	**11,765**	**1,823**	**2,937**	**514**	**N/A**	**34**	**1,053**	**68,964**

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

Year	Category	Central Hudson	Consolidated Edison	Long Island Power Authority	New York State Elec. & Gas Corp. (NYSEG)	National Grid	Orange & Rockland	Rochester Gas & Electric	Municipal	Cooperative	Behind the Meter	Adjustment/ Other	Total
2006	Bundled	511	268	N/A	1,745	1,589	305	641	1,668	9	0	13	6,748
2006	Delivery	968	458	N/A	1,677	3,722	240	908	19	0	0	0	7,992
2006	**Total**	**1,480**	**725**	**N/A**	**3,422**	**5,312**	**545**	**1,549**	**1,687**	**9**	**0**	**13**	**14,741**
2007	Bundled	1,048	246	N/A	1,609	1,635	340	612	1,642	9	0	12	7,153
2007	Delivery	396	458	N/A	1,772	3,774	181	983	19	0	0	0	7,582
2007	**Total**	**1,444**	**704**	**N/A**	**3,381**	**5,409**	**522**	**1,595**	**1,661**	**9**	**0**	**12**	**14,735**
2008	Bundled	148	230	N/A	1,236	1,346	282	589	1,659	9	0	9	5,509
2008	Delivery	1,161	432	N/A	2,156	4,131	219	831	19	0	0	0	8,949
2008	**Total**	**1,309**	**662**	**N/A**	**3,392**	**5,477**	**501**	**1,420**	**1,678**	**9**	**0**	**9**	**14,458**
2009	Bundled	106	200	N/A	843	1,155	249	396	1,552	10	0	9	4,521
2009	Delivery	1,065	482	N/A	2,105	3,735	188	1,034	19	0	0	0	8,628
2009	**Total**	**1,170**	**682**	**N/A**	**2,949**	**4,890**	**438**	**1,430**	**1,570**	**10**	**0**	**9**	**13,149**
2010	Bundled	95	201	N/A	585	1,490	219	343	1,564	9	0	11	4,517
2010	Delivery	1,019	430	N/A	2,383	3,595	202	1,084	18	0	0	0	8,731
2010	**Total**	**1,114**	**631**	**N/A**	**2,968**	**5,085**	**421**	**1,427**	**1,582**	**9**	**0**	**11**	**13,248**
2011	Bundled	93	131	N/A	481	1,254	167	230	1,587	10	0	11	3,963
2011	Delivery	984	464	N/A	2,517	3,855	246	1,136	18	0	0	0	9,220
2011	**Total**	**1,077**	**595**	**N/A**	**2,998**	**5,109**	**412**	**1,366**	**1,605**	**10**	**0**	**11**	**13,184**
2012	Bundled	72	114	N/A	372	1,515	113	111	1,083	0	0	521	3,901
2012	Delivery	986	591	N/A	2,534	3,797	301	1,249	18	0	0	0	9,477
2012	**Total**	**1,058**	**705**	**N/A**	**2,906**	**5,312**	**415**	**1,360**	**1,101**	**0**	**0**	**521**	**13,378**
2013	Bundled	102	99	N/A	323	1,085	90	71	1,067	0	0	778	3,616
2013	Delivery	953	579	N/A	2,634	8,552	307	1,254	16	0	0	0	14,295
2013	**Total**	**1,055**	**678**	**N/A**	**2,957**	**9,637**	**398**	**1,325**	**1,083**	**0**	**0**	**778**	**17,911**
2014	Bundled	83	102	N/A	192	1,018	66	62	1,035	0	3	700	3,261
2014	Delivery	940	548	N/A	2,713	8,936	350	1,239	15	0	0	1	14,742
2014	**Total**	**1,023**	**650**	**N/A**	**2,905**	**9,953**	**416**	**1,301**	**1,050**	**0**	**3**	**701**	**18,003**
2015	Bundled	68	86	N/A	173	933	49	48	1,021	0	0	659	3,038
2015	Delivery	946	576	N/A	2,853	9,062	339	1,248	15	0	0	2	15,041
2015	**Total**	**1,014**	**663**	**N/A**	**3,026**	**9,995**	**388**	**1,296**	**1,036**	**0**	**0**	**661**	**18,079**
2016	Bundled	83	61	N/A	164	906	59	49	1,015	0	0	632	2,968
2016	Delivery	916	556	N/A	2,872	8,807	343	1,234	11	0	0	3	14,741
2016	**Total**	**999**	**617**	**N/A**	**3,036**	**9,713**	**402**	**1,283**	**1,026**	**0**	**0**	**634**	**17,709**
2017	Bundled	71	60	N/A	149	903	56	43	1,028	0	0	645	2,955
2017	Delivery	863	537	N/A	2,828	9,055	332	1,231	7	0	0	3	14,856
2017	**Total**	**934**	**597**	**N/A**	**2,977**	**9,958**	**388**	**1,275**	**1,035**	**0**	**0**	**648**	**17,811**
2018	Bundled	72	57	N/A	102	917	60	37	1,096	0	0	607	2,948
2018	Delivery	845	515	N/A	2,735	9,519	318	1,193	5	0	0	3	15,133
2018	**Total**	**917**	**572**	**N/A**	**2,837**	**10,435**	**378**	**1,231**	**1,101**	**0**	**0**	**610**	**18,081**
2019	Bundled	71	63	N/A	102	1,047	52	42	1,591	0	0	254	3,222
2019	Delivery	826	446	N/A	2,668	8,865	325	1,165	0	0	0	0	14,296
2019	**Total**	**897**	**509**	**N/A**	**2,770**	**9,912**	**377**	**1,208**	**1,591**	**0**	**0**	**254**	**17,518**
2020	Bundled	70	53	N/A	105	942	53	43	896	N/A	0	877	3,038
2020	Delivery	820	372	N/A	2,608	8,408	296	1,064	0	N/A	0	0	13,569
2020	**Total**	**889**	**425**	**N/A**	**2,714**	**9,350**	**349**	**1,107**	**896**	**N/A**	**0**	**877**	**16,607**

Electricity Sales by Sector and by Power Marketer

Top 10 power marketers in each sector and total of all power marketers.

