NEW YORK STATE OF OPPORTUNITY. | NYSERDA

# Patterns and Trends

## New York State Energy Profiles: 2001–2015

### Final Report

October 2017

# NYSERDA's Promise to New Yorkers:

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

## Mission Statement:

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

## Vision Statement:

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

# Patterns and Trends

# New York State Energy Profiles:

# 2001–2015

Prepared by:

**New York State Energy Research and Development Authority**

Albany, NY

October 2017

# Message from the President

Governor Andrew M. Cuomo's Reforming the Energy Vision (REV) strategy is the most forward-thinking and comprehensive effort in the nation to build a clean, resilient and affordable energy system for all New Yorkers. The New York State Energy Research and Development Authority (NYSERDA) supports REV with a focus on reducing costs of renewable energy and energy efficiency, and increasing their adoption in a more equitable and cost-effective way.

As part of our mission, we support cleantech innovation and stimulate private investment in the clean energy economy. In addition, we make available important information to assist individuals, businesses, and institutions so they can make informed energy decisions.

Patterns and Trends provides a 15-year overview of New York State energy-related data compiled by NYSERDA. Data in the report is collected and reported by sector and end use, and includes energy production and use; sources of energy supply; fuel prices; and total energy expenditures. Comparisons across states and to the U.S. average are also provided for some data sets.

Highlights from the report:

- New York State's Gross State Product (adjusted for inflation) increased 3.7% from 2014 to 2015 while energy consumption decreased 0.3% over the same period and is now 10.3% lower than the 2004 peak.
- Energy prices decreased in 2015 across all sectors and all fuel types. Some of the larger price declines included residential home heating oil prices and motor gasoline prices in the transportation sector decreasing by approximately 30% in 2015 compared to 2014. This is the third consecutive year of lower gasoline and heating oil prices, compared to the previous year.
    - Natural gas prices also decreased, declining nearly 20% in the industrial sector and more than 10% in residential sector.
- New York State uses the lowest amount of energy per person and has the lowest energy consumption per unit of gross state product in the U.S.

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

Alicia Barton
President and CEO
New York State Energy Research and Development Authority

# Table of Contents

# List of Tables and Figures

**Patterns and Trends—New York State Energy Profiles: 2001–2015** presents a 15-year, historical overview of energy statistics for the State. It is an objective and reliable source of energy-related information for use by the public, businesses, and government analysts. This report was prepared using the most recent comprehensive data available through the 2015 calendar year. Historical data prior to 2001 are available by clicking on the selected table. The timing of the report's release is dependent on the timeliness of data availability from the Energy Information Administration and other sources.

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

# 1 Overview

Patterns and Trends is organized as follows:

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

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

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

**New York State Energy Expenditures** presents the estimated net energy expenditures by sector and fuel type in nominal dollars, as well as in 2015 constant (inflation adjusted prices) dollars. Estimated expenditures were derived by multiplying quantities consumed by their respective retail prices. Out of State energy expenditure estimates by fuel type are also provided in nominal dollars, as well as in 2015 constant (inflation adjusted prices) dollars.

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

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

# 2015 NEW YORK STATE ENERGY FAST FACTS

## PRIMARY ENERGY CONSUMPTION

*0.3% lower than 2014*

| | | |
|---|---|---|
| Primary consumption (4.2% of U.S. total) (trillion Btu) | | 3,727.8 |
| **By sector:** | | |
| Residential | (17.0%) | 634.3 |
| Commercial | (10.6%) | 396.9 |
| Industrial | ( 3.8%) | 140.9 |
| Transportation | (28.8%) | 1,074.1 |
| Electric Generation | (39.7%) | 1,481.7 |
| **By fuel type:** | | |
| Petroleum | (33.2%) | 1,236.9 |
| Natural Gas | (37.5%) | 1,397.4 |
| Nuclear | (12.5%) | 466.5 |
| Hydro | ( 6.2%) | 232.3 |
| Net Imported Electricity | ( 5.2%) | 193.7 |
| Other[1] | ( 4.3%) | 159.9 |
| Coal | ( 1.1%) | 41.2 |
| Primary consumption per capita (million Btu) | | 188.8 |

## NET ENERGY CONSUMPTION AND EXPENDITURES

| | Net Energy Consumption (trillion Btu) | | Estimated Expenditures (billion dollars) | |
|---|---|---|---|---|
| Total: | 2,754.3 | | $54.3 | |
| **By sector:** | | | | |
| Residential | (29.4%) | 808.4 | (32.5%) | $17.6 |
| Commercial | (23.9%) | 659.6 | (27.4%) | $14.9 |
| Industrial | ( 7.4%) | 202.5 | ( 3.7%) | $2.0 |
| Transportation | (39.3%) | 1,083.7 | (36.4%) | $19.8 |
| **By fuel type:** | | | | |
| Petroleum | (44.3%) | 1,219.8 | (43.5%) | $23.6 |
| Natural Gas | (33.1%) | 911.4 | (14.3%) | $7.7 |
| Electricity | (18.4%) | 508.1 | (41.9%) | $22.7 |
| Other[1] | ( 3.5%) | 95.6 | ( 0.2%) | $0.1 |
| Coal | ( 0.7%) | 19.3 | ( 0.1%) | $0.1 |
| Estimated energy expenditures leaving the State (billions) | | | | $25.5 |

## AVERAGE ENERGY PRICES

| | 2015 | 2014 |
|---|---|---|
| Gasoline - all grades (gallon) | $2.46 | $3.42 |
| Heating Oil (gallon) | $2.65 | $3.79 |
| Natural Gas (thousand cubic feet) | | |
| Residential | $11.20 | $12.53 |
| Commercial | $6.85 | $8.31 |
| Industrial | $6.62 | $8.13 |
| Electricity (kilowatt-hour) | | |
| Residential | 18.5¢ | 20.1¢ |
| Commercial | 15.3¢ | 16.1¢ |
| Industrial | 6.3¢ | 6.6¢ |

## GREENHOUSE GAS EMISSIONS FROM FUEL COMBUSTION

| | | |
|---|---|---|
| Total (million metric tons of $CO_2$ equivalent) | | 178.9 |
| **By sector:** | | |
| Residential | (19.8%) | 35.5 |
| Commercial | (12.2%) | 21.8 |
| Industrial | ( 6.0%) | 10.7 |
| Transportation | (41.3%) | 73.8 |
| Electric Generation | (20.8%) | 37.2 |
| **By fuel type:** | | |
| Petroleum | (54.4%) | |
| Natural Gas | (43.2%) | |
| Coal | ( 2.3%) | |
| Greenhouse gas emissions per capita (metric tons of $CO_2$ equivalent) | | 9.1 |

*[1]Ethanol (44.7 TBtu) is included in "Other" totals and also as a component of motor gasoline. Total consumption and percentages are based on ethanol only as "Other."*

## ELECTRICITY

*Sales increased 1.0% from 2014*

| | | |
|---|---|---|
| Sales to ultimate consumers (gigawatt-hours) | | 148,914 |
| **By sector:** | | |
| Residential | (34.3%) | 51,013 |
| Commercial | (51.7%) | 77,006 |
| Industrial | (12.1%) | 18,079 |
| Transportation | ( 1.9%) | 2,816 |
| Generation (gigawatt-hours) | | 161,572 |
| **By fuel type:** | | |
| Nuclear | (27.6%) | 44,620 |
| Natural Gas | (35.2%) | 56,923 |
| Hydro | (16.5%) | 26,704 |
| Net Imported Electricity | (13.8%) | 22,273 |
| Coal | ( 1.3%) | 2,046 |
| Petroleum | ( 1.2%) | 1,892 |
| Other[1] | ( 1.9%) | 3,129 |
| Wind | ( 2.5%) | 3,984 |

## PETROLEUM

*Consumption increased less than 0.1% from 2014*

| | | |
|---|---|---|
| Consumption (4.3% of U.S. total) (million barrels) | | 227.9 |
| **By sector:** | | |
| Residential | (11.9%) | 27.1 |
| Commercial | ( 5.2%) | 11.8 |
| Industrial | ( 1.4%) | 3.1 |
| Transportation | (80.3%) | 183.1 |
| Electric Generation | ( 1.2%) | 2.8 |
| In-State Production (thousand barrels) | | 279.0 |

## NATURAL GAS

*Consumption increased 0.4% from 2014*

| | | |
|---|---|---|
| Consumption (5.0% of U.S. total) (billion cubic feet) | | 1,354.1 |
| **By sector:** | | |
| Residential | (33.4%) | 452.1 |
| Commercial | (23.0%) | 311.2 |
| Industrial | ( 6.2%) | 83.3 |
| Transportation | ( 2.6%) | 35.8 |
| Electric Generation | (34.8%) | 471.6 |
| In-State Production (billion cubic feet) | | 17.8 |

## ADDITIONAL 2015 STATISTICS

| | |
|---|---|
| Population (6.2% of U.S. total) (million) | 19.7 |
| Number of Housing Units (million) | 8.2 |
| Gross State Product (billion 2015 dollars) | $1,445.6 |
| Motor Vehicle Registrations (million) | 10.6 |
| Vehicle Miles of Travel (billion miles) | 127.2 |
| Heating Degree-days (decreased 4.8% from 2014) | 6,203 |
| Cooling Degree-days (increased 42.3% from 2014) | 670 |

*Note: Totals may not sum exactly due to rounding.*

## DATA SOURCE


**NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY**

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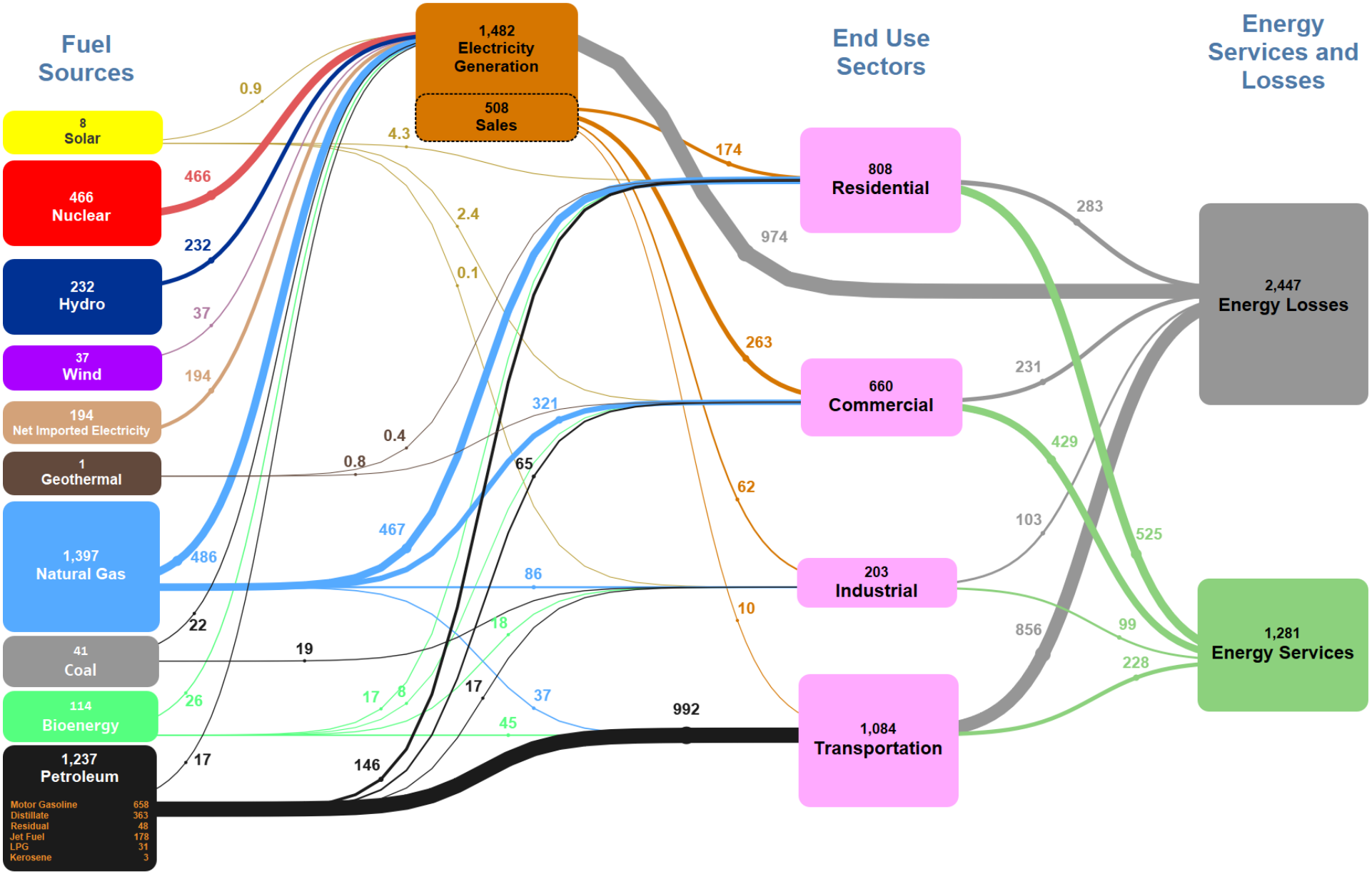
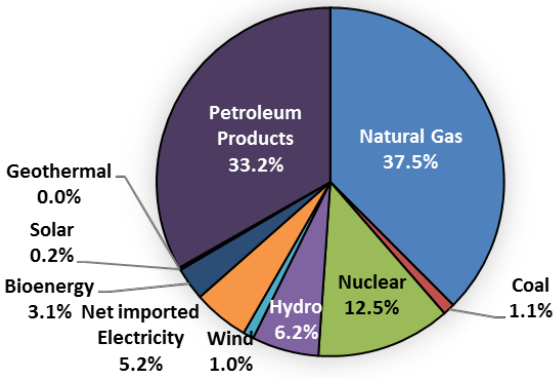
# 2015 New York State Energy Flow (TBtu)
# Estimated New York Energy Consumption in 2015: 3,728 TBtu



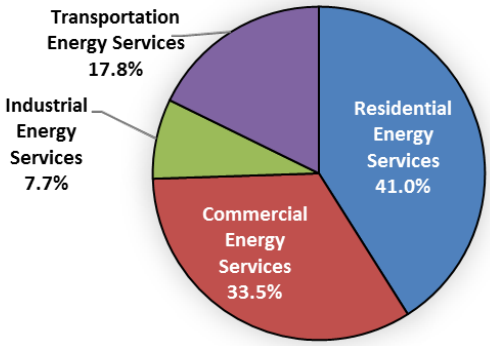

Source: NYSERDA, Patterns and Trends New York State Energy Profiles: 2001-2015 published October 2017. Motor gasoline includes ethanol which is not included in Total Petroleum so sums may differ from the total. Electricity Sales (508 TBtu) are a part of the total Electricity Generation sector (1,482 TBtu). Bioenergy includes ethanol (45 TBtu), wood (36 TBtu), landfill gas (6 TBtu), and waste (26 TBtu). Geothermal energy in this case represents ground source heat pumps. 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.

# 2015 New York State Energy at a Glance

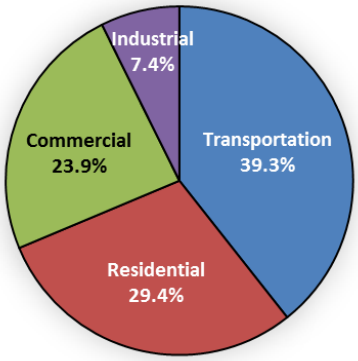
## 2015 NYS Fuel Sources



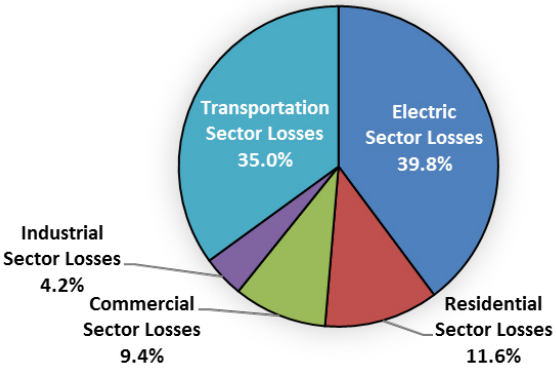

## 2015 NYS Energy Services



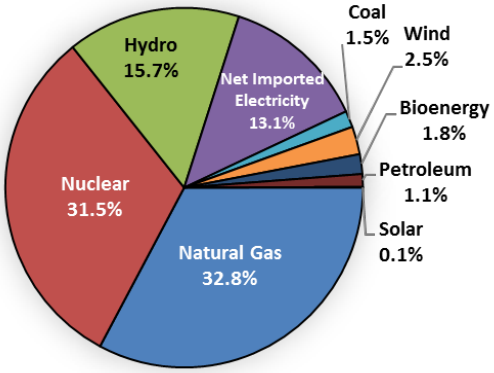

## 2015 NYS End-Use Sectors



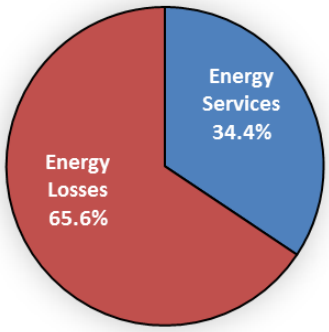

## 2015 NYS Energy Losses



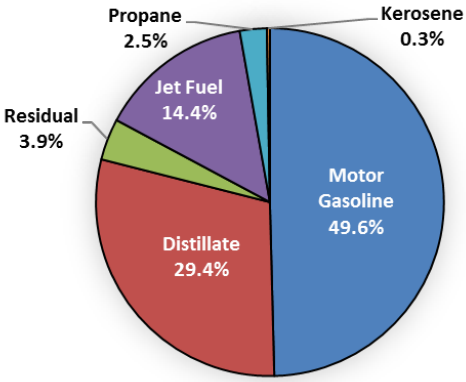

## 2015 NYS Energy for Electricity Generation



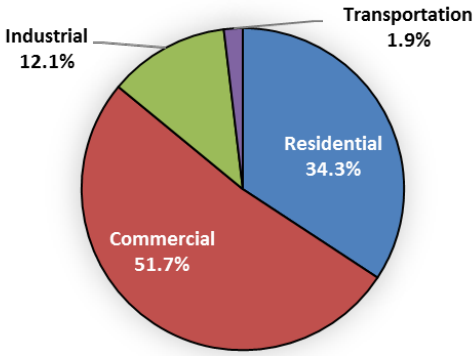

## 2015 NYS Energy End-Use Services and Losses




## 2015 NYS Petroleum Products

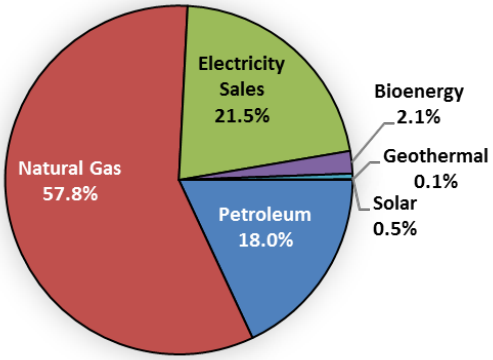



## 2015 NYS Electricity Sales

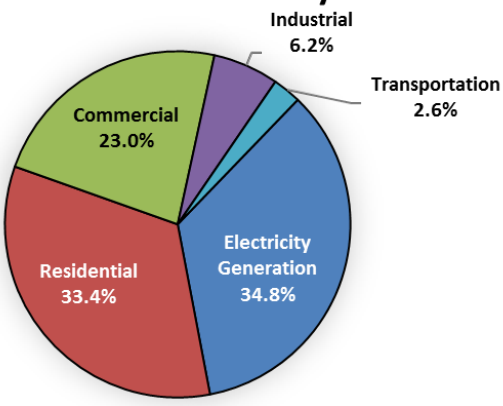


# 2015 New York State Energy at a Glance

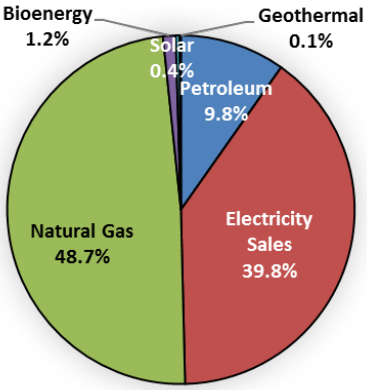
## 2015 NYS Residential Sector



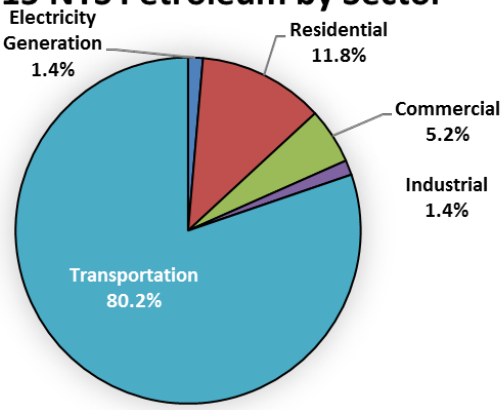

## 2015 NYS Natural Gas by Sector



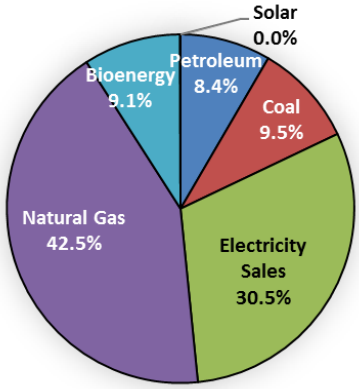

## 2015 NYS Commercial Sector



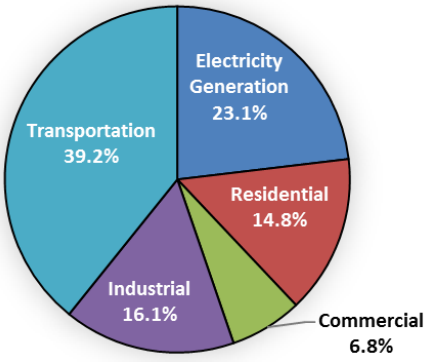

## 2015 NYS Petroleum by Sector



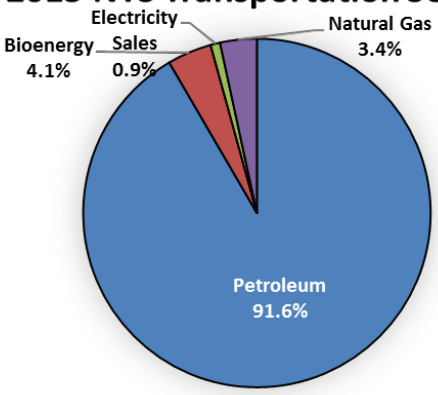

## 2015 NYS Industrial Sector



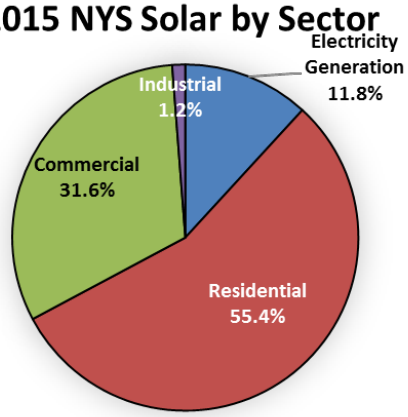

## 2015 NYS Bioenergy by Sector




## 2015 NYS Transportation Sector




## 2015 NYS Solar by Sector



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

This section compares energy consumption, selected energy prices, sources of petroleum, and factors influencing energy demand and expenditures for the United States and New York State. Additional statistics compare recent energy consumption and expenditure trends among all states. New York 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 U.S. Department of Energy's (DOE) Energy Information Administration State Energy Data System, and the U.S. Department of Commerce's Statistical Abstract of the United States.

## 2.1 Key Observations about 2015 New York State Energy Data

- NYS ranks eighth nationally in energy consumption.
- NYS has the lowest per capita energy usage in the U.S., accounting for 4.2% of the nation's total primary energy consumption. NYS accounts for 6.2% of the nation's population.
- Renewable resources accounted for 10.5% of the State's primary energy consumption compared to 9.7% for the U.S. in 2015.
- Coal consumption represents 1.1% of NYS energy use compared to 17.3% 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 29.4% of total energy demand, compared to 17.2% nationally.
    - Commercial net energy use accounts for 23.9% of total energy demand, compared to 14.0% nationally.
    - Industrial net energy use accounts for 7.4% of total energy demand, compared to 27.0% nationally.
    - Transportation net energy use accounts for 39.3% of total energy demand, compared to 41.7% nationally.
- In 2015, the U.S. had a net import rate of 24.1% of total petroleum consumed in the country, a decrease from 26.5% in 2014.

# United States
# Primary Consumption of Energy by Fuel Type and Sector, 2015

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

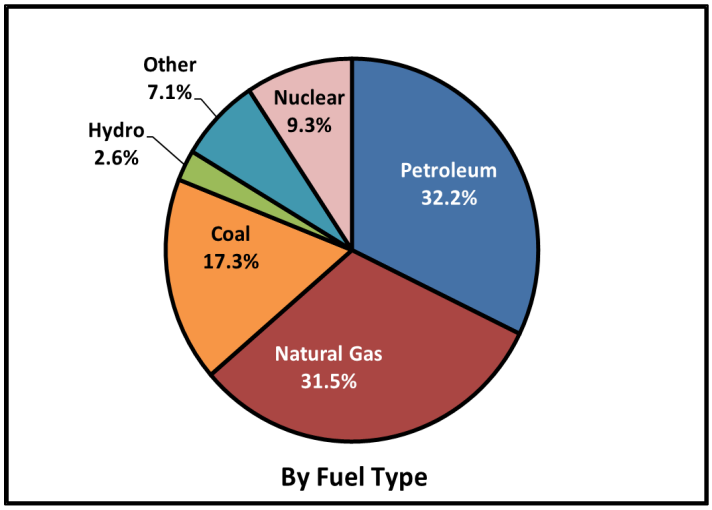



**Figure 2-1b. United States Primary Consumption of Energy**

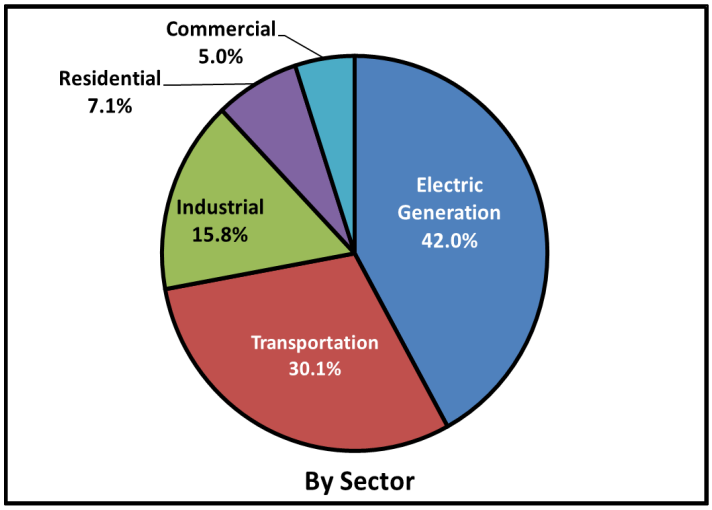



**Table 2-1 (in trillion Btu)**

| | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation[1] TBtu | Net Consumption TBtu | Electric Generation[2] TBtu | Primary Consumption[3] TBtu |
|---|---|---|---|---|---|---|---|
| Coal | 0 | 31 | 1,380 | 0 | 1,411 | 14,138 | 15,549 |
| Natural Gas | 4,791 | 3,323 | 9,451 | 735 | 18,301 | 9,945 | 28,246 |
| Petroleum Products: | 982 | 888 | 1,771 | 24,956 | 28,597 | 276 | 28,873 |
| Distillate | 551 | 360 | 1,169 | 6,262 | 8,341 | 70 | 8,411 |
| Residual | 0 | 4 | 34 | 463 | 501 | 94 | 595 |
| Kerosene | 10 | 1 | 2 | 0 | 13 | 0 | 13 |
| LPG | 421 | 140 | 308 | 40 | 909 | 0 | 909 |
| Gasoline | 0 | 383 | 258 | 16,310 | 16,952 | 0 | 16,952 |
| Jet Fuel | 0 | 0 | 0 | 3,225 | 3,225 | 0 | 3,225 |
| Other[4] | 607 | 206 | 1,528 | 1,344 | 3,685 | 901 | 4,586 |
| Electric Sales | 4,791 | 4,643 | 3,366 | 26 | 12,826 | | |
| Net Consumption | 11,171 | 9,092 | 17,495 | 27,061 | 64,820 | | |
| | | | | | Hydro Electricity | 2,308 | 2,308 |
| | | | | | Nuclear Electricity | 8,337 | 8,337 |
| | | | | | Wind Electricity | 1,776 | 1,776 |
| | | | | | Primary Consumption | 37,681 | 89,675 |

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

# New York State
# Primary Consumption of Energy by Fuel Type and Sector, 2015

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

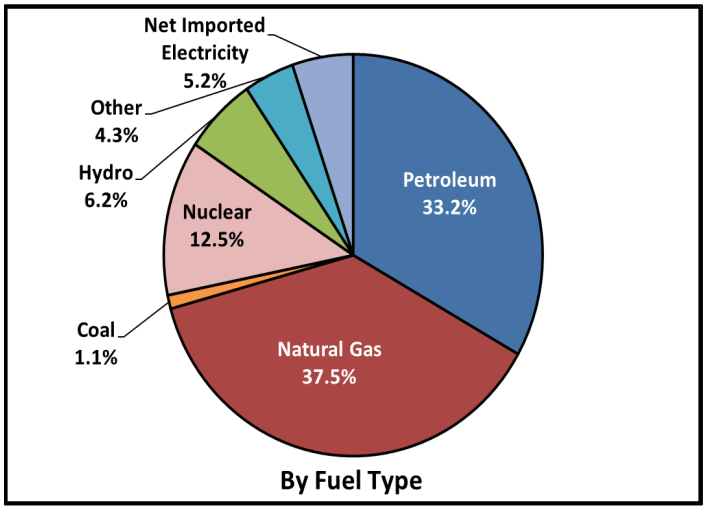



**Figure 2-2b. New York State Primary Consumption of Energy**

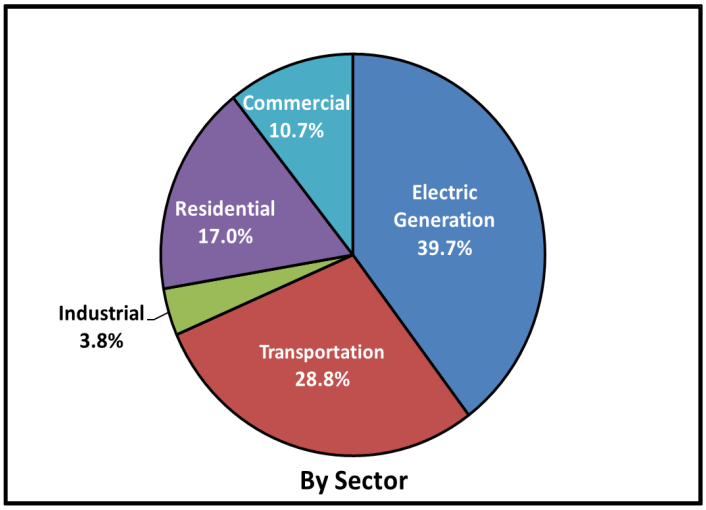



**Table 2-2 (in trillion Btu)**

| | 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 | 19.3 | 0.0 | 19.3 | 22.0 | 41.2 |
| Natural Gas | 467.0 | 321.4 | 86.1 | 37.0 | 911.4 | 486.0 | 1,397.4 |
| Petroleum Products[3]: | 145.8 | 64.5 | 17.1 | 992.4 | 1,219.8 | 17.0 | 1,236.9 |
| Distillate | 121.9 | 55.6 | 11.7 | 169.2 | 358.4 | 4.8 | 363.2 |
| Residual | 0.0 | 2.0 | 2.7 | 30.8 | 35.5 | 12.2 | 47.7 |
| Kerosene | 2.6 | 0.2 | 0.7 | 0.0 | 3.5 | 0.0 | 3.5 |
| LPG | 21.2 | 6.9 | 1.9 | 1.0 | 31.0 | 0.0 | 31.0 |
| Gasoline | 0.0 | 0.0 | 0.0 | 658.1 | 658.1 | 0.0 | 658.1 |
| Jet Fuel | 0.0 | 0.0 | 0.0 | 178.0 | 178.0 | 0.0 | 178.0 |
| Other[4] | 21.6 | 10.9 | 18.4 | 44.7 | 95.6 | 27.3 | 122.9 |
| Electric Sales | 174.1 | 262.7 | 61.7 | 9.6 | 508.1 | | |
| Net Consumption | 808.4 | 659.6 | 202.5 | 1,083.7 | 2,754.3 | | |
| | | | | | Hydro Electricity | 232.3 | 232.3 |
| | | | | | Nuclear Electricity | 466.5 | 466.5 |
| | | | | | Net Imported Electricity | 193.7 | 193.7 |
| | | | | | Wind Electricity | 37.0 | 37.0 |
| | | | | | Primary Consumption | 1,481.7 | 3,727.8 |

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,
## 2001–2015

**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 |
| 2001 | 140.8 | 131.5 | 8.6 | 9.64 | 7.8 | 8.51 | 5.0 | 5.84 |
| 2002 | 132.5 | 119.3 | 8.4 | 7.87 | 7.8 | 6.64 | 4.9 | 4.58 |
| 2003 | 153.0 | 143.1 | 8.7 | 9.45 | 8.0 | 8.26 | 5.1 | 6.34 |
| 2004 | 182.2 | 162.6 | 8.9 | 10.71 | 8.2 | 9.40 | 5.2 | 7.18 |
| 2005 | 222.3 | 215.3 | 9.4 | 12.62 | 8.7 | 11.23 | 5.7 | 9.29 |
| 2006 | 251.9 | 248.1 | 10.4 | 13.66 | 9.5 | 11.87 | 6.1 | 8.97 |
| 2007 | 273.5 | 272.1 | 10.7 | 12.99 | 9.6 | 11.24 | 6.4 | 8.48 |
| 2008 | 317.2 | 337.6 | 11.3 | 13.83 | 10.3 | 12.16 | 6.9 | 10.29 |
| 2009 | 229.9 | 251.6 | 11.5 | 12.08 | 10.2 | 9.92 | 6.8 | 6.61 |
| 2010 | 273.1 | 296.7 | 11.5 | 11.39 | 10.2 | 9.41 | 6.8 | 6.31 |
| 2011 | 344.6 | 356.5 | 11.7 | 11.03 | 10.2 | 8.99 | 6.8 | 6.10 |
| 2012 | 354.5 | 396.8 | 11.9 | 10.62 | 10.1 | 8.21 | 6.7 | 5.02 |
| 2013 | 344.7 | 388.5 | 12.1 | 10.24 | 10.3 | 8.25 | 6.9 | 5.59 |
| 2014 | 331.1 | 378.8 | 12.5 | 10.84 | 10.7 | 9.00 | 7.1 | 6.51 |
| 2015 | 243.4 | 260.9 | 12.7 | 10.19 | 10.6 | 7.97 | 6.9 | 4.98 |

**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 |
| 2001 | 143.3 | 141.7 | 14.0 | 11.75 | 12.2 | 9.61 | 5.6 | 7.72 |
| 2002 | 135.5 | 126.6 | 13.5 | 9.85 | 11.8 | 6.42 | 5.2 | 5.54 |
| 2003 | 157.0 | 149.5 | 14.3 | 11.60 | 12.9 | 8.60 | 7.1 | 7.35 |
| 2004 | 187.4 | 169.6 | 14.5 | 12.50 | 13.0 | 10.11 | 7.0 | 8.05 |
| 2005 | 224.4 | 219.1 | 15.7 | 14.89 | 14.4 | 11.80 | 8.2 | 10.75 |
| 2006 | 256.7 | 255.6 | 16.9 | 15.35 | 15.5 | 11.91 | 9.4 | 10.56 |
| 2007 | 276.0 | 278.0 | 17.1 | 15.73 | 15.9 | 11.82 | 8.7 | 11.43 |
| 2008 | 325.6 | 342.5 | 18.3 | 16.78 | 16.8 | 12.87 | 9.4 | 12.30 |
| 2009 | 235.3 | 260.4 | 17.5 | 15.05 | 15.5 | 10.72 | 8.4 | 9.53 |
| 2010 | 277.2 | 301.0 | 18.7 | 14.04 | 16.3 | 10.87 | 8.8 | 8.54 |
| 2011 | 351.5 | 355.1 | 18.3 | 13.71 | 15.8 | 9.33 | 7.8 | 8.19 |
| 2012 | 363.9 | 394.4 | 17.6 | 12.96 | 15.1 | 7.84 | 6.7 | 6.91 |
| 2013 | 354.6 | 388.4 | 18.8 | 12.49 | 15.4 | 8.00 | 6.6 | 7.44 |
| 2014 | 341.7 | 379.0 | 20.1 | 12.53 | 16.1 | 8.31 | 6.6 | 8.13 |
| 2015 | 246.5 | 264.6 | 18.5 | 11.20 | 15.3 | 6.85 | 6.3 | 6.62 |

## United States
## Estimated Sources of Petroleum Products, 2001–2015

**Figure 2-4. United States Petroleum Net Imports**

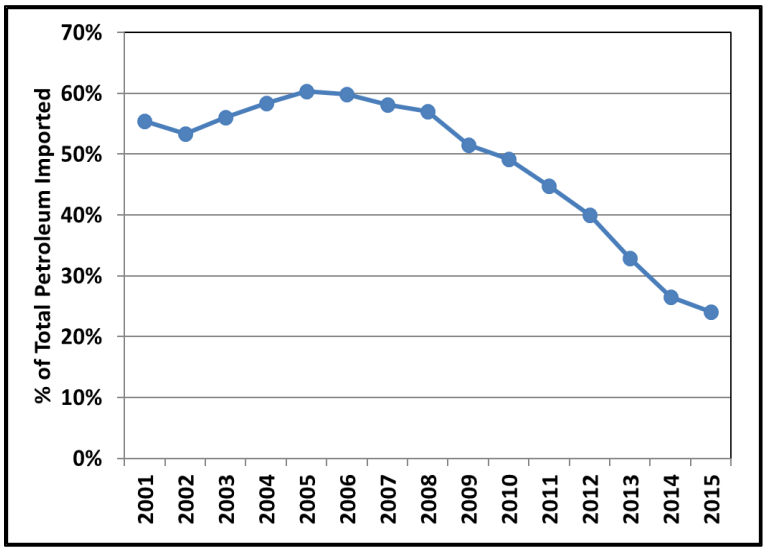



**Table 2-4. United States Sources of Petroleum**

| Year | Total Domestic[1] | Total Foreign | OPEC[2] | Non-OPEC[3] |
|---|---|---|---|---|
| | % | % | % | % |
| 2001 | 44.5 | 55.5 | 28.0 | 27.4 |
| 2002 | 46.6 | 53.4 | 23.2 | 30.1 |
| 2003 | 43.9 | 56.1 | 25.7 | 30.4 |
| 2004 | 41.6 | 58.4 | 27.5 | 31.0 |
| 2005 | 39.7 | 60.3 | 26.8 | 33.6 |
| 2006 | 40.1 | 59.9 | 26.5 | 33.4 |
| 2007 | 41.8 | 58.2 | 28.8 | 29.4 |
| 2008 | 43.0 | 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 |