Table F-3d. Residential Sector Electricity Sales by Power Marketers (GWh)

Year	Ambit Energy Holdings, LLC	Constellation New Energy, Inc	Direct Energy Services	Just Energy New York Corp.	IDT Energy, Inc.	Green Mountain Energy Company	Family Energy, Inc. New York	Major Energy Electric Services	Agway Energy Services, LLC	Viridian Energy NY LLC	Total All Power Marketers
2006	N/A	N/A	79	N/A	N/A	N/A	N/A	N/A	348	N/A	3,026
2007	N/A	N/A	200	N/A	787	N/A	N/A	N/A	300	N/A	5,218
2008	227	N/A	340	213	845	N/A	N/A	N/A	264	N/A	5,887
2009	437	N/A	489	345	950	N/A	N/A	N/A	249	N/A	6,607
2010	749	N/A	576	566	1,034	N/A	N/A	74	273	N/A	8,264
2011	1,363	N/A	368	746	1,009	N/A	N/A	168	295	N/A	8,720
2012	1,865	N/A	260	935	696	45	N/A	297	323	67	8,524
2013	2,039	N/A	1,634	1,008	632	194	N/A	210	320	198	8,570
2014	1,880	N/A	1,522	844	521	222	227	245	292	357	8,859
2015	1,497	N/A	1,383	708	489	271	355	278	286	355	8,849
2016	1,324	1	1,146	582	400	297	350	276	281	302	8,726
2017	1,195	1,019	871	483	352	321	301	294	275	236	8,294
2018	1,179	1,272	724	1,179	248	350	311	N/A	261	166	8,290
2019	1,056	1,335	709	385	190	354	258	244	203	117	8,513
2020	1,032	1,548	847	326	165	377	248	170	175	95	7,957

Table F-3e. Commercial Sector Electricity Sales by Power Marketers (GWh)

Year	Constellation New Energy, Inc	Strategic Energy LLC	ENGIE Resources LLC	Calpine Energy Solutions, LLC	Hudson Energy Services	Consolidated Edison Sol Inc	Champion Energy Services	Plymouth Rock Energy, LLC	Agera Energy LLC	Bluerock Energy, Inc.	Total All Power Marketers
2006	6,232	2,035	2,370	283	N/A	6,214	N/A	N/A	N/A	N/A	26,255
2007	5,838	2,532	2,349	475	1,863	6,464	N/A	N/A	N/A	201	32,859
2008	4,382	2,157	2,728	706	2,034	5,087	N/A	N/A	N/A	293	32,015
2009	5,037	1,958	2,754	734	1,978	5,115	N/A	N/A	N/A	428	31,829
2010	5,490	2,769	2,621	658	2,456	4,919	N/A	N/A	N/A	624	33,426
2011	4,751	3,422	3,199	632	2,513	4,457	N/A	119	N/A	639	33,639
2012	4,264	4,741	3,461	606	2,697	3,675	N/A	522	N/A	602	34,189
2013	3,849	5,800	3,354	560	2,204	3,110	N/A	817	N/A	582	34,634
2014	4,682	5,936	3,299	640	1,845	3,265	146	759	N/A	593	35,179
2015	6,648	9,826	4,544	966	1,399	3,669	482	785	65	600	39,126
2016	7,614	9,281	5,185	1,331	1,262	3,067	847	781	243	666	39,621
2017	10,679	7,855	4,574	1,901	1,200	1,059	915	852	767	668	38,443
2018	11,411	N/A	4,463	1,816	1,031	N/A	1,029	1,137	828	612	50,587
2019	10,721	N/A	4,445	1,866	793	N/A	1,092	1,205	635	4	38,108
2020	9,888	N/A	4,013	1,852	595	N/A	725	N/A	1	N/A	35,016

Table F-3f. Industrial Sector Electricity Sales by Power Marketers (GWh)

Year	Constellation New Energy, Inc	Strategic Energy LLC	Constellation Energy Services NY, Inc.	ENGIE Resources LLC	TransCanada Power Marketing, Ltd.	EDF Energy Services, LLC	Calpine Energy Solutions, LLC	EnergyMark, LLC	Great Eastern Energy	Linde Energy Services, Inc.	Total All Power Marketers
2006	480	130	1,140	N/A	N/A	N/A	15	N/A	N/A	N/A	8,601
2007	453	162	1,535	232	N/A	N/A	13	N/A	N/A	N/A	7,750
2008	341	138	1,531	270	N/A	N/A	24	N/A	N/A	N/A	8,171
2009	392	124	1,231	675	N/A	N/A	41	N/A	N/A	N/A	8,748
2010	1,070	177	1,227	726	16	N/A	224	N/A	N/A	6	9,467
2011	1,135	218	1,351	1,147	219	N/A	218	N/A	N/A	66	10,129
2012	1,368	303	1,442	812	319	N/A	217	3	N/A	96	10,665
2013	1,334	370	1,334	393	281	N/A	167	51	N/A	77	9,429
2014	1,269	379	1,320	481	452	N/A	110	96	N/A	42	8,802
2015	1,529	4,491	1,529	673	581	66	139	118	148	45	9,549
2016	1,664	3,446	1,562	648	539	253	137	128	128	45	8,639
2017	3,185	2,369	524	520	498	381	192	125	116	43	8,030
2018	3,814	N/A	N/A	557	132	558	250	198	44	NA	15,134
2019	3,608	N/A	N/A	555	N/A	696	259	259	3	N/A	6,477
2020	3,813	N/A	N/A	501	N/A	155	251	239	N/A	N/A	5,339