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

# United States and New York State Factors Influencing Energy Demand and Expenditures, 2001–2015

**Table 2-5a. United States**

| Year | Population | Housing Units | Non-Manufacturing[1] Employment | Manufacturing[1] Employment | GDP[2] | Licensed Drivers | Vehicles Registered | Vehicle Miles Traveled |
|---|---|---|---|---|---|---|---|---|
| | thousands | thousands | thousands | thousands | B/2015$ | millions | millions | billions |
| 2001 | 284,969 | 117,905 | 115,646 | 16,441 | $ 14,215 | 191 | 230 | 2,813 |
| 2002 | 287,625 | 119,456 | 115,390 | 15,259 | $ 14,463 | 195 | 230 | 2,874 |
| 2003 | 290,108 | 121,077 | 115,838 | 14,509 | $ 14,827 | 196 | 231 | 2,909 |
| 2004 | 292,805 | 122,825 | 117,472 | 14,315 | $ 15,402 | 199 | 237 | 2,982 |
| 2005 | 295,517 | 124,711 | 119,824 | 14,227 | $ 15,891 | 201 | 242 | 3,009 |
| 2006 | 298,380 | 126,500 | 122,298 | 14,155 | $ 16,290 | 203 | 244 | 3,034 |
| 2007 | 301,231 | 128,132 | 124,120 | 13,879 | $ 16,550 | 206 | 247 | 3,049 |
| 2008 | 304,094 | 129,313 | 123,836 | 13,406 | $ 16,203 | 208 | 248 | 2,993 |
| 2009 | 306,772 | 129,970 | 119,466 | 11,847 | $ 15,930 | 210 | 246 | 2,976 |
| 2010 | 308,746 | 131,705 | 118,833 | 11,528 | $ 16,266 | 210 | 242 | 2,985 |
| 2011 | 311,663 | 132,316 | 120,206 | 11,726 | $ 16,351 | 212 | 253 | 2,965 |
| 2012 | 313,998 | 132,452 | 122,248 | 11,927 | $ 16,678 | 212 | 254 | 2,969 |
| 2013 | 316,205 | 132,808 | 124,361 | 12,020 | $ 16,982 | 212 | 256 | 2,988 |
| 2014 | 318,563 | 133,963 | 126,773 | 12,185 | $ 17,448 | 214 | 260 | 3,026 |
| 2015 | 320,897 | 134,794 | 129,507 | 12,336 | $ 18,121 | 218 | 264 | 3,095 |

**Table 2-5b. New York State**

| Year | Population | Housing Units | Non-Manufacturing[1] Employment | Manufacturing[1] Employment | GSP[3] | Licensed Drivers | Vehicles Registered | Vehicle Miles Traveled |
|---|---|---|---|---|---|---|---|---|
| | thousands | thousands | thousands | thousands | MM/2015$ | thousands | thousands | billions |
| 2001 | 19,083 | 7,724 | 7,875 | 707 | $ 1,173,171 | 11,015 | 10,707 | 130.83 |
| 2002 | 19,138 | 7,760 | 7,797 | 651 | $ 1,173,375 | 11,022 | 11,369 | 133.06 |
| 2003 | 19,176 | 7,799 | 7,784 | 612 | $ 1,166,527 | 11,357 | 10,802 | 135.05 |
| 2004 | 19,172 | 7,836 | 7,855 | 596 | $ 1,202,472 | 11,247 | 11,099 | 137.90 |
| 2005 | 19,133 | 7,853 | 7,943 | 579 | $ 1,242,043 | 11,081 | 11,863 | 137.52 |
| 2006 | 19,105 | 7,908 | 8,037 | 566 | $ 1,267,254 | 11,146 | 11,284 | 141.35 |
| 2007 | 19,132 | 7,940 | 8,168 | 552 | $ 1,274,235 | 11,369 | 11,495 | 136.74 |
| 2008 | 19,212 | 7,977 | 8,246 | 532 | $ 1,225,741 | 11,285 | 11,089 | 134.09 |
| 2009 | 19,307 | 8,018 | 8,064 | 476 | $ 1,268,741 | 11,329 | 11,245 | 133.50 |
| 2010 | 19,378 | 8,108 | 8,087 | 457 | $ 1,309,441 | 11,286 | 11,082 | 131.25 |
| 2011 | 19,520 | 8,120 | 8,210 | 459 | $ 1,295,774 | 11,211 | 10,085 | 127.73 |
| 2012 | 19,603 | 8,124 | 8,336 | 459 | $ 1,343,105 | 11,249 | 10,449 | 128.22 |
| 2013 | 19,674 | 8,126 | 8,474 | 456 | $ 1,353,419 | 11,211 | 10,674 | 129.74 |
| 2014 | 19,719 | 8,192 | 8,641 | 454 | $ 1,392,737 | 11,318 | 10,904 | 129.26 |
| 2015 | 19,747 | 8,207 | 8,805 | 455 | $ 1,445,611 | 11,690 | 10,639 | 127.23 |

[1] Includes nonfarm jobs only.
[2] Gross domestic product in billions of 2015 dollars.
[3] Gross state product in millions of 2015 dollars.

# Energy Consumption and Expenditure Indicators, State Comparisons, 2015

**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 | 1,910 | 17 | 393 | 12 | 9,549 | 7 | $4,140 | 14 |
| Alaska | 620 | 39 | 840 | 3 | 11,612 | 3 | $7,487 | 1 |
| Arizona | 1,440 | 27 | 211 | 44 | 4,941 | 33 | $2,937 | 47 |
| Arkansas | 1,056 | 31 | 355 | 17 | 8,894 | 9 | $3,752 | 22 |
| California | 7,676 | 2 | 197 | 49 | 3,081 | 47 | $3,126 | 43 |
| Colorado | 1,480 | 25 | 272 | 34 | 4,724 | 36 | $2,925 | 48 |
| Connecticut | 752 | 36 | 210 | 46 | 2,932 | 49 | $3,657 | 23 |
| Delaware | 278 | 48 | 295 | 29 | 4,037 | 43 | $3,625 | 24 |
| D.C. | 179 | 50 | 267 | 35 | 1,476 | 51 | $3,228 | 41 |
| Florida | 4,242 | 4 | 210 | 47 | 4,799 | 35 | $2,796 | 51 |
| Georgia | 2,851 | 9 | 280 | 31 | 5,685 | 27 | $3,273 | 39 |
| Hawaii | 282 | 47 | 198 | 48 | 3,504 | 46 | $4,001 | 17 |
| Idaho | 524 | 41 | 317 | 23 | 8,011 | 16 | $3,619 | 26 |
| Illinois | 3,943 | 5 | 307 | 25 | 5,106 | 31 | $3,289 | 37 |
| Indiana | 2,846 | 10 | 430 | 9 | 8,538 | 11 | $4,209 | 12 |
| Iowa | 1,495 | 24 | 479 | 5 | 8,502 | 13 | $4,465 | 7 |
| Kansas | 1,083 | 30 | 373 | 16 | 7,130 | 20 | $3,887 | 20 |
| Kentucky | 1,726 | 21 | 390 | 13 | 8,992 | 8 | $4,006 | 16 |
| Louisiana | 4,259 | 3 | 912 | 1 | 17,889 | 1 | $6,540 | 4 |
| Maine | 406 | 43 | 305 | 26 | 7,075 | 21 | $4,565 | 5 |
| Maryland | 1,400 | 28 | 233 | 40 | 3,821 | 44 | $3,241 | 40 |
| Massachusetts | 1,445 | 26 | 213 | 43 | 2,960 | 48 | $3,514 | 32 |
| Michigan | 2,767 | 11 | 279 | 32 | 5,880 | 26 | $3,350 | 36 |
| Minnesota | 1,770 | 20 | 323 | 21 | 5,415 | 29 | $3,553 | 31 |
| Mississippi | 1,133 | 29 | 379 | 15 | 10,699 | 5 | $4,230 | 11 |
| Missouri | 1,827 | 18 | 301 | 28 | 6,241 | 23 | $3,595 | 28 |
| Montana | 391 | 44 | 379 | 14 | 8,537 | 12 | $4,202 | 13 |
| Nebraska | 853 | 33 | 451 | 7 | 7,519 | 18 | $4,326 | 8 |
| Nevada | 650 | 38 | 225 | 42 | 4,604 | 37 | $3,122 | 44 |
| New Hampshire | 305 | 46 | 230 | 41 | 4,109 | 41 | $3,934 | 19 |
| New Jersey | 2,288 | 14 | 256 | 37 | 4,054 | 42 | $3,485 | 33 |
| New Mexico | 676 | 37 | 325 | 20 | 7,247 | 19 | $3,432 | 34 |
| **New York** | 3,725 | 8 | 189 | 51 | 2,576 | 50 | $2,828 | 50 |
| North Carolina | 2,524 | 12 | 252 | 38 | 5,050 | 32 | $3,073 | 45 |
| North Dakota | 608 | 40 | 803 | 4 | 10,864 | 4 | $7,248 | 3 |
| Ohio | 3,741 | 7 | 322 | 22 | 6,159 | 24 | $3,604 | 27 |
| Oklahoma | 1,631 | 23 | 417 | 11 | 8,674 | 10 | $4,103 | 15 |
| Oregon | 957 | 32 | 238 | 39 | 4,418 | 39 | $3,144 | 42 |
| Pennsylvania | 3,881 | 6 | 303 | 27 | 5,479 | 28 | $3,554 | 30 |
| Rhode Island | 203 | 49 | 192 | 50 | 3,642 | 45 | $3,406 | 35 |
| South Carolina | 1,649 | 22 | 337 | 18 | 8,168 | 14 | $3,763 | 21 |
| South Dakota | 384 | 45 | 447 | 8 | 8,147 | 15 | $4,499 | 6 |
| Tennessee | 2,168 | 15 | 329 | 19 | 6,845 | 22 | $3,621 | 25 |
| Texas | 12,898 | 1 | 470 | 6 | 8,005 | 17 | $4,234 | 10 |
| Utah | 791 | 34 | 265 | 36 | 5,305 | 30 | $2,921 | 49 |
| Vermont | 132 | 51 | 211 | 45 | 4,356 | 40 | $4,273 | 9 |
| Virginia | 2,368 | 13 | 283 | 30 | 4,915 | 34 | $3,288 | 38 |
| Washington | 1,988 | 16 | 278 | 33 | 4,454 | 38 | $3,044 | 46 |
| West Virgina | 775 | 35 | 421 | 10 | 10,560 | 6 | $3,958 | 18 |
| Wisconsin | 1,776 | 19 | 308 | 24 | 5,890 | 25 | $3,594 | 29 |
| Wyoming | 524 | 42 | 893 | 2 | 13,289 | 2 | $7,467 | 2 |
| United States | 97,251 | | 303 | | 5,426 | | $3,512 | |
| **NYS as a % of U.S.** | **3.8%** | | **62%** | | **47%** | | **81%** | |

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, 2015

**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 | 159 | 27 | $1,952 | 14 | 156 | 19 | $1,777 | 9 |
| Alaska | 158 | 28 | $2,420 | 6 | 204 | 2 | $2,761 | 1 |
| Arizona | 131 | 44 | $1,605 | 42 | 140 | 33 | $1,491 | 23 |
| Arkansas | 171 | 15 | $1,704 | 37 | 170 | 6 | $1,465 | 25 |
| California | 97 | 50 | $1,460 | 49 | 99 | 49 | $1,514 | 21 |
| Colorado | 149 | 38 | $1,497 | 47 | 121 | 43 | $1,114 | 49 |
| Connecticut | 166 | 18 | $3,142 | 1 | 131 | 36 | $1,909 | 3 |
| Delaware | 156 | 31 | $2,212 | 9 | 136 | 35 | $1,491 | 22 |
| D.C. | 137 | 41 | $1,639 | 41 | 141 | 32 | $1,554 | 20 |
| Florida | 132 | 43 | $1,599 | 43 | 131 | 37 | $1,371 | 35 |
| Georgia | 168 | 16 | $2,025 | 13 | 142 | 31 | $1,423 | 28 |
| Hawaii | 60 | 51 | $1,556 | 45 | 66 | 51 | $1,643 | 16 |
| Idaho | 165 | 22 | $1,559 | 44 | 144 | 30 | $1,163 | 46 |
| Illinois | 175 | 11 | $1,729 | 35 | 148 | 27 | $1,211 | 42 |
| Indiana | 187 | 3 | $1,844 | 23 | 149 | 26 | $1,279 | 40 |
| Iowa | 165 | 23 | $1,794 | 26 | 150 | 23 | $1,322 | 39 |
| Kansas | 175 | 10 | $1,906 | 19 | 171 | 5 | $1,573 | 18 |
| Kentucky | 186 | 4 | $1,771 | 30 | 162 | 14 | $1,410 | 30 |
| Louisiana | 165 | 20 | $1,671 | 38 | 146 | 28 | $1,370 | 37 |
| Maine | 130 | 46 | $2,244 | 7 | 118 | 45 | $1,758 | 11 |
| Maryland | 176 | 9 | $2,226 | 8 | 167 | 10 | $1,686 | 13 |
| Massachusetts | 153 | 34 | $2,631 | 4 | 124 | 42 | $1,759 | 10 |
| Michigan | 158 | 29 | $1,825 | 24 | 164 | 13 | $1,558 | 19 |
| Minnesota | 156 | 30 | $1,746 | 33 | 138 | 34 | $1,265 | 41 |
| Mississippi | 154 | 33 | $1,886 | 20 | 159 | 16 | $1,819 | 6 |
| Missouri | 183 | 6 | $1,910 | 18 | 164 | 11 | $1,436 | 27 |
| Montana | 163 | 25 | $1,639 | 40 | 169 | 8 | $1,594 | 17 |
| Nebraska | 180 | 7 | $1,763 | 32 | 151 | 22 | $1,180 | 45 |
| Nevada | 125 | 48 | $1,712 | 36 | 102 | 48 | $1,077 | 51 |
| New Hampshire | 151 | 37 | $2,712 | 3 | 120 | 44 | $1,804 | 7 |
| New Jersey | 164 | 24 | $2,033 | 12 | 158 | 17 | $1,788 | 8 |
| New Mexico | 125 | 47 | $1,347 | 51 | 156 | 18 | $1,448 | 26 |
| **New York** | 136 | 42 | $2,143 | 11 | 129 | 38 | $1,730 | 12 |
| North Carolina | 154 | 32 | $1,764 | 31 | 155 | 21 | $1,405 | 31 |
| North Dakota | 192 | 1 | $1,858 | 21 | 200 | 3 | $1,677 | 14 |
| Ohio | 173 | 13 | $1,921 | 17 | 150 | 24 | $1,340 | 38 |
| Oklahoma | 172 | 14 | $1,783 | 28 | 168 | 9 | $1,382 | 33 |
| Oregon | 130 | 45 | $1,483 | 48 | 115 | 46 | $1,157 | 47 |
| Pennsylvania | 167 | 17 | $2,193 | 10 | 125 | 41 | $1,210 | 43 |
| Rhode Island | 145 | 40 | $2,724 | 2 | 111 | 47 | $1,825 | 5 |
| South Carolina | 165 | 21 | $1,923 | 16 | 156 | 20 | $1,490 | 24 |
| South Dakota | 173 | 12 | $1,820 | 25 | 164 | 12 | $1,392 | 32 |
| Tennessee | 185 | 5 | $1,775 | 29 | 175 | 4 | $1,652 | 15 |
| Texas | 160 | 26 | $1,846 | 22 | 145 | 29 | $1,203 | 44 |
| Utah | 151 | 36 | $1,535 | 46 | 129 | 39 | $1,111 | 50 |
| Vermont | 118 | 49 | $2,504 | 5 | 95 | 50 | $1,890 | 4 |
| Virginia | 176 | 8 | $1,951 | 15 | 170 | 7 | $1,381 | 34 |
| Washington | 148 | 39 | $1,407 | 50 | 129 | 40 | $1,136 | 48 |
| West Virgina | 189 | 2 | $1,788 | 27 | 161 | 15 | $1,370 | 36 |
| Wisconsin | 152 | 35 | $1,742 | 34 | 149 | 25 | $1,412 | 29 |
| Wyoming | 166 | 19 | $1,648 | 39 | 220 | 1 | $1,931 | 2 |
| United States | 152 | | $1,836 | | 140 | | $1,444 | |
| **NYS as % of U.S.** | **89%** | | **117%** | | **92%** | | **120%** | |

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

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

# Energy Consumption and Expenditure Indicators, State Comparisons for the Industrial and Transportation Sectors, 2015

**Table 2-8**

| States | Industrial Primary Energy Use[1] per unit of GSP | Ranking | Industrial Energy Expenditures per unit of GSP | Ranking | Transportation Primary Use[1] per Vehicle Registration | Ranking | Transportation Expenditures per Vehicle Registration | Ranking |
|---|---|---|---|---|---|---|---|---|
| | Btu | | Dollars | | MMBtu | | Dollars | |
| Alabama | 4,042 | 7 | $0.0214 | 7 | 90 | 32 | $1,570 | 43 |
| Alaska | 6,234 | 3 | $0.0170 | 13 | 210 | 1 | $3,641 | 1 |
| Arizona | 807 | 39 | $0.0069 | 39 | 84 | 37 | $1,709 | 33 |
| Arkansas | 3,122 | 15 | $0.0198 | 9 | 99 | 24 | $1,795 | 27 |
| California | 737 | 41 | $0.0057 | 43 | 103 | 20 | $2,203 | 11 |
| Colorado | 1,402 | 31 | $0.0076 | 38 | 81 | 42 | $1,483 | 47 |
| Connecticut | 297 | 49 | $0.0035 | 48 | 80 | 44 | $1,626 | 39 |
| Delaware | 1,294 | 32 | $0.0079 | 36 | 68 | 49 | $1,364 | 48 |
| D.C. | 58 | 51 | $0.0007 | 51 | 64 | 51 | $1,177 | 51 |
| Florida | 551 | 43 | $0.0046 | 45 | 94 | 28 | $1,686 | 37 |
| Georgia | 1,529 | 27 | $0.0087 | 33 | 102 | 21 | $1,844 | 22 |
| Hawaii | 795 | 40 | $0.0125 | 24 | 117 | 9 | $2,287 | 10 |
| Idaho | 2,647 | 18 | $0.0189 | 11 | 80 | 43 | $1,593 | 42 |
| Illinois | 1,516 | 28 | $0.0092 | 32 | 99 | 25 | $1,830 | 25 |
| Indiana | 3,917 | 9 | $0.0226 | 5 | 105 | 18 | $1,960 | 18 |
| Iowa | 4,359 | 5 | $0.0231 | 4 | 83 | 41 | $1,553 | 45 |
| Kansas | 2,447 | 19 | $0.0130 | 22 | 106 | 17 | $1,892 | 21 |
| Kentucky | 3,299 | 11 | $0.0183 | 12 | 112 | 13 | $2,031 | 15 |
| Louisiana | 12,448 | 1 | $0.0586 | 1 | 177 | 3 | $2,733 | 3 |
| Maine | 2,020 | 21 | $0.0143 | 18 | 117 | 10 | $2,382 | 7 |
| Maryland | 310 | 48 | $0.0032 | 49 | 104 | 19 | $2,060 | 13 |
| Massachusetts | 328 | 47 | $0.0042 | 46 | 88 | 35 | $1,693 | 34 |
| Michigan | 1,511 | 29 | $0.0111 | 25 | 89 | 33 | $1,687 | 35 |
| Minnesota | 1,853 | 25 | $0.0111 | 26 | 83 | 39 | $1,603 | 40 |
| Mississippi | 3,675 | 10 | $0.0199 | 8 | 186 | 2 | $3,038 | 2 |
| Missouri | 1,226 | 34 | $0.0093 | 31 | 98 | 26 | $1,822 | 26 |
| Montana | 2,722 | 16 | $0.0133 | 19 | 68 | 50 | $1,344 | 50 |
| Nebraska | 3,234 | 13 | $0.0162 | 15 | 101 | 22 | $1,936 | 19 |
| Nevada | 1,158 | 35 | $0.0096 | 29 | 91 | 31 | $1,844 | 24 |
| New Hampshire | 547 | 44 | $0.0065 | 40 | 77 | 46 | $1,544 | 46 |
| New Jersey | 444 | 45 | $0.0041 | 47 | 143 | 7 | $2,490 | 6 |
| New Mexico | 2,409 | 20 | $0.0093 | 30 | 116 | 11 | $2,129 | 12 |
| **New York** | 272 | 50 | $0.0024 | 50 | 101 | 23 | $1,844 | 23 |
| North Carolina | 1,091 | 37 | $0.0080 | 35 | 88 | 36 | $1,718 | 32 |
| North Dakota | 5,648 | 4 | $0.0297 | 3 | 153 | 5 | $2,731 | 4 |
| Ohio | 1,983 | 22 | $0.0128 | 23 | 89 | 34 | $1,686 | 36 |
| Oklahoma | 3,185 | 14 | $0.0159 | 16 | 161 | 4 | $2,632 | 5 |
| Oregon | 1,148 | 36 | $0.0083 | 34 | 83 | 40 | $1,794 | 28 |
| Pennsylvania | 1,977 | 23 | $0.0132 | 20 | 84 | 38 | $1,650 | 38 |
| Rhode Island | 438 | 46 | $0.0060 | 42 | 70 | 48 | $1,361 | 49 |
| South Carolina | 2,698 | 17 | $0.0155 | 17 | 112 | 14 | $2,021 | 16 |
| South Dakota | 3,282 | 12 | $0.0162 | 14 | 92 | 30 | $1,725 | 31 |
| Tennessee | 1,805 | 26 | $0.0107 | 27 | 109 | 16 | $1,982 | 17 |
| Texas | 4,009 | 8 | $0.0195 | 10 | 144 | 6 | $2,376 | 8 |
| Utah | 1,504 | 30 | $0.0079 | 37 | 111 | 15 | $2,051 | 14 |
| Vermont | 584 | 42 | $0.0099 | 28 | 75 | 47 | $1,561 | 44 |
| Virginia | 925 | 38 | $0.0061 | 41 | 96 | 27 | $1,769 | 29 |
| Washington | 1,242 | 33 | $0.0056 | 44 | 93 | 29 | $1,763 | 30 |
| West Virgina | 4,267 | 6 | $0.0224 | 6 | 112 | 12 | $1,912 | 20 |
| Wisconsin | 1,901 | 24 | $0.0131 | 21 | 80 | 45 | $1,597 | 41 |
| Wyoming | 7,703 | 2 | $0.0375 | 2 | 139 | 8 | $2,346 | 9 |
| United States | 1,752 | | $0.0104 | | 103 | | $1,923 | |
| **NYS as % of U.S.** | **16%** | | **23%** | | **98%** | | **96%** | |