Appendix F-4. New York State Natural Gas Prices by Sector and by Utility in Nominal Dollars, 2006–2020

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. And Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas And Elec. Corp.	St. Lawrence Gas Co.
2006	13.15	16.23	18.72	14.91	16.11	15.70	14.04	14.35	17.95	14.32	12.30
2007	16.12	16.46	20.05	13.40	16.47	14.36	13.88	13.12	17.95	13.86	13.33
2008	17.21	18.25	21.40	14.95	17.07	15.39	14.56	14.08	18.26	14.95	13.84
2009	14.36	17.44	20.24	12.04	15.69	13.40	13.65	12.81	17.39	12.66	12.04
2010	13.66	16.89	19.98	12.25	14.22	10.85	12.44	11.81	15.64	11.89	11.94
2011	13.10	17.72	18.49	11.33	13.90	10.89	12.70	12.14	15.33	11.63	12.84
2012	11.84	16.39	17.78	11.33	13.11	10.34	12.35	11.26	14.52	11.34	13.22
2013	11.61	15.35	17.96	11.70	12.66	9.62	11.07	10.50	13.82	10.38	12.73
2014	11.87	17.01	16.78	11.40	12.83	10.11	10.84	9.66	13.41	9.95	12.29
2015	10.94	14.67	13.95	9.57	12.42	7.84	9.74	8.41	10.35	8.67	12.45
2016	11.11	14.51	13.97	8.78	11.88	6.83	9.49	8.18	11.03	8.26	10.96
2017	12.99	16.28	15.46	9.52	13.29	8.07	10.43	8.98	14.27	9.08	11.64
2018	13.40	17.23	16.76	7.56	13.85	8.16	10.27	9.00	14.63	9.51	11.51
2019	14.15	17.07	17.44	8.57	13.94	7.88	10.15	8.77	13.71	8.77	10.74
2020	14.40	17.90	18.65	9.15	13.77	7.74	9.57	7.89	12.76	8.17	10.57

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	12.76	13.20	10.97	13.94	13.12	13.96	12.97	12.81	17.03	12.54	11.44
2007	13.83	13.13	11.21	12.38	13.92	13.24	12.82	12.23	16.97	12.26	12.00
2008	14.96	14.46	10.54	13.70	14.95	14.04	13.54	14.35	17.15	13.23	12.53
2009	11.79	12.85	9.68	10.47	12.98	12.66	12.38	11.50	16.10	11.11	10.18
2010	11.61	11.72	8.83	10.54	11.36	10.17	11.24	10.18	13.94	10.13	9.70
2011	11.22	12.08	7.80	9.68	11.86	9.63	11.17	10.55	13.69	9.68	10.56
2012	9.23	9.74	6.79	9.28	10.71	9.31	10.39	9.34	12.47	9.25	10.47
2013	9.83	9.49	7.46	9.95	11.12	8.79	9.36	8.79	12.01	8.48	10.09
2014	10.08	11.68	8.17	9.56	10.59	9.20	9.70	8.28	11.68	8.06	10.28
2015	9.22	9.45	6.43	7.79	10.05	7.00	8.48	6.51	8.47	6.85	10.17
2016	8.98	7.80	6.28	7.77	8.99	6.10	7.78	5.88	8.45	6.26	8.59
2017	10.46	9.97	7.27	8.62	10.04	7.40	8.46	7.21	11.64	7.02	9.11
2018	11.79	11.31	7.67	5.29	10.82	7.62	8.51	7.93	12.23	7.43	9.13
2019	11.71	10.16	7.77	5.87	10.49	7.59	8.33	6.36	11.08	6.64	7.95
2020	11.57	9.87	6.87	6.37	10.13	7.19	7.76	7.19	9.88	6.07	7.40

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	10.43	12.03	10.70	12.83	N/A	10.64	10.57	11.24	16.24	11.74	13.94
2007	13.33	12.45	10.79	0.74	N/A	10.78	11.03	10.71	16.85	11.42	11.57
2008	14.75	14.00	10.35	0.65	N/A	12.14	12.06	11.55	16.40	12.42	11.38
2009	10.66	11.92	9.49	0.69	N/A	11.89	11.07	9.26	15.36	10.62	7.81
2010	9.59	10.16	8.31	N/A	N/A	7.35	9.22	8.36	12.69	9.42	7.81
2011	9.41	10.44	7.56	N/A	N/A	8.81	8.36	9.20	11.97	8.74	8.55
2012	7.50	7.94	6.71	N/A	N/A	7.42	7.85	8.12	10.55	8.11	8.58
2013	8.65	7.69	7.18	N/A	N/A	8.05	8.36	7.80	10.83	7.51	7.36
2014	9.19	10.31	7.93	N/A	N/A	8.29	8.37	7.43	10.54	7.25	8.54
2015	8.09	7.45	6.33	N/A	N/A	6.26	7.86	4.77	6.77	5.89	7.23
2016	7.75	6.10	5.64	N/A	N/A	5.06	6.45	4.21	6.90	5.13	5.79
2017	9.37	8.29	6.75	N/A	N/A	6.14	7.30	4.98	9.16	5.70	6.62
2018	10.07	10.22	7.32	N/A	N/A	6.15	7.43	5.88	10.44	6.24	7.26
2019	10.32	9.17	7.11	N/A	N/A	6.19	7.16	5.70	9.04	5.56	4.91
2020	9.59	8.60	6.29	N/A	N/A	6.21	6.45	4.85	7.90	4.71	4.60