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

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

## United States and New York State
## Selected Comparisons,
## 2015

**Figure 2-9a. Primary Consumption by Fuel Type, 2015**

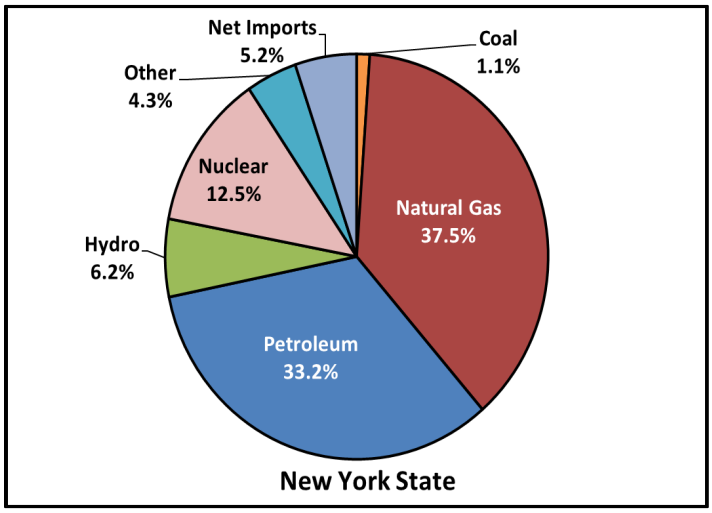



**Figure 2-9b. Primary Consumption by Fuel Type, 2015**

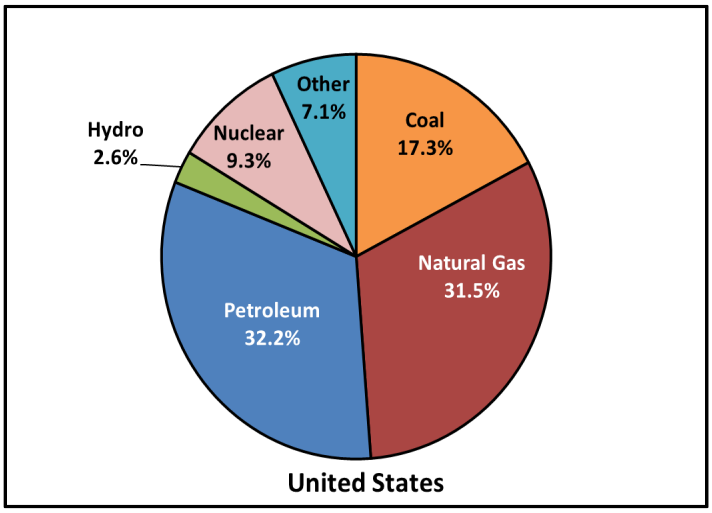



**Figure 2-9c. Primary Consumption by Sector, 2015**

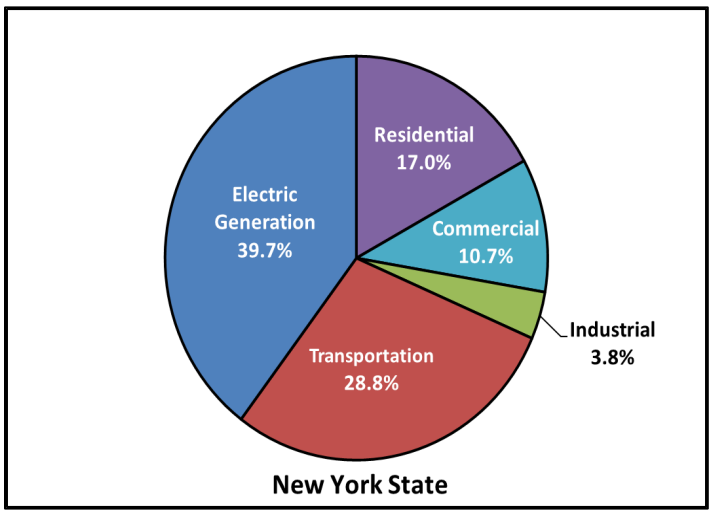
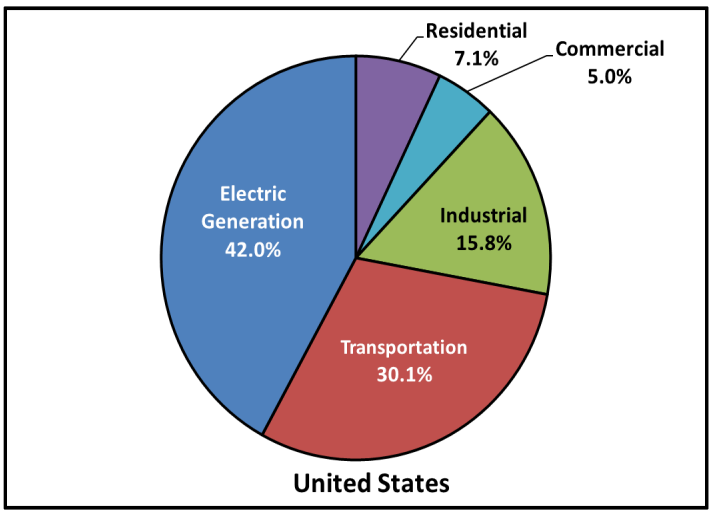



**Figure 2-9d. Primary Consumption by Sector, 2015**



## United States and New York State
## Selected Comparisons,
## 2015

**Figure 2-10a. Electricity Generation by Fuel Type, 2015**

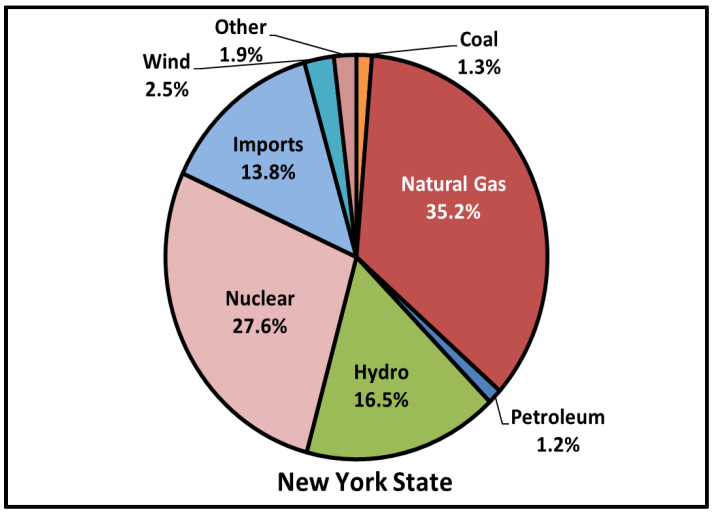



**Figure 2-10b. Electricity Generation by Fuel Type, 2015**

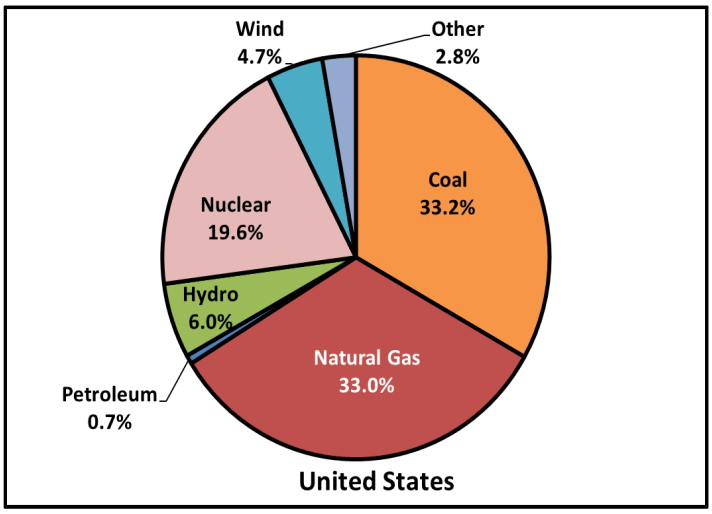



**Figure 2-10c. Primary Consumption of Petroleum Products, 2015[1,2]**

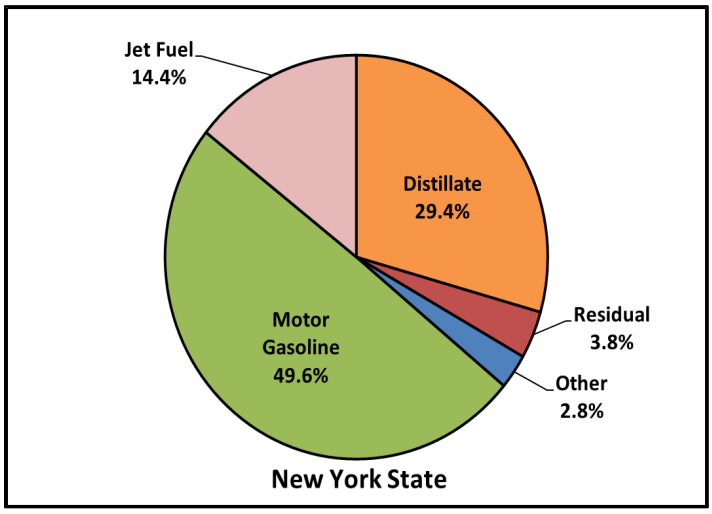
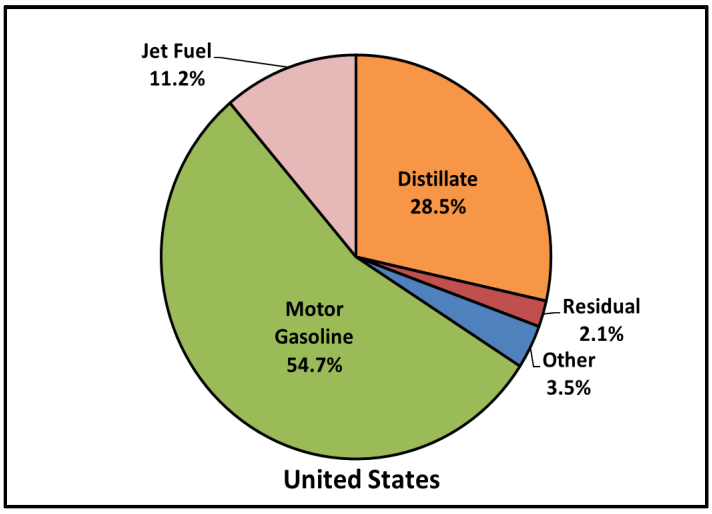



**Figure 2-10d. Primary Consumption of Petroleum Products, 2015[1,2]**




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,
## 2015

**Figure 2-11a. Petroleum Consumption by Sector, 2015[1]**

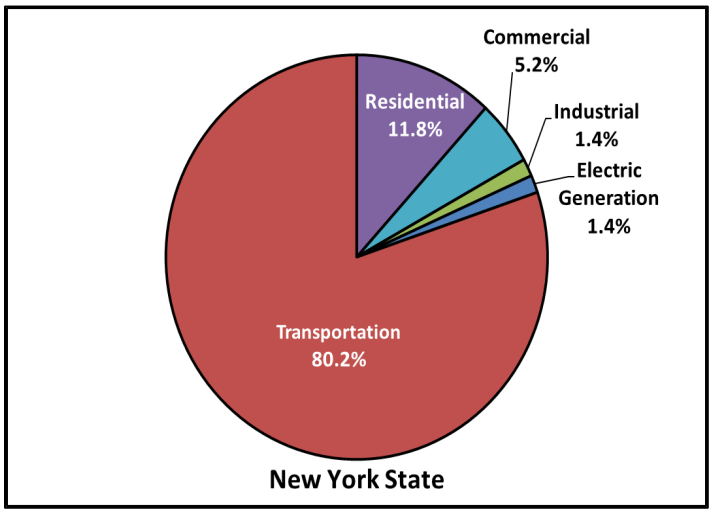



**Figure 2-11b. Petroleum Consumption by Sector, 2015[1]**

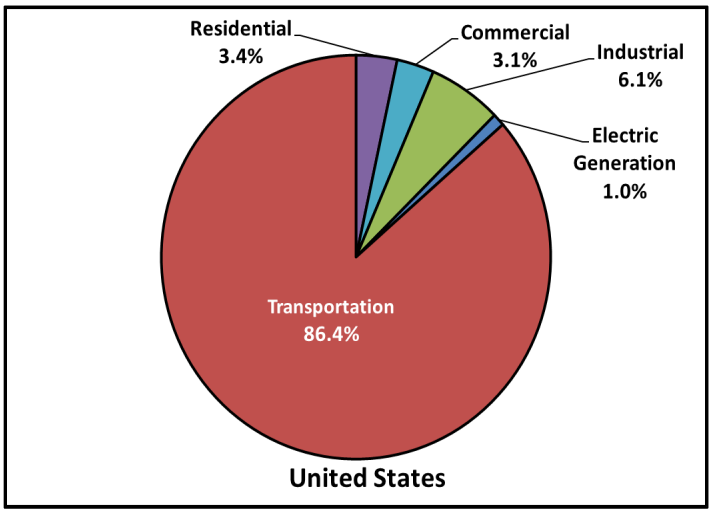



**Figure 2-11c. Natural Gas Consumption by Sector, 2015**

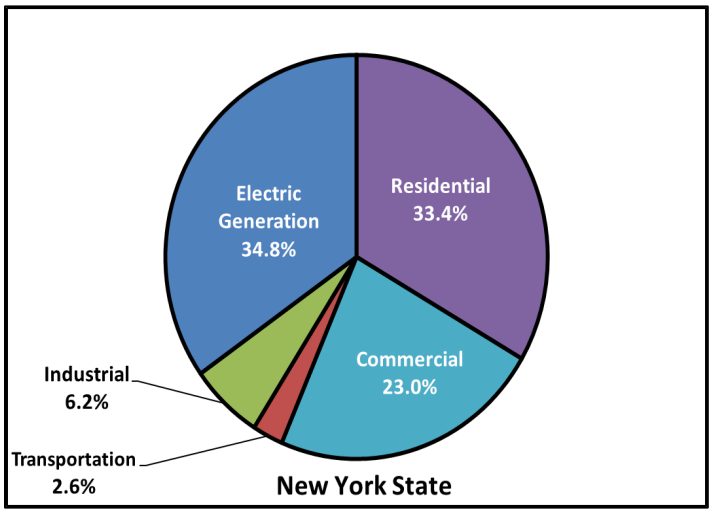
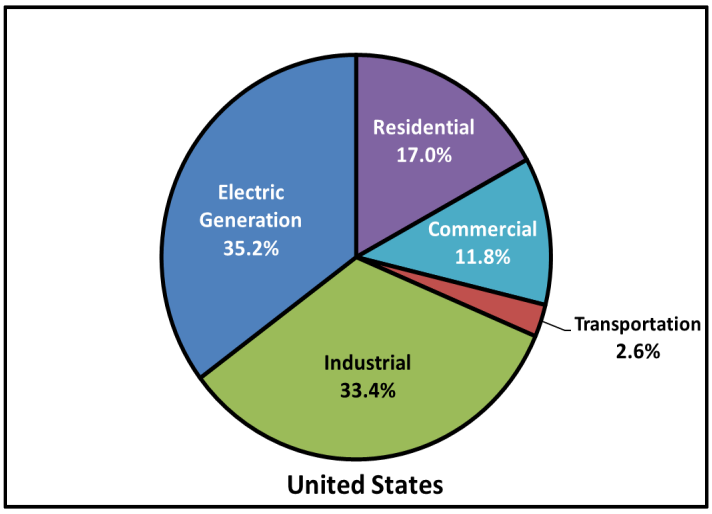