Appendix F-5. New York State Natural Gas Customers by Sector by Utility, 2006–2020

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	1,133,240	61,623	1,004,285	16,987	472,250	472,042	226,301	522,562	113,810	272,655	13,630
2007	1,139,533	62,605	1,045,956	13,468	477,395	479,539	227,350	526,036	114,657	273,882	13,714
2008	1,146,761	63,403	947,502	13,517	480,968	481,568	229,176	530,636	115,837	275,075	13,651
2009	1,147,105	63,570	936,894	13,531	488,324	482,209	229,805	534,864	116,773	276,202	13,782
2010	1,158,412	64,129	939,586	13,621	491,658	483,378	231,286	538,042	117,367	278,398	13,833
2011	1,165,043	64,538	942,468	13,699	495,067	483,214	231,032	540,759	117,963	280,057	13,829
2012	1,168,014	64,811	944,233	13,790	499,683	485,321	230,355	544,544	118,250	275,602	13,891
2013	1,170,112	65,652	944,930	13,744	503,537	487,184	231,138	549,251	118,997	282,576	13,955
2014	1,174,315	65,881	943,359	13,746	510,359	489,345	232,106	552,921	119,655	283,820	14,091
2015	1,219,393	67,648	944,522	13,697	518,708	461,086	232,595	557,797	117,814	285,216	14,218
2016	1,214,526	68,859	944,108	13,614	525,826	492,981	233,880	563,241	118,970	286,902	14,441
2017	1,203,713	69,401	943,155	13,688	531,365	495,996	235,590	568,790	120,239	289,133	14,615
2018	1,208,512	70,438	943,882	13,889	537,057	501,260	237,129	573,737	124,017	291,816	14,715
2019	1,216,950	71,489	943,086	13,844	543,638	500,788	237,932	577,354	125,098	293,541	14,778
2020	1,214,179	72,766	932,045	13,561	549,861	500,300	239,447	582,184	126,479	295,860	14,887

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	42,579	10,111	144,164	854	57,062	33,784	29,197	44,622	11,369	21,837	1,606
2007	44,129	10,326	138,194	1,004	57,810	33,555	28,849	44,587	11,506	21,745	1,621
2008	40,479	10,477	121,107	1,009	58,274	33,448	28,949	44,527	11,492	21,886	1,638
2009	41,012	10,515	121,391	997	58,557	33,006	29,681	44,553	11,605	22,133	1,652
2010	41,634	10,544	122,432	1,015	58,600	33,452	29,237	44,624	11,599	22,121	1,651
2011	41,619	10,608	122,435	1,011	58,610	33,669	29,241	44,729	11,635	22,227	1,653
2012	42,372	10,639	123,369	1,023	58,714	34,213	29,160	44,438	11,600	21,672	1,658
2013	42,201	10,811	123,942	1,119	59,145	34,365	29,849	44,426	10,693	22,437	1,666
2014	40,721	10,898	131,144	1,066	60,045	34,715	29,931	44,585	11,820	22,687	1,682
2015	41,376	11,189	133,403	1,091	60,488	35,091	30,247	44,899	14,779	22,830	1,696
2016	43,755	11,376	132,994	1,079	61,231	35,503	30,345	45,365	14,897	23,071	1,726
2017	41,590	11,461	134,148	1,052	61,634	34,847	30,178	45,683	14,812	23,283	1,748
2018	42,005	11,735	139,134	1,092	62,080	35,143	30,065	45,991	12,074	23,263	1,764
2019	43,253	11,969	141,697	1,083	62,449	35,198	30,328	46,269	12,083	23,572	1,761
2020	43,605	12,074	147,036	1,022	62,586	35,064	30,226	46,459	12,092	23,320	1,760

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	784	288	54	24	N/A	550	712	261	44	882	20
2007	4,686	279	48	65	N/A	536	679	266	37	844	21
2008	4,318	278	51	61	N/A	530	691	254	34	817	22
2009	3,960	264	48	61	N/A	507	673	255	29	795	20
2010	3,622	259	46	64	N/A	500	654	251	26	771	20
2011	4,053	253	48	69	N/A	490	626	252	20	754	21
2012	3,428	251	48	74	N/A	493	615	234	20	704	21
2013	3,864	245	48	40	N/A	491	618	214	20	727	21
2014	3,885	251	48	38	N/A	482	624	215	18	709	22
2015	3,657	259	48	38	N/A	439	616	221	19	689	22
2016	4,133	273	48	40	N/A	419	592	227	22	668	21
2017	4,348	279	48	38	N/A	412	577	233	27	646	21
2018	4,573	288	48	36	N/A	432	560	238	25	627	20
2019	4,796	298	48	36	N/A	429	540	239	27	599	17
2020	4,446	295	48	39	N/A	427	525	235	29	580	20

Appendix F-6. New York State Natural Gas Sales by Sector by Utility, 2006–2020

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	100,274	4,707	56,736	1,955	40,747	45,242	22,263	46,300	12,409	23,793	1,545
2007	114,790	5,096	64,811	1,577	46,735	51,096	22,597	50,427	14,063	26,905	1,637
2008	114,362	5,177	64,012	1,549	46,046	49,736	22,561	49,217	13,535	26,008	1,527
2009	116,866	5,173	68,572	1,551	49,791	49,436	22,394	49,495	13,625	25,899	1,562
2010	115,924	4,802	66,362	1,507	47,017	47,028	21,017	47,256	13,143	24,532	1,433
2011	114,278	5,169	67,670	1,551	45,917	48,404	22,057	49,170	12,823	24,776	1,471
2012	105,504	4,314	63,773	1,349	41,990	42,457	19,203	42,725	11,973	22,635	1,346
2013	120,933	5,106	75,286	1,634	49,709	50,022	21,887	49,305	13,853	26,551	1,490
2014	131,329	5,706	86,791	1,783	54,763	54,928	24,132	54,315	14,821	27,450	1,649
2015	126,900	5,697	91,835	1,439	55,978	51,484	23,156	53,255	13,794	26,460	1,564
2016	114,764	5,088	89,463	1,471	49,527	45,965	20,027	46,524	13,044	24,603	1,435
2017	122,036	5,119	94,778	1,549	52,031	47,351	20,752	48,188	13,166	25,585	1,459
2018	133,108	5,888	109,357	1,451	58,063	54,885	23,858	54,713	14,981	27,115	1,648
2019	127,788	5,757	106,090	1,403	56,952	54,088	23,087	53,690	14,676	27,787	1,657
2020	118,483	5,309	97,759	1,306	53,112	49,518	21,437	49,094	13,484	25,617	1,492