**Figure 2-11d. Natural Gas Consumption by Sector, 2015**




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

## United States and New York State
## Selected Comparisons,
## 2015

**Figure 2-12a. Coal Consumption by Sector, 2015**

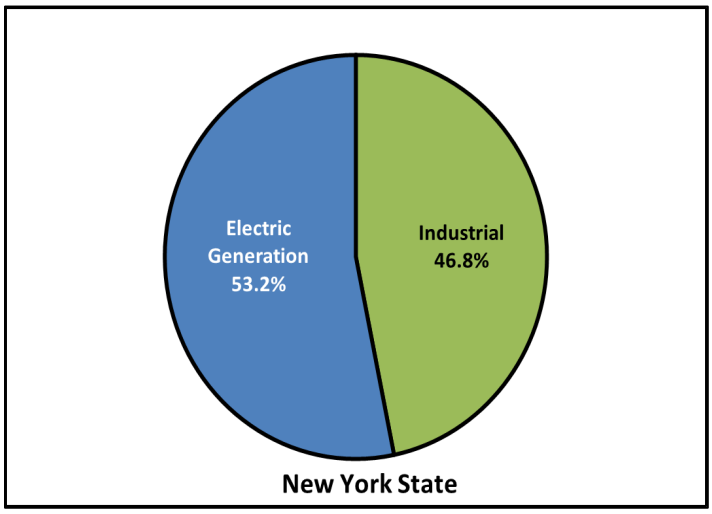



**Figure 2-12b. Coal Consumption by Sector, 2015**

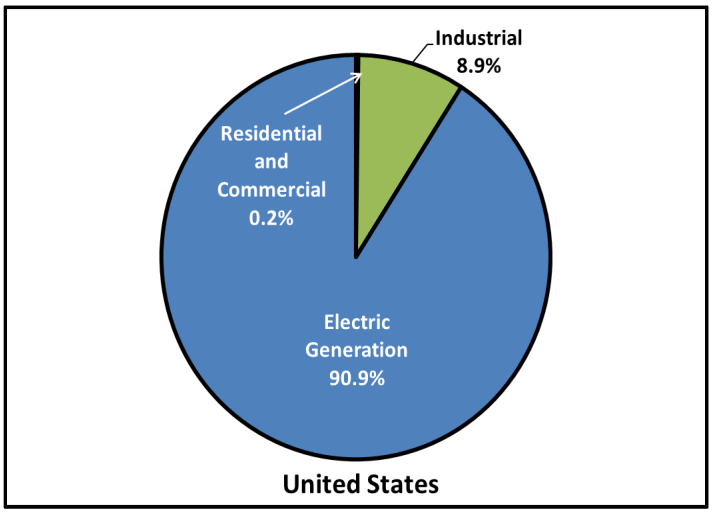



**Figure 2-12c. Electricity Sales by Sector, 2015**

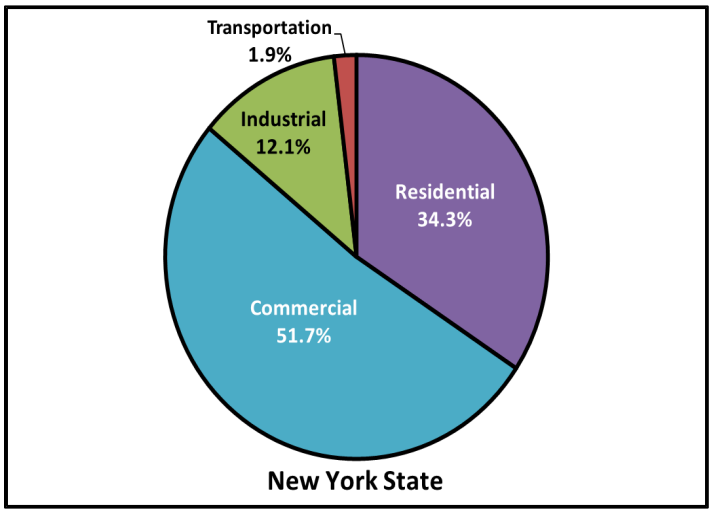
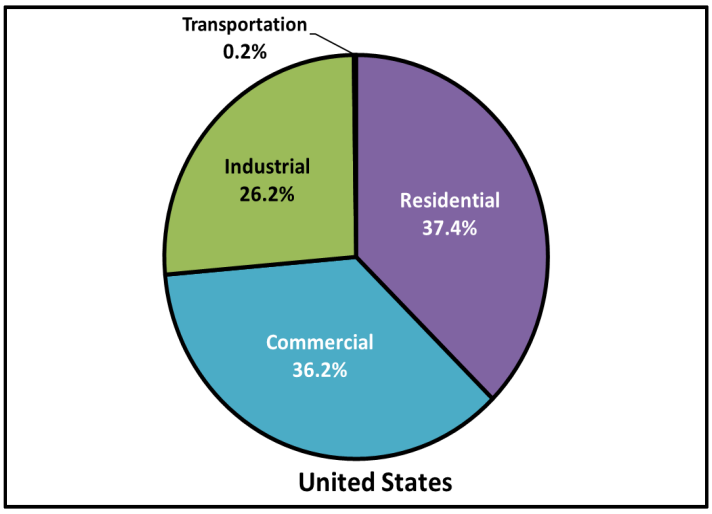



**Figure 2-12d. Electricity Sales by Sector, 2015**



# United States and New York State
# Selected Energy Indicators,
# 2001–2015

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

| Year | NYS | U.S. |
|---|---|---|
| | thousand Btu | thousand Btu |
| 2001 | 3.35 | 6.76 |
| 2002 | 3.36 | 6.75 |
| 2003 | 3.50 | 6.60 |
| 2004 | 3.46 | 6.50 |
| 2005 | 3.30 | 6.30 |
| 2006 | 3.06 | 6.10 |
| 2007 | 3.13 | 6.10 |
| 2008 | 3.22 | 6.10 |
| 2009 | 2.94 | 5.91 |
| 2010 | 2.85 | 5.99 |
| 2011 | 2.81 | 5.92 |
| 2012 | 2.66 | 5.66 |
| 2013 | 2.70 | 5.72 |
| 2014 | 2.68 | 5.64 |
| 2015 | 2.58 | 5.37 |

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

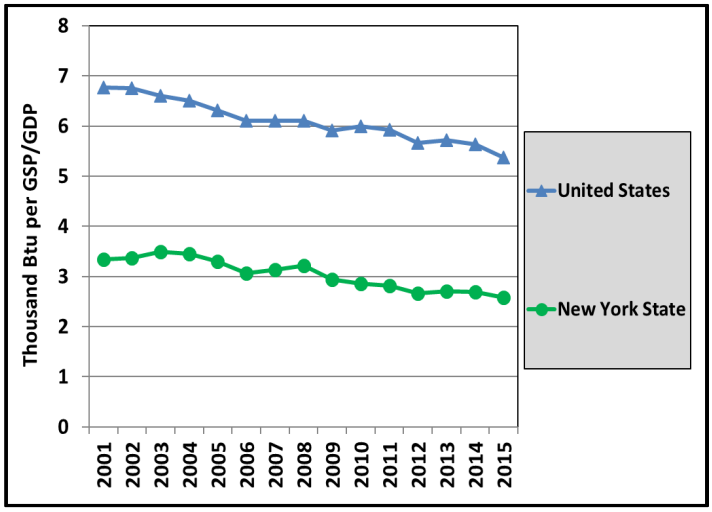
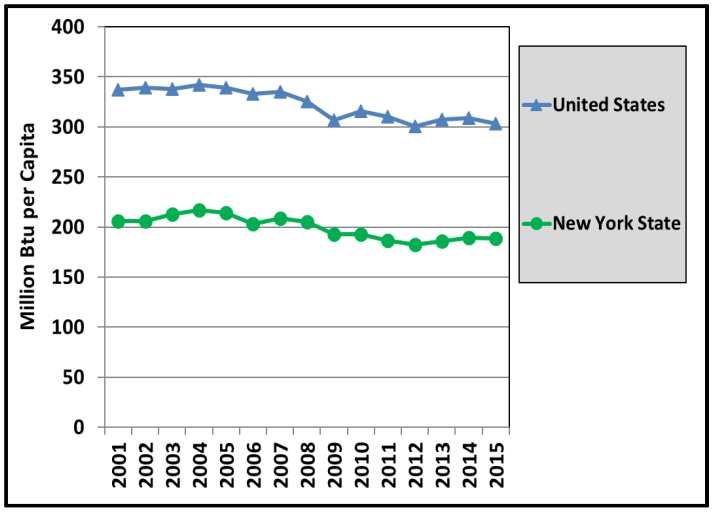



**Table 2-13b.**
**Primary Consumption per Capita**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 205.69 | 337.38 |
| 2002 | 206.15 | 339.50 |
| 2003 | 212.76 | 337.52 |
| 2004 | 216.86 | 341.86 |
| 2005 | 214.06 | 339.01 |
| 2006 | 202.98 | 333.29 |
| 2007 | 208.66 | 335.26 |
| 2008 | 205.13 | 325.10 |
| 2009 | 193.09 | 306.72 |
| 2010 | 192.74 | 315.50 |
| 2011 | 186.44 | 310.48 |
| 2012 | 182.04 | 300.44 |
| 2013 | 185.70 | 307.22 |
| 2014 | 189.57 | 308.84 |
| 2015 | 188.78 | 303.06 |

**Figure 2-13b. Primary Consumption per Capita**

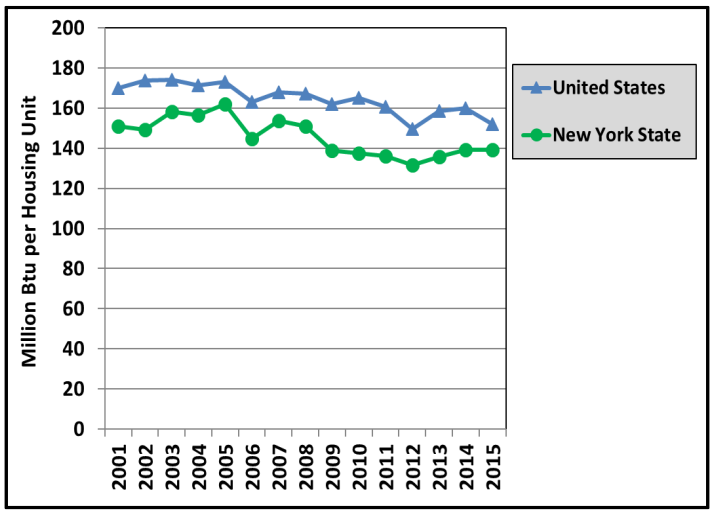


# United States and New York State
# Selected Energy Indicators,
# 2001–2015

**Table 2-14a.**
**Residential Consumption per Housing Unit**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 151.09 | 169.84 |
| 2002 | 149.32 | 173.81 |
| 2003 | 158.25 | 174.12 |
| 2004 | 156.42 | 171.32 |
| 2005 | 162.05 | 172.96 |
| 2006 | 144.61 | 163.03 |
| 2007 | 153.81 | 167.71 |
| 2008 | 150.80 | 167.30 |
| 2009 | 138.95 | 161.96 |
| 2010 | 137.35 | 165.22 |
| 2011 | 135.98 | 160.71 |
| 2012 | 131.65 | 149.61 |
| 2013 | 135.66 | 158.39 |
| 2014 | 139.24 | 159.76 |
| 2015 | 139.14 | 151.98 |

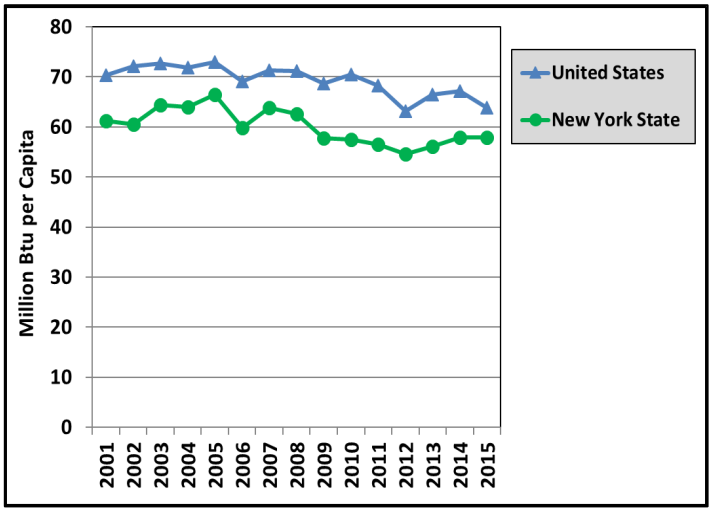
**Figure 2-14a. Residential Consumption per Housing Unit**




**Tablet 2-14b.**
**Residential Consumption per Capita**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 61.16 | 70.27 |
| 2002 | 60.55 | 72.19 |
| 2003 | 64.36 | 72.67 |
| 2004 | 63.93 | 71.86 |
| 2005 | 66.51 | 72.99 |
| 2006 | 59.86 | 69.12 |
| 2007 | 63.83 | 71.34 |
| 2008 | 62.62 | 71.14 |
| 2009 | 57.70 | 68.62 |
| 2010 | 57.47 | 70.48 |
| 2011 | 56.57 | 68.23 |
| 2012 | 54.56 | 63.11 |
| 2013 | 56.04 | 66.53 |
| 2014 | 57.84 | 67.18 |
| 2015 | 57.83 | 63.84 |

**Figure 2-14b. Residential Consumption per Capita**



# United States and New York State
# Selected Energy Indicators, 2001–2015

**Table 2-15a.**
**Commercial Consumption per Nonmanufacturing Employee**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 165.87 | 148.18 |
| 2002 | 170.37 | 150.29 |
| 2003 | 174.62 | 149.65 |
| 2004 | 180.36 | 150.23 |
| 2005 | 168.84 | 148.72 |
| 2006 | 160.78 | 144.49 |
| 2007 | 156.82 | 146.71 |
| 2008 | 159.90 | 148.19 |
| 2009 | 156.22 | 149.44 |
| 2010 | 155.76 | 151.61 |
| 2011 | 150.65 | 149.21 |
| 2012 | 140.89 | 142.04 |
| 2013 | 139.51 | 143.79 |
| 2014 | 135.16 | 143.55 |
| 2015 | 132.09 | 139.83 |

**Figure 2-15a. Commercial Consumption per Nonmanufacturing Employee**

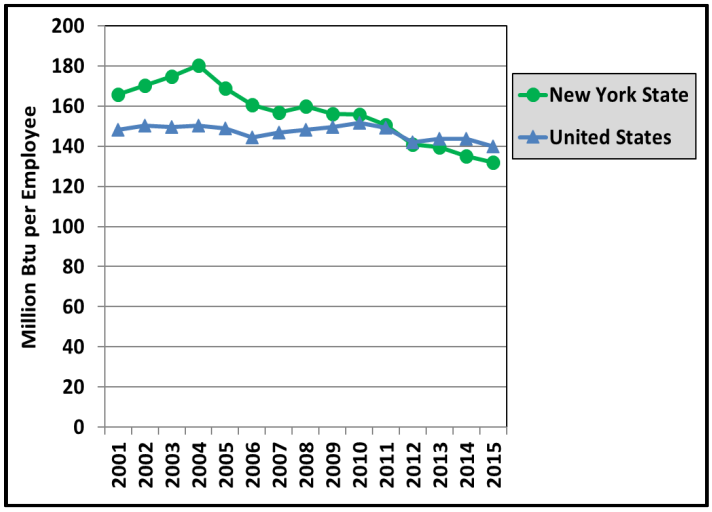
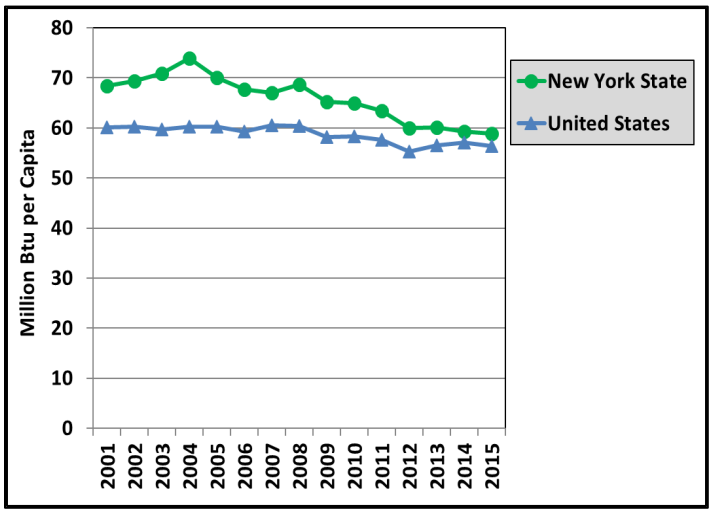



**Table 2-15b.**
**Commercial Consumption per Capita**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 68.44 | 60.14 |
| 2002 | 69.41 | 60.29 |
| 2003 | 70.88 | 59.75 |
| 2004 | 73.90 | 60.27 |
| 2005 | 70.10 | 60.30 |
| 2006 | 67.64 | 59.22 |
| 2007 | 66.95 | 60.45 |
| 2008 | 68.63 | 60.35 |
| 2009 | 65.25 | 58.20 |
| 2010 | 65.01 | 58.35 |
| 2011 | 63.37 | 57.55 |
| 2012 | 59.91 | 55.30 |
| 2013 | 60.09 | 56.55 |
| 2014 | 59.23 | 57.13 |
| 2015 | 58.90 | 56.43 |

**Figure 2-15b. Commercial Consumption per Capita**



# United States and New York State
# Selected Energy Indicators,
# 2001–2015

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

| Year | NYS | U.S. |
|---|---|---|
| | Btu | Btu |
| 2001 | 3,925 | 11,149 |
| 2002 | 3,723 | 11,401 |
| 2003 | 3,493 | 10,932 |
| 2004 | 3,311 | 10,626 |
| 2005 | 3,298 | 9,873 |
| 2006 | 2,693 | 9,506 |
| 2007 | 3,097 | 9,387 |
| 2008 | 2,666 | 9,437 |
| 2009 | 2,265 | 9,454 |
| 2010 | 2,370 | 9,828 |
| 2011 | 2,644 | 9,625 |
| 2012 | 2,598 | 9,492 |
| 2013 | 2,843 | 9,293 |
| 2014 | 2,759 | 9,164 |
| 2015 | 2,625 | 9,220 |

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

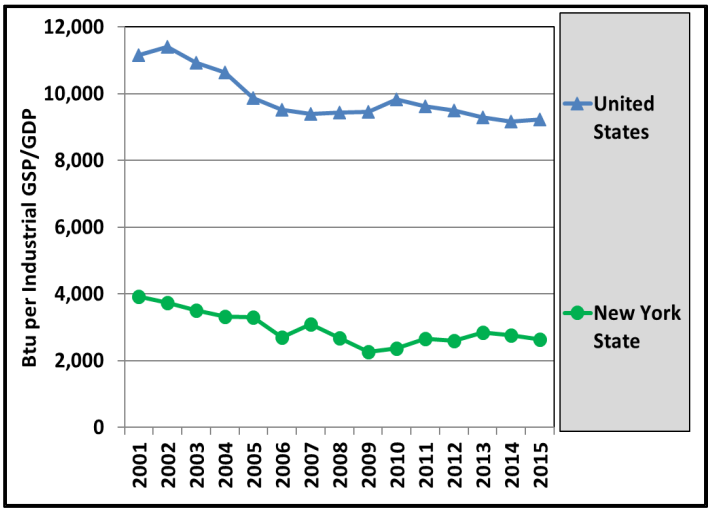
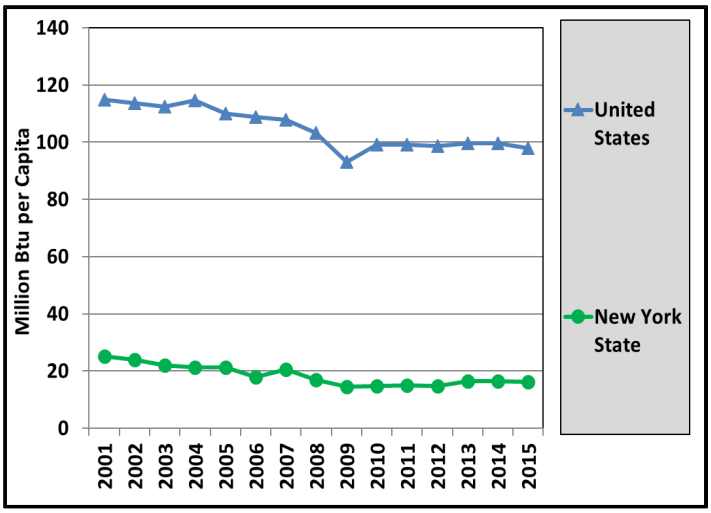



**Table 2-16b.**
**Industrial Consumption per Capita**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 25.07 | 114.76 |
| 2002 | 23.93 | 113.68 |
| 2003 | 21.92 | 112.35 |
| 2004 | 21.16 | 114.61 |
| 2005 | 21.21 | 110.02 |
| 2006 | 17.87 | 108.78 |
| 2007 | 20.46 | 107.77 |
| 2008 | 16.87 | 103.28 |
| 2009 | 14.62 | 93.02 |
| 2010 | 14.75 | 99.10 |
| 2011 | 15.09 | 99.25 |
| 2012 | 14.67 | 98.74 |
| 2013 | 16.54 | 99.53 |
| 2014 | 16.35 | 99.57 |
| 2015 | 16.24 | 97.84 |

**Figure 2-16b. Industrial Consumption per Capita**



# United States and New York State
# Selected Energy Indicators, 2001–2015

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

| Year | NYS | U.S. |
|---|---|---|
| | Btu | Btu |
| 2001 | 7,442 | 9,341 |
| 2002 | 7,517 | 9,343 |
| 2003 | 7,896 | 9,250 |
| 2004 | 8,046 | 9,339 |
| 2005 | 7,825 | 9,397 |
| 2006 | 7,788 | 9,459 |
| 2007 | 8,034 | 9,455 |
| 2008 | 8,169 | 9,179 |
| 2009 | 8,028 | 8,957 |
| 2010 | 8,196 | 9,058 |
| 2011 | 7,857 | 8,983 |
| 2012 | 8,088 | 8,809 |
| 2013 | 8,042 | 8,919 |
| 2014 | 8,565 | 8,894 |
| 2015 | 8,662 | 8,806 |

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

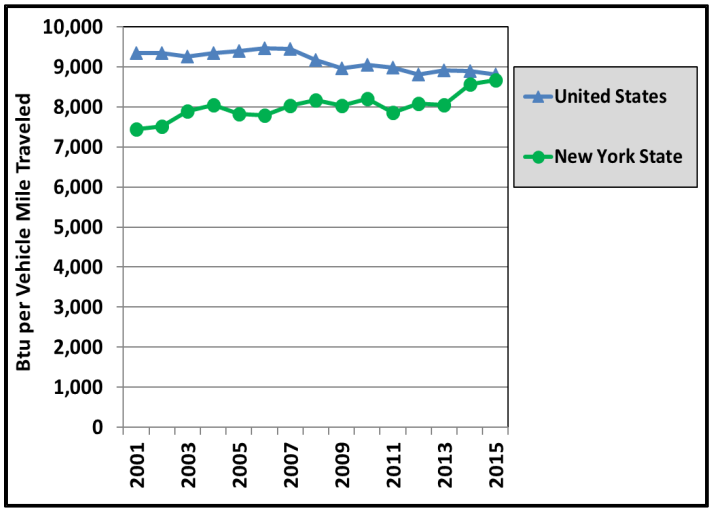
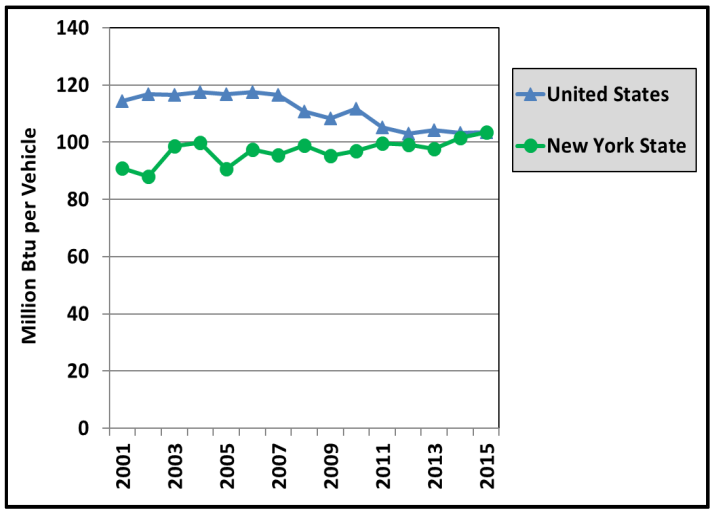



**Table 2-17b.**
**Transportation Consumption per Registered Motor Vehicle**

| Year | NYS | U.S. |
|---|---|---|
| | MMBtu | MMBtu |
| 2001 | 90.93 | 114.26 |
| 2002 | 87.97 | 116.73 |
| 2003 | 98.72 | 116.48 |
| 2004 | 99.96 | 117.50 |
| 2005 | 90.71 | 116.85 |
| 2006 | 97.55 | 117.61 |
| 2007 | 95.57 | 116.59 |
| 2008 | 98.78 | 110.69 |
| 2009 | 95.31 | 108.22 |
| 2010 | 97.07 | 111.70 |
| 2011 | 99.51 | 105.18 |
| 2012 | 99.26 | 103.11 |
| 2013 | 97.74 | 104.16 |
| 2014 | 101.54 | 103.36 |
| 2015 | 103.59 | 103.41 |

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



# 3 New York State Energy Consumption

This section presents data on primary and net energy consumption in New York by sector and fuel type from 2001 through 2015.

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

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

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

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

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

## 3.1 Key Observations about 2015 New York State Energy Consumption Data

- Total primary energy consumption was 3,728 TBtu, a 0.3% decrease from 2014.
- Primary consumption of natural gas (1,397 TBtu) exceeded petroleum (1,237 TBtu) for the fifth year in a row as the largest energy source for NYS energy consumption, representing 37.5% of total primary energy consumption.
- Cumulative heating degree-days were 4.8% lower in 2015 compared to 2014.
- Primary consumption of energy from solar, nuclear power, natural gas, electricity imports, and petroleum increased 46.2%, 3.6%, 0.4%, 0.2%, and less than 0.1%, respectively in 2015, while use of coal, bioenergy, wind, and hydropower decreased 36.2%, 6.5%, 1.8%, and 1.1%, respectively.

- Total consumption of petroleum products was 1,237 TBtu, or 228 million barrels, representing 33.2% of total primary energy consumption.
- In 2015, statewide distillate oil use increased by 6.7% from 2014 levels. Statewide motor gasoline use decreased 1.4% and residual fuel use decreased by 33.5% from 2014 to 2015. Total statewide petroleum fuels use increased by less than 0.1% from 2014 to 2015.
- Sales of natural gas totaled 1,354 billion cubic feet in 2015, which was 0.4% above the 1,349 billion cubic feet sold in 2014.
- Sales of natural gas by sector were 33.4% for the residential sector, 23.0% for the commercial sector, 6.2% for the industrial sector, 2.6% for the transportation sector, and 34.8% for the electric generation sector.
- Natural gas and nuclear power accounted for 35.2% and 27.6% of the State's electricity requirements in 2015, respectively.
- Energy used for electricity generation accounted for 39.7% of primary energy use.
- Sales of electricity to ultimate customers increased by 1.0% between 2014 and 2015.
- Total residential net energy consumption was 808 TBtu, which was 0.3% lower than 2014 levels. The residential sector accounted for 29.4% of total net energy consumption.
- Total net energy consumption in the commercial sector was 660 TBtu, or 23.9% of total net energy consumption. The sector's total energy use decreased 0.5% below the 2014 level while sales of electricity in the sector increased by 0.6%.
- Industrial net energy consumption was 203 TBtu, or 7.4% of total net consumption. The sector's total energy use decreased 0.5% from the 2014 level.
- Transportation energy consumption was 1,084 TBtu, or down 0.4% from 2014. The sector accounted for 39.3% of total net energy consumption in 2015.

## New York State Primary Consumption of Energy by Fuel Type, 2001–2015

**Figure 3-1**

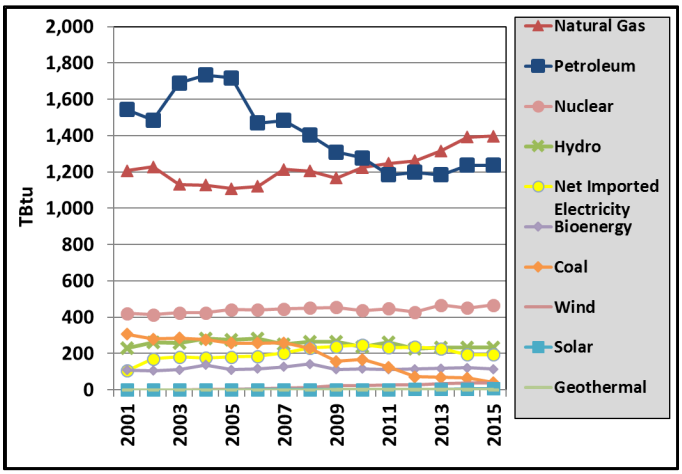



**Table 3-1a. (in physical units)**

| Year | Coal | Natural Gas | Petroleum Products[1] | Hydro | Nuclear | Net Imported Electricity | Solar | Wind |
|---|---|---|---|---|---|---|---|---|
| | Mtons | Bcf | Mbbl | GWh | GWh | GWh | GWh | GWh |
| 2001 | 11,784 | 1,172 | 279,044 | 23,152 | 40,395 | 10,628 | n.a. | 21 |
| 2002 | 10,907 | 1,200 | 269,952 | 26,213 | 39,617 | 17,088 | n.a. | 82 |
| 2003 | 11,313 | 1,102 | 303,839 | 25,798 | 40,679 | 18,163 | n.a. | 41 |
| 2004 | 11,335 | 1,098 | 308,484 | 28,153 | 40,640 | 17,646 | n.a. | 116 |
| 2005 | 10,739 | 1,080 | 305,998 | 27,583 | 42,443 | 18,115 | n.a. | 103 |
| 2006 | 10,979 | 1,097 | 265,459 | 28,422 | 42,224 | 18,569 | n.a. | 655 |
| 2007 | 11,058 | 1,187 | 268,635 | 25,557 | 42,453 | 20,708 | n.a. | 833 |
| 2008 | 10,158 | 1,180 | 255,171 | 27,501 | 43,209 | 23,899 | n.a. | 1,251 |
| 2009 | 7,032 | 1,143 | 238,763 | 27,945 | 43,485 | 25,009 | n.a. | 2,266 |
| 2010 | 7,366 | 1,198 | 233,417 | 25,103 | 41,870 | 26,517 | n.a. | 2,596 |
| 2011 | 5,603 | 1,217 | 217,556 | 28,355 | 42,695 | 25,201 | n.a. | 2,828 |
| 2012 | 3,137 | 1,223 | 219,991 | 25,303 | 40,775 | 26,180 | n.a. | 2,992 |
| 2013 | 3,041 | 1,273 | 217,976 | 26,397 | 44,756 | 25,694 | n.a. | 3,539 |
| 2014 | 2,868 | 1,349 | 227,797 | 26,823 | 43,041 | 22,103 | 421 | 3,986 |
| 2015 | 1,761 | 1,354 | 227,915 | 26,704 | 44,620 | 22,273 | 689 | 3,984 |

**Table 3-1b. (in trillion Btu)**

| Year | Coal | Natural Gas | Petroleum Products[1] | Hydro | Nuclear | Net Imported Electricity | Solar | Wind | Geothermal | Bioenergy[2] | Total[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | Tbtu | Tbtu | Tbtu | Tbtu | Tbtu |
| 2001 | 307.0 | 1,205.9 | 1,543.2 | 230.7 | 421.8 | 105.9 | 0.6 | 0.2 | 0.3 | 109.3 | 3,925.1 |
| 2002 | 280.6 | 1,227.2 | 1,485.7 | 260.8 | 413.7 | 170.0 | 0.6 | 0.8 | 0.4 | 105.4 | 3,945.3 |
| 2003 | 286.2 | 1,131.4 | 1,688.4 | 257.1 | 424.0 | 181.0 | 0.6 | 0.4 | 0.5 | 110.4 | 4,079.9 |
| 2004 | 276.5 | 1,126.6 | 1,732.5 | 281.6 | 423.8 | 176.5 | 0.7 | 1.2 | 0.5 | 137.6 | 4,157.5 |
| 2005 | 256.9 | 1,107.2 | 1,717.2 | 276.4 | 442.9 | 181.5 | 0.8 | 1.0 | 0.6 | 110.9 | 4,095.6 |
| 2006 | 256.3 | 1,120.2 | 1,468.5 | 282.4 | 440.6 | 184.5 | 1.0 | 6.5 | 0.7 | 117.1 | 3,877.9 |
| 2007 | 258.5 | 1,214.4 | 1,484.0 | 250.1 | 445.3 | 202.7 | 1.2 | 8.2 | 0.7 | 127.1 | 3,992.1 |
| 2008 | 229.0 | 1,205.1 | 1,401.7 | 265.3 | 451.6 | 230.6 | 1.3 | 12.3 | 0.8 | 143.3 | 3,941.1 |
| 2009 | 156.0 | 1,166.6 | 1,309.4 | 265.8 | 454.8 | 237.8 | 1.5 | 22.1 | 1.0 | 113.0 | 3,727.9 |
| 2010 | 167.1 | 1,224.5 | 1,276.5 | 235.7 | 437.6 | 248.9 | 1.7 | 25.3 | 1.1 | 116.5 | 3,735.0 |
| 2011 | 125.2 | 1,247.8 | 1,184.0 | 260.7 | 446.8 | 231.7 | 2.1 | 27.5 | 1.3 | 112.2 | 3,639.2 |
| 2012 | 72.9 | 1,261.0 | 1,196.9 | 228.0 | 427.3 | 235.9 | 3.2 | 28.4 | 1.2 | 113.8 | 3,568.6 |
| 2013 | 68.7 | 1,315.3 | 1,184.3 | 233.6 | 467.7 | 227.4 | 3.9 | 33.7 | 1.2 | 117.6 | 3,653.3 |
| 2014 | 64.7 | 1,392.4 | 1,236.6 | 234.7 | 450.1 | 193.4 | 5.3 | 37.7 | 1.2 | 121.9 | 3,738.0 |
| 2015 | 41.2 | 1,397.4 | 1,236.9 | 232.3 | 466.5 | 193.7 | 7.7 | 37.0 | 1.2 | 114.0 | 3,727.8 |

---

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.

3 Excludes nonfuel uses.

## New York State Primary Consumption of Refined Petroleum Products, 2001–2015

**Figure 3-2**

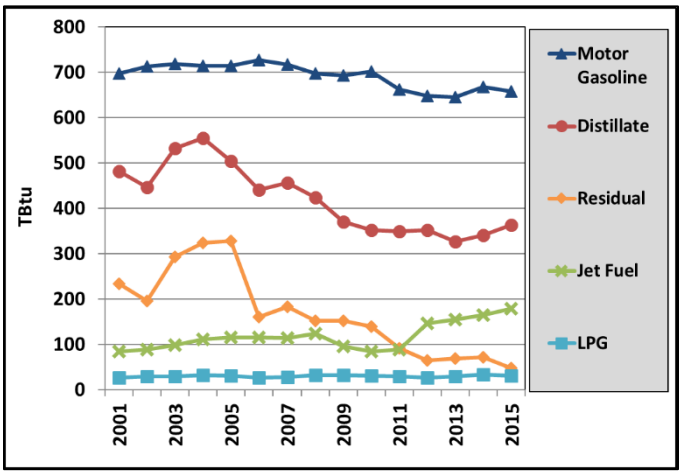



**Table 3-2a. (in thousand barrels)**

| Year | Distillate[1] | Residual | Kerosene | LPG | Motor Gasoline | Jet Fuel[2] | Total[3] |
|---|---|---|---|---|---|---|---|
| | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl |
| 2001 | 82,878 | 37,090 | 3,444 | 7,111 | 133,724 | 14,904 | 279,044 |
| 2002 | 76,684 | 31,110 | 2,373 | 7,613 | 136,664 | 15,603 | 269,952 |
| 2003 | 91,549 | 46,578 | 3,195 | 7,771 | 138,010 | 17,286 | 303,839 |
| 2004 | 95,300 | 51,469 | 3,182 | 8,639 | 137,391 | 19,526 | 308,484 |
| 2005 | 86,630 | 52,151 | 3,632 | 8,261 | 137,355 | 20,291 | 305,998 |
| 2006 | 75,872 | 25,526 | 2,579 | 7,153 | 140,020 | 20,366 | 265,459 |
| 2007 | 78,850 | 28,975 | 1,777 | 7,346 | 139,140 | 20,162 | 268,635 |
| 2008 | 73,289 | 24,203 | 830 | 8,536 | 136,105 | 21,812 | 255,171 |
| 2009 | 64,154 | 24,060 | 1,218 | 8,344 | 135,921 | 16,790 | 238,763 |
| 2010 | 60,987 | 22,233 | 1,701 | 8,152 | 138,087 | 14,808 | 233,417 |
| 2011 | 60,438 | 14,517 | 1,058 | 7,593 | 130,718 | 15,497 | 217,556 |
| 2012 | 61,030 | 10,262 | 569 | 6,982 | 127,902 | 25,864 | 219,991 |
| 2013 | 56,594 | 11,032 | 506 | 7,784 | 127,461 | 27,337 | 217,976 |
| 2014 | 59,002 | 11,396 | 879 | 8,721 | 131,943 | 29,033 | 227,797 |
| 2015 | 62,971 | 7,582 | 613 | 8,144 | 130,059 | 31,407 | 227,915 |

**Table 3-2b. (in trillion Btu)**

| Year | Distillate[1] | Residual | Kerosene | LPG | Motor Gasoline | Jet Fuel[2] | Total[3] |
|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 482.3 | 233.2 | 19.5 | 26.8 | 697.2 | 84.3 | 1,543.2 |
| 2002 | 446.2 | 195.6 | 13.5 | 28.9 | 712.2 | 88.4 | 1,485.7 |
| 2003 | 532.7 | 292.8 | 18.1 | 29.4 | 718.1 | 98.0 | 1,688.4 |
| 2004 | 554.5 | 323.6 | 18.0 | 32.7 | 714.6 | 110.6 | 1,732.5 |
| 2005 | 504.0 | 327.9 | 20.6 | 31.0 | 714.0 | 114.9 | 1,717.2 |
| 2006 | 440.3 | 160.5 | 14.6 | 26.9 | 726.8 | 115.5 | 1,468.5 |
| 2007 | 456.1 | 182.2 | 10.1 | 27.8 | 717.3 | 114.2 | 1,484.0 |
| 2008 | 423.6 | 152.2 | 4.7 | 32.5 | 697.7 | 123.6 | 1,401.7 |
| 2009 | 370.9 | 151.3 | 6.9 | 31.8 | 693.3 | 95.2 | 1,309.4 |
| 2010 | 352.3 | 139.8 | 9.6 | 31.1 | 701.2 | 83.9 | 1,276.5 |
| 2011 | 349.0 | 91.3 | 6.0 | 28.9 | 662.5 | 87.8 | 1,184.0 |
| 2012 | 352.2 | 64.5 | 3.2 | 26.5 | 647.6 | 146.6 | 1,196.9 |
| 2013 | 326.5 | 69.4 | 2.9 | 29.6 | 645.2 | 155.0 | 1,184.3 |
| 2014 | 340.3 | 71.6 | 5.0 | 33.2 | 667.6 | 164.6 | 1,236.6 |
| 2015 | 363.2 | 47.7 | 3.5 | 31.0 | 658.1 | 178.0 | 1,236.9 |

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

## New York State Primary Consumption of Energy by Sector,[1] 2001–2015

Figure 3-3a

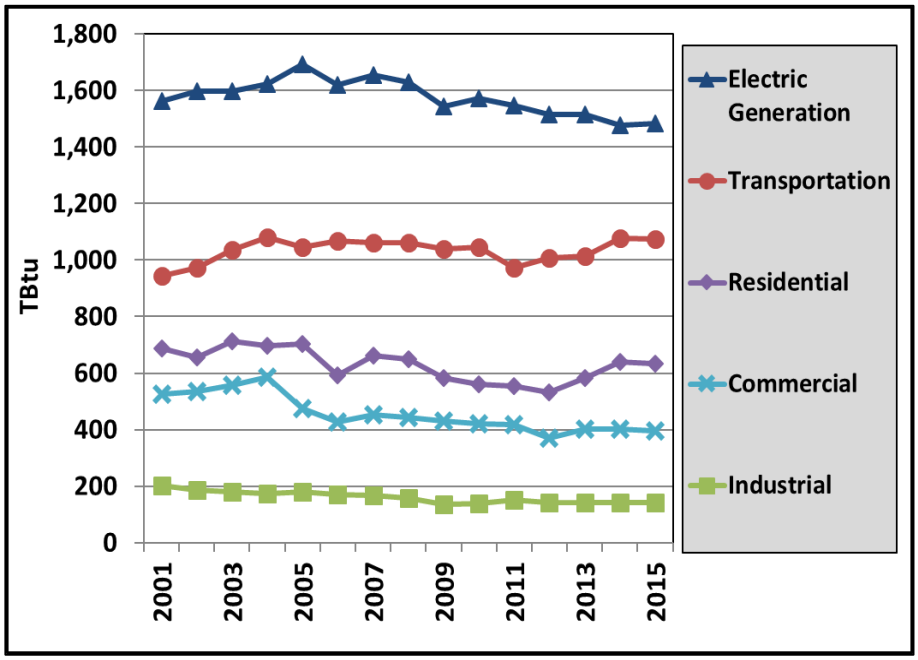



**Table 3-3a. (in trillion Btu)**

| Year | Residential | Commercial | Industrial | Transportation | Electric Generation | Total |
|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 687.3 | 526.9 | 202.3 | 944.9 | 1,563.7 | 3,925.1 |
| 2002 | 655.3 | 535.2 | 185.4 | 971.6 | 1,597.7 | 3,945.3 |
| 2003 | 712.0 | 555.9 | 179.3 | 1,036.6 | 1,596.2 | 4,079.9 |
| 2004 | 695.7 | 584.8 | 174.4 | 1,079.9 | 1,622.8 | 4,157.5 |
| 2005 | 702.8 | 475.0 | 180.8 | 1,044.1 | 1,692.9 | 4,095.6 |
| 2006 | 592.0 | 426.4 | 170.7 | 1,068.8 | 1,619.9 | 3,877.9 |
| 2007 | 660.7 | 451.6 | 165.9 | 1,060.6 | 1,653.3 | 3,992.1 |
| 2008 | 648.4 | 442.8 | 158.1 | 1,062.4 | 1,629.4 | 3,941.1 |
| 2009 | 582.9 | 430.1 | 134.6 | 1,038.5 | 1,541.9 | 3,727.9 |
| 2010 | 560.5 | 420.6 | 139.5 | 1,044.0 | 1,570.4 | 3,735.0 |
| 2011 | 554.0 | 416.6 | 150.5 | 971.5 | 1,546.5 | 3,639.2 |
| 2012 | 533.4 | 370.4 | 142.6 | 1,008.0 | 1,514.2 | 3,568.6 |
| 2013 | 582.4 | 400.4 | 141.9 | 1,014.0 | 1,514.6 | 3,653.3 |
| 2014 | 640.3 | 401.6 | 142.1 | 1,078.6 | 1,475.4 | 3,738.0 |
| 2015 | 634.3 | 396.9 | 140.9 | 1,074.1 | 1,481.7 | 3,727.8 |