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	20,434	6,147	100,158	345	34,749	23,212	18,825	31,045	8,685	14,598	1,411
2007	23,539	6,831	107,971	3,826	38,377	24,551	19,148	33,440	9,343	16,050	1,544
2008	23,477	6,875	114,868	3,631	38,551	24,291	19,307	32,439	8,767	16,065	1,550
2009	23,515	6,826	105,843	3,371	40,413	23,679	19,288	31,960	8,140	15,673	1,605
2010	24,033	6,240	117,023	4,230	39,211	22,636	18,232	30,917	7,681	15,193	1,542
2011	23,910	6,848	117,774	4,312	39,091	23,474	18,874	31,692	7,506	15,616	1,490
2012	22,154	6,038	112,420	3,759	35,432	20,195	17,250	29,391	7,228	14,516	1,410
2013	24,537	6,831	127,190	724	39,108	23,809	19,079	32,929	7,874	16,682	1,580
2014	26,639	7,460	128,894	768	44,811	26,509	20,708	35,925	8,477	17,644	1,855
2015	25,543	7,351	123,328	425	45,133	25,160	20,855	35,815	8,494	16,846	1,798
2016	23,862	7,040	119,415	374	51,348	21,779	18,744	33,042	8,067	16,635	1,848
2017	24,441	7,083	123,629	384	51,172	23,111	19,527	33,895	8,117	16,499	1,924
2018	26,252	7,926	128,313	440	53,794	26,575	21,171	37,082	8,016	17,900	2,153
2019	25,900	7,812	124,297	438	51,485	26,158	20,816	37,004	8,267	17,869	2,140
2020	21,969	7,193	117,499	390	39,900	23,337	19,344	32,896	7,638	16,310	1,925

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

Year	Brooklyn Union Gas (National Grid)	Central Hudson Gas & Electric	Consolidated Edison	Corning Natural Gas	Keyspan Energy (National Grid)	National Fuel Gas Dist.	New York State Elec. and Gas Corp. (NYSEG)	Niagara Mohawk (National Grid)	Orange & Rockland Utilities	Rochester Gas and Elec. Corp.	St. Lawrence Gas Co.
2006	3,696	3,082	1,387	2,745	N/A	16,765	12,561	20,317	2,609	7,286	5,867
2007	4,345	2,904	1,534	352	N/A	17,166	13,254	20,703	2,635	7,275	5,680
2008	4,422	2,987	1,668	335	N/A	16,282	13,739	23,289	2,555	8,233	5,124
2009	3,914	2,819	1,599	394	N/A	13,919	13,155	21,348	2,393	7,200	3,546
2010	4,277	2,922	1,684	282	N/A	14,672	12,666	23,651	2,450	6,998	3,710
2011	3,720	2,903	1,764	327	N/A	14,145	12,643	24,440	2,281	6,967	3,805
2012	3,107	2,574	1,601	318	N/A	13,929	12,594	25,622	2,358	6,548	3,378
2013	3,279	2,896	1,847	3,165	N/A	14,379	13,160	26,296	2,327	6,826	3,426
2014	3,534	3,053	1,913	3,634	N/A	16,993	13,606	26,660	2,176	7,030	3,577
2015	3,201	3,153	1,776	4,020	N/A	16,358	12,476	27,671	2,266	6,689	3,402
2016	3,169	2,937	1,784	3,710	N/A	16,236	11,863	26,781	2,081	6,879	3,429
2017	3,519	2,974	1,799	3,791	N/A	17,175	12,297	25,657	2,138	8,313	3,393
2018	3,871	3,078	1,934	3,986	N/A	18,928	12,294	26,463	2,023	13,645	3,433
2019	5,271	2,847	1,934	4,122	N/A	17,697	12,035	25,876	1,997	13,341	3,451
2020	4,995	4,795	1,769	3,799	N/A	16,862	11,382	23,230	1,988	12,556	3,245

Appendix G-1. New York State Weather Normalized Residential Energy Consumption, 1980–2020

Figure G-1

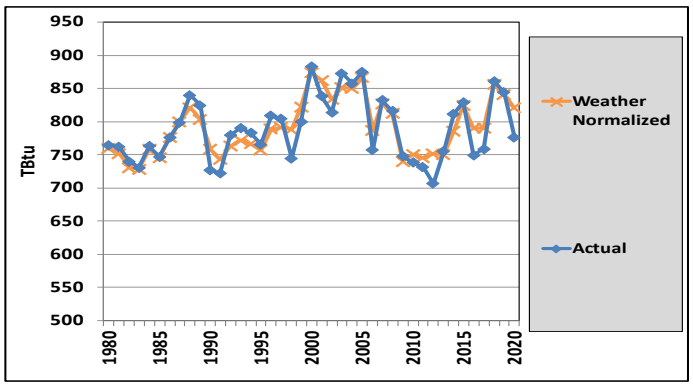


Table G-1. (In Trillion Btu)