[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] 2001–2015

Figure 3-3b

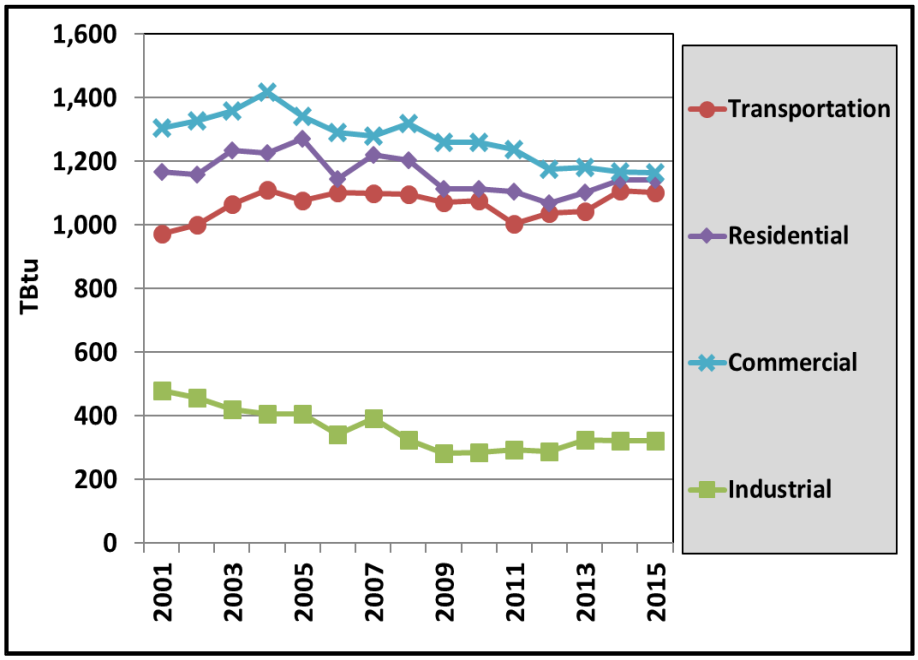



**Table 3-3b. (in trillion Btu)**

| Year | Residential | Commercial | Industrial | Transportation | Total |
|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 1,167.0 | 1,306.1 | 478.3 | 973.6 | 3,925.1 |
| 2002 | 1,158.8 | 1,328.4 | 457.9 | 1,000.1 | 3,945.3 |
| 2003 | 1,234.1 | 1,359.2 | 420.3 | 1,066.4 | 4,079.9 |
| 2004 | 1,225.6 | 1,416.8 | 405.7 | 1,109.5 | 4,157.5 |
| 2005 | 1,272.6 | 1,341.1 | 405.7 | 1,076.1 | 4,095.6 |
| 2006 | 1,143.5 | 1,292.3 | 341.3 | 1,100.8 | 3,877.9 |
| 2007 | 1,221.3 | 1,280.9 | 391.5 | 1,098.5 | 3,992.1 |
| 2008 | 1,203.0 | 1,318.5 | 324.2 | 1,095.4 | 3,941.1 |
| 2009 | 1,114.1 | 1,259.7 | 282.4 | 1,071.8 | 3,728.0 |
| 2010 | 1,113.6 | 1,259.7 | 285.9 | 1,075.8 | 3,735.0 |
| 2011 | 1,104.2 | 1,236.9 | 294.6 | 1,003.5 | 3,639.2 |
| 2012 | 1,069.5 | 1,174.4 | 287.5 | 1,037.1 | 3,568.6 |
| 2013 | 1,102.5 | 1,182.2 | 325.3 | 1,043.3 | 3,653.3 |
| 2014 | 1,140.6 | 1,167.9 | 322.3 | 1,107.2 | 3,738.0 |
| 2015 | 1,141.9 | 1,163.1 | 320.7 | 1,102.1 | 3,727.8 |

[1] All electric generation and associated losses are included in the end-use sectors. Electricity systems 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] 2001–2015

**Figure 3-3c-1: Energy Services by Sector**

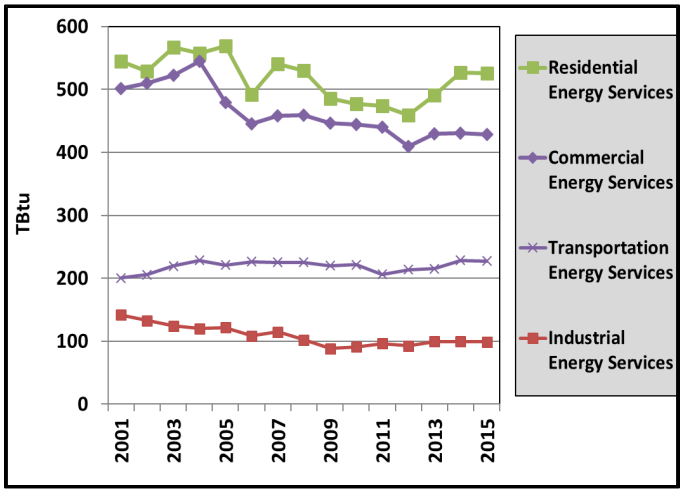



**Figure 3-3c-2: Energy Losses by Sector**

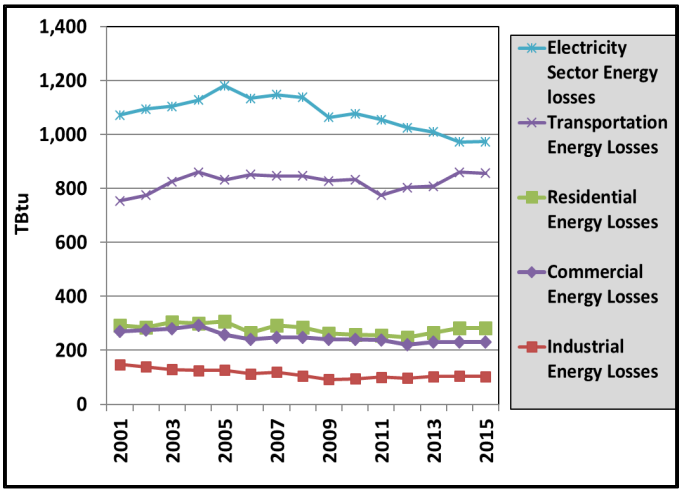



**Table 3-3c. (in trillion Btu)**

| 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 |
| 2001 | 544.8 | 293.4 | 501.8 | 270.2 | 141.7 | 147.5 | 200.3 | 753.6 | 1,071.8 | 1,388.6 | 2,536.4 | 3,925.1 |
| 2002 | 529.0 | 284.9 | 510.2 | 274.7 | 132.9 | 138.3 | 205.9 | 774.6 | 1,094.6 | 1,378.1 | 2,567.2 | 3,945.3 |
| 2003 | 567.3 | 305.5 | 522.1 | 281.1 | 124.2 | 129.3 | 219.6 | 826.1 | 1,104.7 | 1,433.2 | 2,646.7 | 4,079.9 |
| 2004 | 557.3 | 300.1 | 545.1 | 293.5 | 120.0 | 124.9 | 228.7 | 860.2 | 1,127.8 | 1,451.1 | 2,706.5 | 4,157.5 |
| 2005 | 568.9 | 306.3 | 479.1 | 258.0 | 122.0 | 126.9 | 221.3 | 832.5 | 1,180.6 | 1,391.2 | 2,704.3 | 4,095.6 |
| 2006 | 492.2 | 265.0 | 445.8 | 240.0 | 108.7 | 113.1 | 226.5 | 851.9 | 1,134.6 | 1,273.2 | 2,604.7 | 3,877.9 |
| 2007 | 540.9 | 291.2 | 458.4 | 246.8 | 115.1 | 119.8 | 225.2 | 847.1 | 1,147.7 | 1,339.5 | 2,652.6 | 3,992.1 |
| 2008 | 530.2 | 285.5 | 459.5 | 247.4 | 102.0 | 106.2 | 225.2 | 847.2 | 1,137.9 | 1,317.0 | 2,624.2 | 3,941.1 |
| 2009 | 485.9 | 261.6 | 446.7 | 240.5 | 88.4 | 92.0 | 220.2 | 828.6 | 1,064.1 | 1,241.2 | 2,486.8 | 3,727.9 |
| 2010 | 477.3 | 257.0 | 444.8 | 239.5 | 90.9 | 94.6 | 221.3 | 832.7 | 1,076.9 | 1,234.3 | 2,500.7 | 3,735.0 |
| 2011 | 473.8 | 255.1 | 440.2 | 237.1 | 96.2 | 100.1 | 206.2 | 775.5 | 1,055.0 | 1,216.4 | 2,422.8 | 3,639.2 |
| 2012 | 459.1 | 247.2 | 409.4 | 220.4 | 92.8 | 96.6 | 213.7 | 803.8 | 1,025.7 | 1,174.9 | 2,393.7 | 3,568.6 |
| 2013 | 491.2 | 264.5 | 429.5 | 231.3 | 99.5 | 103.5 | 215.0 | 808.8 | 1,010.0 | 1,235.2 | 2,418.1 | 3,653.3 |
| 2014 | 527.0 | 283.8 | 430.8 | 232.0 | 99.7 | 103.8 | 228.5 | 859.8 | 972.6 | 1,286.1 | 2,451.9 | 3,738.0 |
| 2015 | 525.5 | 282.9 | 428.7 | 230.9 | 99.2 | 103.3 | 227.6 | 856.1 | 973.6 | 1,281.0 | 2,446.8 | 3,727.8 |

[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 losses are 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 percentage of energy services to losses.

## New York State Primary Consumption of Energy for Electric Generation, 2001–2015

**Figure 3-4**

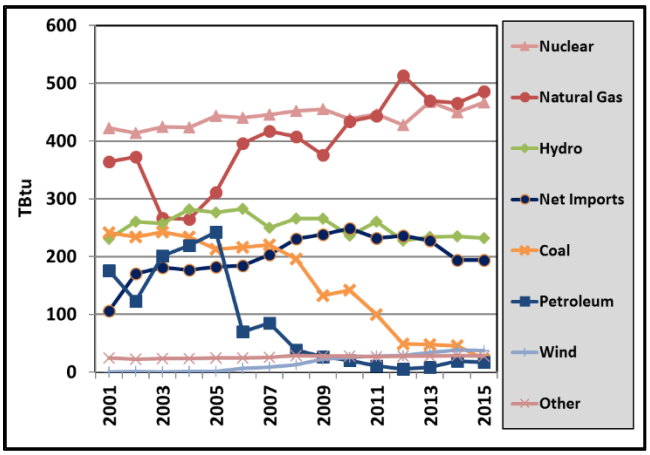



**Table 3-4a. (in physical units)**

| 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 |
| 2001 | 9,258 | 357 | 3,010 | 25,184 | 28,194 | 21,486 | 1,666 | 40,395 | 10,628 | 21 | n/a | 2,404 |
| 2002 | 9,154 | 366 | 2,229 | 17,473 | 19,702 | 24,612 | 1,601 | 39,617 | 17,088 | 82 | n/a | 2,282 |
| 2003 | 9,646 | 261 | 2,410 | 29,821 | 32,230 | 24,207 | 1,591 | 40,679 | 18,163 | 41 | n/a | 2,302 |
| 2004 | 9,702 | 259 | 1,740 | 33,236 | 34,977 | 26,745 | 1,408 | 40,640 | 17,646 | 116 | n/a | 2,303 |
| 2005 | 9,069 | 304 | 1,574 | 37,320 | 38,894 | 26,204 | 1,379 | 42,443 | 18,115 | 103 | n/a | 2,481 |
| 2006 | 9,417 | 388 | 622 | 10,614 | 11,236 | 27,110 | 1,312 | 42,224 | 18,569 | 655 | n/a | 2,488 |
| 2007 | 9,613 | 408 | 1,372 | 12,224 | 13,596 | 24,184 | 1,373 | 42,453 | 20,708 | 833 | n/a | 2,555 |
| 2008 | 8,885 | 399 | 809 | 4,935 | 6,106 | 25,711 | 1,790 | 43,209 | 23,899 | 1,251 | n/a | 2,996 |
| 2009 | 6,108 | 368 | 736 | 3,261 | 4,296 | 26,420 | 1,525 | 43,485 | 25,009 | 2,266 | n/a | 2,888 |
| 2010 | 6,384 | 425 | 637 | 1,790 | 3,340 | 24,214 | 889 | 41,870 | 26,517 | 2,596 | n/a | 2,916 |
| 2011 | 4,591 | 434 | 331 | 1,026 | 1,826 | 27,634 | 721 | 42,695 | 25,201 | 2,828 | 7 | 2,823 |
| 2012 | 2,228 | 499 | 392 | 459 | 851 | 24,572 | 731 | 40,775 | 26,180 | 2,992 | 53 | 2,945 |
| 2013 | 2,225 | 456 | 503 | 882 | 1,385 | 25,631 | 766 | 44,756 | 25,694 | 3,539 | 67 | 3,003 |
| 2014 | 2,154 | 453 | 833 | 2,228 | 3,061 | 25,974 | 849 | 43,041 | 22,103 | 3,986 | 71 | 3,194 |
| 2015 | 1,038 | 472 | 835 | 1,942 | 2,778 | 25,879 | 825 | 44,620 | 22,273 | 3,984 | 101 | 3,028 |

**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 |
| 2001 | 241.1 | 364.1 | 17.5 | 158.1 | 175.8 | 230.7 | 421.8 | 105.9 | 0.2 | 0.0 | 24.0 | 1563.7 |
| 2002 | 234.3 | 372.5 | 13.0 | 108.4 | 122.8 | 260.8 | 413.7 | 170.0 | 0.8 | 0.0 | 22.7 | 1597.7 |
| 2003 | 242.1 | 267.1 | 14.0 | 186.3 | 201.5 | 257.1 | 424.0 | 181.0 | 0.4 | 0.0 | 22.9 | 1596.2 |
| 2004 | 233.6 | 264.2 | 10.1 | 205.7 | 218.8 | 281.6 | 423.8 | 176.5 | 1.2 | 0.0 | 23.0 | 1622.8 |
| 2005 | 213.0 | 310.6 | 9.2 | 220.4 | 242.5 | 276.4 | 442.9 | 181.5 | 1.0 | 0.0 | 24.9 | 1692.9 |
| 2006 | 215.8 | 395.5 | 3.6 | 61.3 | 69.9 | 282.4 | 440.6 | 184.5 | 6.5 | 0.0 | 24.7 | 1619.9 |
| 2007 | 220.6 | 416.9 | 7.9 | 73.7 | 84.5 | 250.1 | 445.3 | 202.7 | 8.2 | 0.0 | 25.0 | 1653.3 |
| 2008 | 195.6 | 407.3 | 4.7 | 31.0 | 37.8 | 265.3 | 451.6 | 230.6 | 12.3 | 0.0 | 28.9 | 1629.4 |
| 2009 | 131.8 | 375.6 | 4.3 | 20.5 | 26.5 | 265.8 | 454.8 | 237.8 | 22.1 | 0.0 | 27.5 | 1541.9 |
| 2010 | 141.6 | 433.7 | 3.7 | 11.3 | 20.2 | 235.7 | 437.6 | 248.9 | 25.3 | 0.0 | 27.4 | 1570.4 |
| 2011 | 99.2 | 443.6 | 1.9 | 6.4 | 11.0 | 260.7 | 446.8 | 231.7 | 27.5 | 0.1 | 26.0 | 1546.5 |
| 2012 | 48.7 | 513.6 | 2.3 | 2.9 | 5.2 | 228.0 | 427.3 | 235.9 | 28.4 | 0.5 | 26.5 | 1514.2 |
| 2013 | 47.2 | 469.5 | 2.9 | 5.5 | 8.4 | 233.6 | 467.7 | 227.4 | 33.7 | 0.6 | 26.6 | 1514.6 |
| 2014 | 45.9 | 466.0 | 4.8 | 14.0 | 18.8 | 234.7 | 450.1 | 193.4 | 37.7 | 0.7 | 28.0 | 1475.4 |
| 2015 | 22.0 | 486.0 | 4.8 | 12.2 | 17.0 | 232.3 | 466.5 | 193.7 | 37.0 | 0.9 | 26.3 | 1481.7 |