Year	Coal	Natural Gas	Distillate[1]	Kerosene	LPG	Total Petroleum	Wood	Electricity	Solar[2]	Geothermal	Total
	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu	TBtu
1980	1.7	339.5	217.4	9.8	9.1	236.2	77.8	104.1	0.0	0.0	759.4
1981	2.1	338.8	200.4	8.6	9.8	218.7	87.0	104.8	0.0	0.0	751.5
1982	2.6	346.3	181.2	10.4	9.1	200.7	76.4	104.9	0.0	0.0	730.8
1983	1.5	329.4	170.6	8.5	10.5	189.6	99.2	108.2	0.0	0.0	728.0
1984	2.3	343.6	199.6	20.2	10.6	230.3	69.7	112.1	0.0	0.0	758.0
1985	2.3	328.2	201.1	18.3	11.4	230.7	72.7	112.0	0.0	0.0	745.9
1986	2.6	345.9	221.2	12.5	11.6	245.2	66.6	115.4	0.0	0.0	775.7
1987	2.2	344.9	241.4	18.2	13.5	273.0	59.4	120.4	0.0	0.0	799.8
1988	1.7	359.0	236.3	23.7	13.3	273.3	59.9	127.4	0.0	0.0	821.4
1989	1.6	364.4	218.0	15.8	14.0	247.8	60.1	129.3	0.3	0.0	803.4
1990	1.4	365.1	193.7	9.9	14.1	217.8	41.9	131.6	0.3	0.0	758.0
1991	1.3	360.8	175.3	11.8	17.7	204.8	42.5	133.1	0.3	0.0	742.9
1992	1.2	379.3	184.4	7.1	17.5	209.0	40.1	132.8	0.3	0.0	762.8
1993	1.0	384.2	173.3	8.9	15.1	197.3	53.0	136.0	0.3	0.1	772.0
1994	0.7	385.9	168.8	8.0	15.2	192.0	50.7	136.8	0.4	0.1	766.7
1995	0.7	381.0	164.3	7.1	15.8	187.2	51.6	135.9	0.4	0.1	756.9
1996	0.8	400.7	170.7	8.3	17.2	196.2	52.8	137.7	0.5	0.1	788.8
1997	0.7	377.3	167.5	9.9	15.3	192.8	82.6	137.0	0.5	0.1	790.9
1998	0.4	378.1	166.0	10.4	15.8	192.2	78.5	138.2	0.5	0.0	788.0
1999	0.6	396.5	170.6	13.0	16.9	200.5	78.3	145.8	0.5	0.1	822.2
2000	0.3	406.7	202.3	13.4	21.7	237.3	82.0	147.1	0.5	0.1	874.0
2001	0.3	404.8	219.7	13.4	17.0	250.0	55.9	150.7	0.5	0.1	862.4
2002	0.1	392.5	197.1	9.2	19.6	226.0	56.4	157.7	0.6	0.1	833.4
2003	0.3	406.5	197.1	9.4	18.4	225.0	58.5	160.7	0.6	0.1	851.6
2004	0.4	398.3	197.3	11.8	19.5	228.5	60.3	161.9	0.7	0.1	850.1
2005	0.3	411.5	201.8	12.6	17.7	232.1	50.4	171.4	0.8	0.1	866.7
2006	0.4	385.9	163.0	9.9	16.8	189.7	44.5	165.5	1.0	0.1	787.1
2007	0.3	405.8	172.7	7.5	18.2	198.4	49.4	171.6	1.1	0.2	826.8
2008	0.0	400.0	161.7	3.8	22.5	187.9	55.4	167.7	1.3	0.2	812.4
2009	0.0	403.7	117.4	5.6	22.3	145.3	23.6	165.6	1.3	0.2	739.8
2010	0.0	413.2	117.6	5.5	23.0	146.1	16.3	173.4	1.5	0.3	750.7
2011	0.0	417.6	109.6	4.0	20.4	134.0	16.7	174.7	1.6	0.7	745.2
2012	0.0	405.3	137.9	1.9	18.6	158.4	13.2	172.8	1.8	0.4	751.9
2013	0.0	426.7	103.9	2.3	19.2	125.4	22.0	173.2	2.0	0.4	749.7
2014	0.0	454.1	108.7	4.1	23.7	136.4	20.9	171.2	2.8	0.4	785.8
2015	0.0	464.0	121.0	2.6	22.3	145.9	36.4	173.9	4.3	0.4	824.9
2016	0.0	452.3	95.9	3.0	22.8	121.7	36.6	172.8	6.4	0.4	790.2
2017	0.0	466.1	88.3	2.0	23.0	113.3	34.6	167.7	8.1	0.4	790.3
2018	0.0	499.5	107.0	2.2	27.1	136.3	33.5	177.4	9.3	0.4	856.4
2019	0.0	486.9	105.1	3.3	28.1	136.5	35.2	171.3	10.6	0.4	840.9
2020	0.0	481.4	85.7	2.6	27.3	115.6	34.1	177.7	11.3	0.4	820.6

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

[2] Includes customer-sited solar electric and thermal energy.

Appendix G-2. New York State Weather Normalized Residential Energy Intensity Indicators, 1990–2020

Figure G-2a: Residential Energy Usage/Household

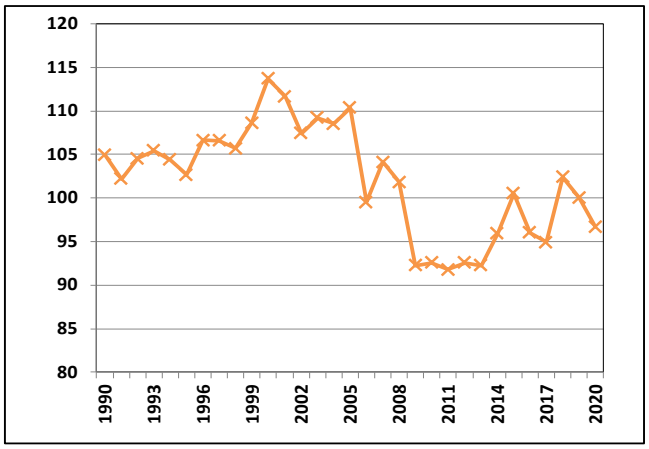


Figure G-2b: Residential Energy Usage/GSP (2020$)

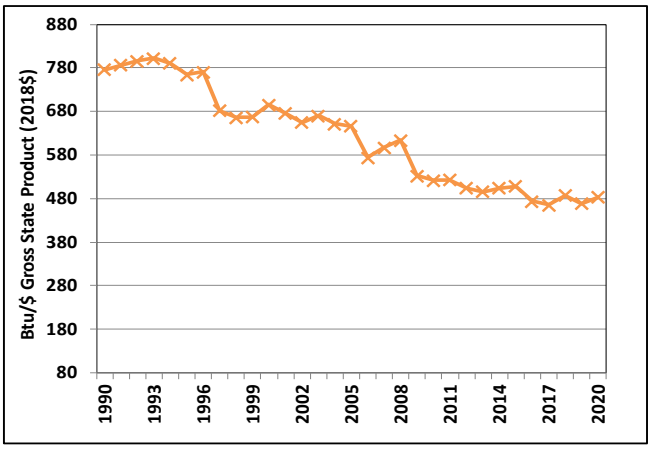


Table G-2. (In Trillion Btu)

Year	Weather Normalized Residential Total Energy	Households	Energy Usage/Household	Gross State Product	Res Energy Usage Per GSP (2020$)
	Tbtu	Thousands	(MMBtu/Household)	Million (2018$)	(Btu/$)
1990	758.0	7,227	104.9	$976,615	776.1
1991	742.9	7,270	102.2	$945,052	786.1
1992	762.8	7,297	104.5	$958,697	795.7
1993	772.0	7,324	105.4	$962,713	801.9
1994	766.7	7,346	104.4	$969,794	790.5
1995	756.9	7,374	102.6	$989,487	765.0
1996	788.8	7,397	106.6	$1,022,961	771.1
1997	790.9	7,423	106.6	$1,159,093	682.4
1998	788.0	7,455	105.7	$1,182,459	666.4
1999	822.2	7,572	108.6	$1,231,247	667.8
2000	874.0	7,689	113.7	$1,256,784	695.4
2001	862.4	7,724	111.6	$1,276,929	675.4
2002	833.4	7,760	107.4	$1,271,907	655.2
2003	851.6	7,799	109.2	$1,269,503	670.9
2004	850.1	7,836	108.5	$1,304,718	651.6
2005	866.7	7,853	110.4	$1,341,340	646.1
2006	787.1	7,908	99.5	$1,371,898	573.7
2007	826.8	7,940	104.1	$1,385,225	596.9
2008	812.4	7,977	101.8	$1,324,254	613.5
2009	739.8	8,018	92.3	$1,388,525	532.8
2010	750.7	8,108	92.6	$1,439,101	521.7
2011	745.2	8,120	91.8	$1,423,592	523.5
2012	751.9	8,124	92.6	$1,491,811	504.0
2013	749.7	8,126	92.3	$1,513,117	495.5
2014	785.8	8,192	95.9	$1,558,670	504.2
2015	824.9	8,207	100.5	$1,622,226	508.5
2016	790.2	8,232	96.0	$1,667,113	474.0
2017	790.3	8,327	94.9	$1,698,755	465.3
2018	856.4	8,364	102.4	$1,757,321	487.3
2019	840.9	8,404	100.1	$1,794,123	468.7
2020	820.6	8,488	96.7	$1,699,045	483.0

Appendix H. New York State Estimated Customer-Sited Solar Capacity and Generation by County, 2010–2020

Table H-1. Solar Installed Capacity (kW)

County	2010	2015	2020
New York State	52,506	525,200	2,831,879
Albany	1,214	18,582	80,799
Alleghany	54	2,922	3,889
Bronx	727	9,644	37,215
Broome	277	2,181	17,761
Cattaraugus	79	663	16,417
Cayuga	99	1,951	9,437
Chautauqua	238	3,464	7,250
Chemung	72	3,134	24,780
Chenango	66	478	19,467
Clinton	264	1,392	18,013
Columbia	1,109	6,661	35,289
Cortland	109	2,592	9,922
Deleware	157	1,048	7,802
Dutchess	2,069	17,040	63,917
Erie	2,947	16,418	85,581
Essex	192	713	2,676
Franklin	73	386	9,099
Fulton	47	1,762	59,925
Genesee	90	1,119	16,820
Greene	297	2,291	29,887
Hamilton	27	104	281
Herkimer	53	812	7,899
Jefferson	125	3,079	43,754
Kings	624	10,318	55,949
Lewis	6	289	10,629
Livingston	127	850	9,604
Madison	129	1,418	32,453
Monroe	327	9,137	73,751
Montgomery	77	4,667	35,220
Nassau	7,516	44,853	192,932
New York	450	1,674	8,538
Niagara	343	2,595	36,667
Oneida	261	8,599	34,180
Onondaga	317	7,915	31,303
Ontario	130	3,587	38,856
Orange	1,240	29,124	153,290
Orleans	36	760	15,611
Oswego	55	2,696	16,648
Ostego	119	735	7,214
Putnam	204	2,878	10,500
Queens	1,312	15,357	103,879
Rensselaer	890	11,910	47,026
Richmond	149	23,449	90,762
Rockland	492	13,474	43,843
St. Lawrence	696	15,321	82,043
Saratoga	546	9,028	66,756
Schenectady	131	1,715	7,355
Schoharie	25	595	1,730
Schuyler	58	1,967	3,220
Seneca	120	3,978	19,037
Steuben	35	497	12,370
Suffolk	18,146	111,888	566,797
Sullivan	466	4,617	40,964
Tioga	134	911	33,506
Tompkins	691	12,651	76,482
Ulster	2,273	14,417	75,623
Warren	196	5,755	14,812
Washington	379	3,384	32,366
Wayne	159	4,042	27,007
Westchester	2,639	30,229	104,315
Wyoming	71	355	3,721
Yates	27	948	7,040

Table H-2. Solar Estimated Annual Generation (MWh)

County	2010	2015	2020
New York State	61,436	584,996	3,324,151
Albany	1,273	20,874	94,845
Alleghany	48	2,850	4,565
Bronx	810	11,432	43,683
Broome	279	2,425	20,848
Cattaraugus	83	717	19,271
Cayuga	104	2,098	11,078
Chautauqua	239	3,457	8,510
Chemung	75	3,053	29,088
Chenango	69	529	22,852
Clinton	250	1,588	21,144
Columbia	1,190	7,403	41,424
Cortland	113	2,651	11,646
Deleware	164	1,154	9,159
Dutchess	2,306	17,918	75,029
Erie	2,708	17,188	100,457
Essex	204	762	3,141
Franklin	75	438	10,681
Fulton	50	1,995	70,342
Genesee	87	1,253	19,744
Greene	325	2,612	35,083
Hamilton	27	107	330
Herkimer	56	865	9,272
Jefferson	111	3,111	51,360
Kings	679	12,024	65,671
Lewis	6	297	12,477
Livingston	134	949	11,273
Madison	132	1,570	38,095
Monroe	338	9,553	86,572
Montgomery	76	5,491	41,342
Nassau	10,230	53,453	226,469
New York	480	1,957	10,022
Niagara	318	2,699	43,041
Oneida	262	8,567	40,121
Onondaga	333	8,840	36,744
Ontario	137	3,858	45,610
Orange	1,380	31,524	179,939
Orleans	38	877	18,325
Oswego	55	3,052	19,542
Ostego	124	793	8,468
Putnam	219	3,036	12,325
Queens	1,473	17,565	121,930
Rensselaer	967	13,856	55,201
Richmond	165	26,652	106,537
Rockland	553	13,946	51,465
St. Lawrence	756	16,579	96,305
Saratoga	565	10,308	78,361
Schenectady	147	2,044	8,633
Schoharie	25	623	2,031
Schuyler	57	1,973	3,779
Seneca	120	4,080	22,346
Steuben	34	472	14,521
Suffolk	22,708	130,238	665,329
Sullivan	481	4,685	48,085
Tioga	134	1,005	39,330
Tompkins	697	12,900	89,777
Ulster	2,533	15,172	88,769
Warren	204	5,785	17,387
Washington	411	3,474	37,992
Wayne	166	4,216	31,702
Westchester	2,869	33,082	122,448
Wyoming	66	398	4,368
Yates	27	973	8,263

Appendix I. Abbreviations and Conversion Factors

Abbreviations

B	billion or 10^9
bbl	barrel
Bcf	Billion cubic feet
Btu	British thermal unit
cf	cubic foot
CO2	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 103
Mcf	Thousand cubic feet
MM	million or 106
N/A	Not applicable
n.a.	Not available
OPEC	Organization of Petroleum Exporting Countries
T	trillion or 1012

Conversion Factors

Approximate heat content of various fuels (2018)

Coal

Electric generation	25,734,000 Btu/ton
Industrial end use sector	25,519,000 Btu/ton

Natural Gas

Electric generation	1,032 Btu/cf
Other end use sectors	1,034 Btu/cf

Wood 200,000,000 Btu/cord

Electricity Sales	3,412 Btu/kWh
Electricity Generation	7,851 Btu/kWh

(Three-year statewide weighted average annual heat rate for fossil-fueled power plants)

Petroleum Products (One barrel equals 42 gallons)

Distillate fuel oil	5,756,000 Btu/barrel
Ethanol	3,557,000 Btu/barrel
Jet fuel, kerosene-type	5,670,000 Btu/barrel
Kerosene	5,670,000 Btu/barrel
Motor gasoline	5,052,000 Btu/barrel
LPG (propane)	3,841,000 Btu/barrel
Residual fuel oil	6,287,000 Btu/barrel

Appendix J. 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.

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 several 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°F, 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°F 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 in trucks and automobiles, as well as off-highway engines, such as 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 the 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 source. 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 as well as to reduce viscosity of distillate fuels during winter.

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

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

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

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

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

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

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

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

Natural gas—An odorless, colorless, tasteless, non-toxic clean-burning fossil fuel, widely used to generate electricity and 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°F and 400°F.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Therm—100,000 Btu.

Transportation Sector—An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles, trucks, buses, motorcycles, trains, subways, other rail vehicles, aircraft, ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes, 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" ton. The metric or "long ton" equals 2,204 pounds.

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

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

Appendix K. Data Sources

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

State Energy Price and Expenditure Report—DOE/EIA

Annual and Monthly Energy Review—DOE/EIA

Electric Power Annual—DOE/EIA

Retail Motor Gasoline Price Report—DOE/EIA

Residential Energy Consumption Survey—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—NYS Department of Environmental Conservation

Highway Statistics for New York State—NYS Department of Motor Vehicles

Motor Fuel Volume and Revenue Report—NYS Department of Taxation & Finance

Population and Housing Estimates—NYS Empire State Development

New York State Renewable Portfolio Standard Annual Performance Report—NYSERDA

Load and Capacity Data Report—New York Independent System Operator

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