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, 2001–2015

Figure 3-5

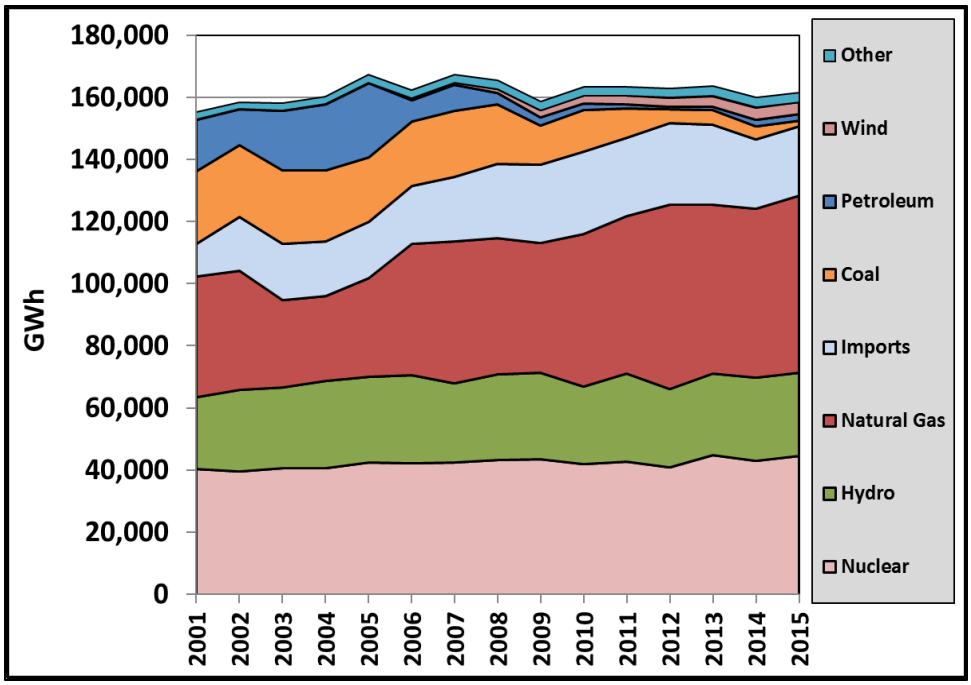



**Table 3-5. (in gigawatt-hours)**

| Year | Coal | Natural Gas | Petroleum Products | Conv. Hydro | PS Hydro | Nuclear | Net Imports | Other[1,2] Waste | Other[1,2] LFG | Other[1,2] Wood | Wind | Solar[3] | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh | GWh |
| 2001 | 23,432 | 38,697 | 16,512 | 21,486 | 1,666 | 40,395 | 10,628 | 1,837 | 284 | 283 | 21 | 0 | 155,241 |
| 2002 | 23,239 | 38,451 | 11,534 | 24,612 | 1,601 | 39,617 | 17,088 | 1,878 | 198 | 206 | 82 | 0 | 158,507 |
| 2003 | 23,581 | 28,156 | 19,292 | 24,207 | 1,591 | 40,679 | 18,163 | 1,905 | 205 | 192 | 41 | 0 | 158,012 |
| 2004 | 22,853 | 27,294 | 21,205 | 26,745 | 1,408 | 40,640 | 17,646 | 1,883 | 209 | 211 | 116 | 0 | 160,211 |
| 2005 | 20,598 | 31,873 | 24,013 | 26,204 | 1,379 | 42,443 | 18,115 | 1,899 | 329 | 253 | 103 | 0 | 167,208 |
| 2006 | 20,968 | 42,134 | 6,778 | 27,110 | 1,312 | 42,224 | 18,569 | 1,902 | 326 | 260 | 655 | 0 | 162,238 |
| 2007 | 21,406 | 45,634 | 8,195 | 24,184 | 1,373 | 42,453 | 20,708 | 1,902 | 397 | 256 | 833 | 0 | 167,341 |
| 2008 | 19,154 | 43,856 | 3,745 | 25,711 | 1,790 | 43,209 | 23,899 | 1,903 | 533 | 560 | 1,251 | 0 | 165,612 |
| 2009 | 12,759 | 41,780 | 2,648 | 26,420 | 1,525 | 43,485 | 25,009 | 1,900 | 648 | 340 | 2,266 | 0 | 158,780 |
| 2010 | 13,583 | 48,916 | 2,005 | 24,214 | 889 | 41,870 | 26,517 | 1,893 | 708 | 315 | 2,596 | 0 | 163,505 |
| 2011 | 9,426 | 50,805 | 1,189 | 27,634 | 721 | 42,695 | 25,201 | 1,878 | 735 | 210 | 2,828 | 7 | 163,329 |
| 2012 | 4,551 | 59,462 | 580 | 24,572 | 731 | 40,775 | 26,180 | 1,897 | 736 | 311 | 2,992 | 53 | 162,840 |
| 2013 | 4,697 | 54,354 | 1,007 | 25,631 | 766 | 44,756 | 25,694 | 1,799 | 828 | 377 | 3,539 | 67 | 163,514 |
| 2014 | 4,325 | 54,380 | 2,136 | 25,974 | 849 | 43,041 | 22,103 | 1,866 | 789 | 539 | 3,986 | 71 | 160,059 |
| 2015 | 2,046 | 56,923 | 1,892 | 25,879 | 825 | 44,620 | 22,273 | 1,862 | 745 | 422 | 3,984 | 101 | 161,572 |

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 2015 was 588 GWh (85.3% of total solar) with 319 GWh (54.3%) in the residential sector, 259 GWh (44.0%) in the commercial sector, and 10 GWh (1.7%) in the industrial sector.

## New York State
## Fossil Fuel[1] for Electric Generation Trends, 2001–2015

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

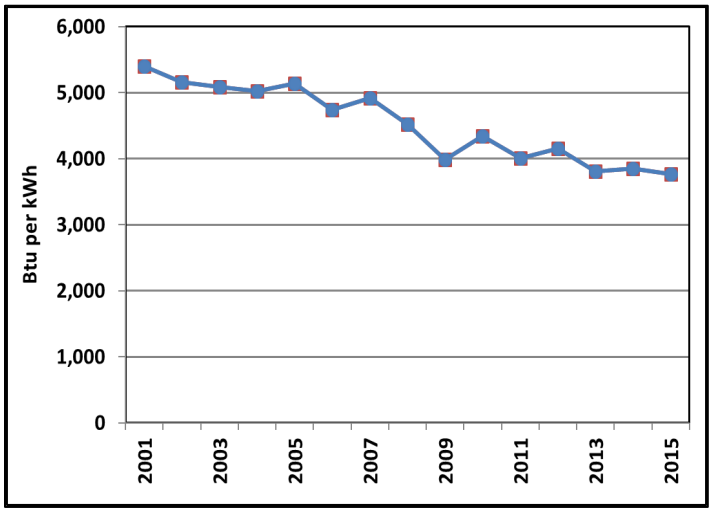



**Figure 3-6b. Metric Tons Emitted of $CO_2$ Equivalent per GWh of in-State Generation**

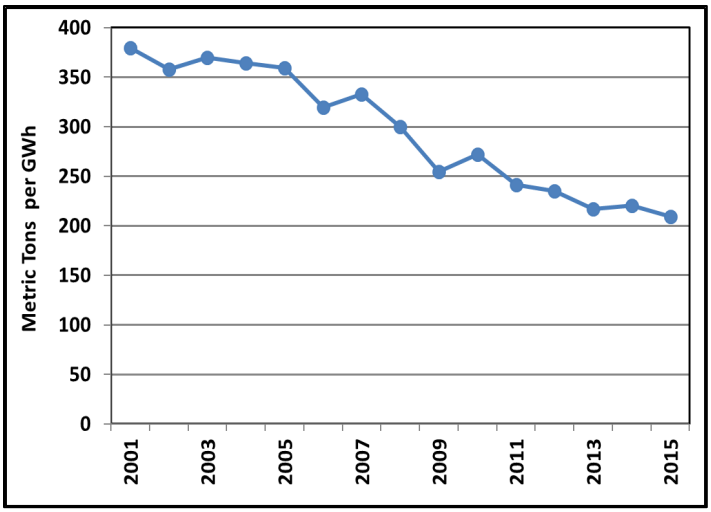



**Table 3-6. Fossil Fuel Use for Electricity Trends**

| Year | Total Fossil Fuel Use | Fossil Fuel per kWh of in-State Generation | $CO_{2e}$ Emitted per GWh of in-State Generation |
|---|---|---|---|
| | TBtu | Btu | Metric Tons of $CO_{2e}$ |
| 2001 | 781 | 5,401 | 380 |
| 2002 | 730 | 5,159 | 358 |
| 2003 | 711 | 5,082 | 370 |
| 2004 | 717 | 5,026 | 365 |
| 2005 | 766 | 5,139 | 359 |
| 2006 | 681 | 4,741 | 320 |
| 2007 | 722 | 4,924 | 333 |
| 2008 | 641 | 4,521 | 300 |
| 2009 | 534 | 3,991 | 254 |
| 2010 | 595 | 4,347 | 272 |
| 2011 | 554 | 4,009 | 242 |
| 2012 | 568 | 4,153 | 235 |
| 2013 | 525 | 3,810 | 217 |
| 2014 | 531 | 3,847 | 220 |
| 2015 | 525 | 3,769 | 209 |

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

## New York State Sales of Electricity to Ultimate Consumers, 2001–2015

Figure 3-7

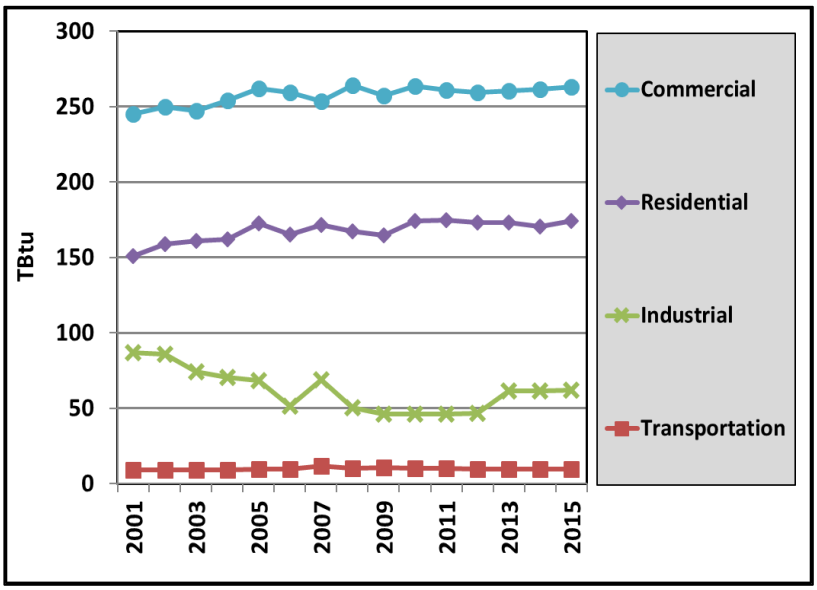



**Table 3-7a. (in gigawatt-hours)**

| Year | Residential | Commercial | Industrial | Transportation | Total |
|---|---|---|---|---|---|
| | GWh | GWh | GWh | GWh | GWh |
| 2001 | 44,236 | 71,850 | 25,450 | 2,646 | 144,181 |
| 2002 | 46,457 | 73,198 | 25,148 | 2,637 | 147,440 |
| 2003 | 47,116 | 72,495 | 21,745 | 2,689 | 144,045 |
| 2004 | 47,379 | 74,378 | 20,675 | 2,650 | 145,082 |
| 2005 | 50,533 | 76,822 | 19,947 | 2,846 | 150,148 |
| 2006 | 48,427 | 76,029 | 14,976 | 2,806 | 142,238 |
| 2007 | 50,241 | 74,326 | 20,213 | 3,397 | 148,178 |
| 2008 | 49,034 | 77,416 | 14,685 | 2,918 | 144,053 |
| 2009 | 48,246 | 75,347 | 13,417 | 3,025 | 140,034 |
| 2010 | 50,946 | 77,276 | 13,480 | 2,922 | 144,624 |
| 2011 | 51,240 | 76,406 | 13,420 | 2,981 | 144,047 |
| 2012 | 50,692 | 76,018 | 13,705 | 2,748 | 143,163 |
| 2013 | 50,777 | 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 |

**Table 3-7b. (in trillion Btu)**

| Year | Residential | Commercial | Industrial | Transportation | Total |
|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 150.9 | 245.2 | 86.8 | 9.0 | 491.9 |
| 2002 | 158.5 | 249.8 | 85.8 | 9.0 | 503.1 |
| 2003 | 160.8 | 247.4 | 74.2 | 9.2 | 491.5 |
| 2004 | 161.7 | 253.8 | 70.5 | 9.0 | 495.0 |
| 2005 | 172.4 | 262.1 | 68.1 | 9.7 | 512.3 |
| 2006 | 165.2 | 259.4 | 51.1 | 9.6 | 485.3 |
| 2007 | 171.4 | 253.6 | 69.0 | 11.6 | 505.6 |
| 2008 | 167.3 | 264.1 | 50.1 | 10.0 | 491.5 |
| 2009 | 164.6 | 257.1 | 45.8 | 10.3 | 477.8 |
| 2010 | 173.8 | 263.7 | 46.0 | 10.0 | 493.5 |
| 2011 | 174.8 | 260.7 | 45.8 | 10.2 | 491.5 |
| 2012 | 173.0 | 259.4 | 46.8 | 9.4 | 488.5 |
| 2013 | 173.3 | 260.5 | 61.1 | 9.8 | 504.6 |
| 2014 | 170.5 | 261.2 | 61.4 | 9.7 | 502.8 |
| 2015 | 174.1 | 262.7 | 61.7 | 9.6 | 508.1 |

## New York State Net Consumption of Energy by Sector, 2001–2015

Figure 3-8

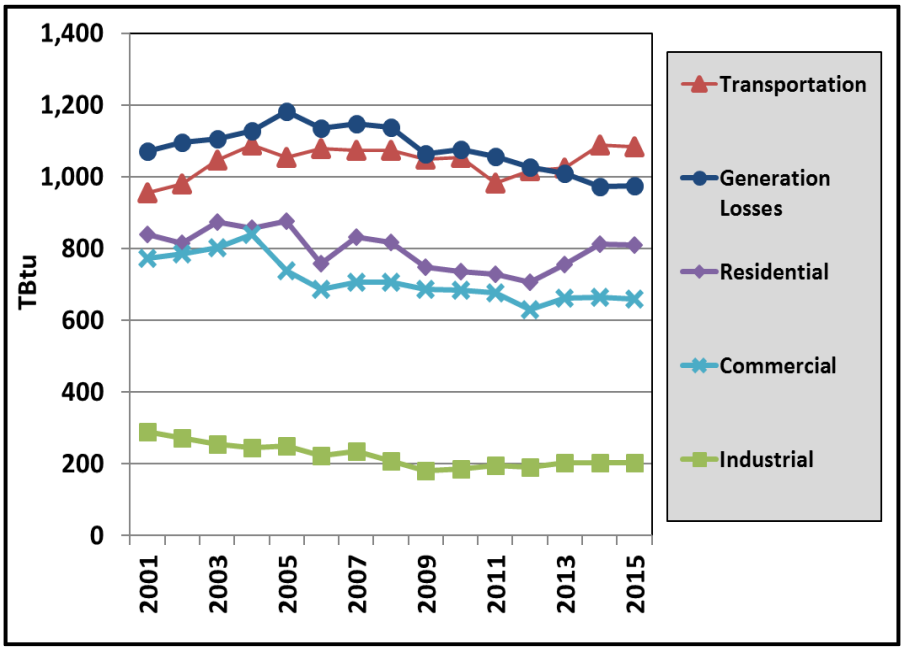



**Table 3-8. (in trillion Btu)**

| Year | Residential | Commercial | Industrial | Transportation | Net Consumption | Generation Losses[1] | Primary Consumption |
|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 838.2 | 772.0 | 289.1 | 953.9 | 2,853.3 | 1,071.8 | 3,925.1 |
| 2002 | 813.9 | 785.0 | 271.2 | 980.6 | 2,850.6 | 1,094.6 | 3,945.3 |
| 2003 | 872.8 | 803.3 | 253.5 | 1,045.7 | 2,975.2 | 1,104.7 | 4,079.9 |
| 2004 | 857.3 | 838.6 | 244.9 | 1,088.9 | 3,029.8 | 1,127.8 | 4,157.5 |
| 2005 | 875.2 | 737.1 | 248.9 | 1,053.8 | 2,915.0 | 1,180.6 | 4,095.6 |
| 2006 | 757.3 | 685.8 | 221.8 | 1,078.4 | 2,743.3 | 1,134.6 | 3,877.9 |
| 2007 | 832.1 | 705.2 | 234.9 | 1,072.2 | 2,844.4 | 1,147.7 | 3,992.1 |
| 2008 | 815.7 | 707.0 | 208.2 | 1,072.4 | 2,803.2 | 1,137.9 | 3,941.1 |
| 2009 | 747.5 | 687.2 | 180.4 | 1,048.8 | 2,663.9 | 1,064.1 | 3,727.9 |
| 2010 | 734.3 | 684.3 | 185.5 | 1,054.0 | 2,658.0 | 1,076.9 | 3,735.0 |
| 2011 | 728.9 | 677.3 | 196.3 | 981.7 | 2,584.2 | 1,055.0 | 3,639.2 |
| 2012 | 706.3 | 629.8 | 189.3 | 1,017.4 | 2,542.9 | 1,025.7 | 3,568.6 |
| 2013 | 755.7 | 660.8 | 203.0 | 1,023.8 | 2,643.3 | 1,010.0 | 3,653.3 |
| 2014 | 810.8 | 662.8 | 203.5 | 1,088.3 | 2,765.4 | 972.6 | 3,738.0 |
| 2015 | 808.4 | 659.6 | 202.5 | 1,083.7 | 2,754.3 | 973.6 | 3,727.8 |

[1] Conversion and transmission losses.

## New York State
## Net Residential Consumption of Energy by Fuel Type
## 2001–2015

**Figure 3-9**

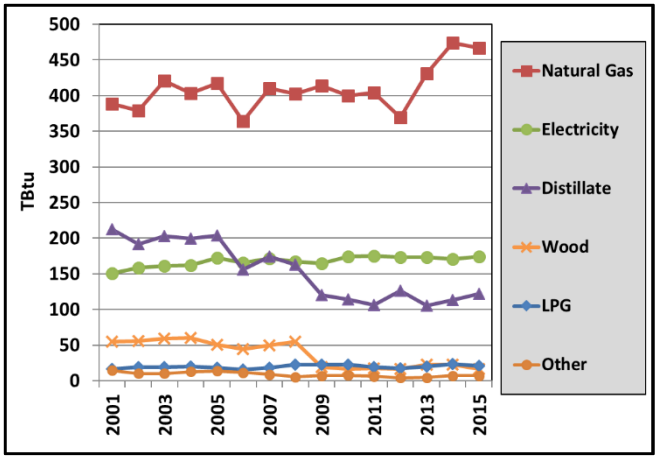



**Table 3-9a. (in physical units)**

| Year | Coal | Natural Gas | Distillate[1] | Kerosene | LPG | Total Petroleum | Wood | Utility-Scale Electricity | Customer-Sited Solar PV |
|---|---|---|---|---|---|---|---|---|---|
| | Mtons | Bcf | Mbbl | Mbbl | Mbbl | Mbbl | Mcords | GWh | GWh |
| 2001 | 13 | 376 | 36,502 | 2,390 | 4,306 | 43,198 | 2,755 | 44,236 | n.a. |
| 2002 | 5 | 370 | 32,893 | 1,642 | 4,987 | 39,522 | 2,796 | 46,457 | n.a. |
| 2003 | 11 | 410 | 34,876 | 1,639 | 4,933 | 41,448 | 2,943 | 47,116 | n.a. |
| 2004 | 16 | 393 | 34,262 | 2,065 | 5,119 | 41,446 | 3,017 | 47,379 | n.a. |
| 2005 | 13 | 406 | 35,054 | 2,203 | 4,661 | 41,918 | 2,518 | 50,533 | n.a. |
| 2006 | 13 | 356 | 26,797 | 1,803 | 4,155 | 32,755 | 2,233 | 48,427 | n.a. |
| 2007 | 13 | 400 | 30,101 | 1,318 | 4,771 | 36,190 | 2,468 | 50,241 | n.a. |
| 2008 | 0 | 394 | 28,139 | 661 | 5,885 | 34,685 | 2,762 | 49,034 | n.a. |
| 2009 | 0 | 405 | 20,755 | 973 | 5,940 | 27,668 | 967 | 48,246 | n.a. |
| 2010 | 0 | 390 | 19,781 | 999 | 5,792 | 26,572 | 844 | 50,946 | n.a. |
| 2011 | 0 | 394 | 18,454 | 726 | 5,080 | 24,260 | 864 | 51,240 | n.a. |
| 2012 | 0 | 358 | 21,943 | 365 | 4,455 | 26,763 | 806 | 50,692 | n.a. |
| 2013 | 0 | 416 | 18,199 | 394 | 5,135 | 23,728 | 1,113 | 50,777 | n.a. |
| 2014 | 0 | 458 | 19,682 | 672 | 6,103 | 26,457 | 1,133 | 49,975 | 162 |
| 2015 | 0 | 452 | 21,140 | 458 | 5,536 | 27,134 | 844 | 51,013 | 319 |

**Table 3-9b. (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 |
| 2001 | 0.3 | 388.8 | 212.4 | 13.6 | 16.5 | 242.5 | 55.1 | 150.9 | 0.5 | 0.1 | 838.2 |
| 2002 | 0.1 | 378.8 | 191.4 | 9.3 | 19.1 | 219.8 | 55.9 | 158.5 | 0.6 | 0.1 | 813.9 |
| 2003 | 0.3 | 421.0 | 202.9 | 9.3 | 18.9 | 231.2 | 58.9 | 160.8 | 0.6 | 0.1 | 872.8 |
| 2004 | 0.4 | 403.5 | 199.3 | 11.7 | 19.6 | 230.7 | 60.3 | 161.7 | 0.7 | 0.1 | 857.3 |
| 2005 | 0.3 | 416.9 | 203.9 | 12.5 | 17.9 | 234.3 | 50.4 | 172.4 | 0.8 | 0.1 | 875.2 |
| 2006 | 0.3 | 364.3 | 155.5 | 10.2 | 15.9 | 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 | 120.0 | 5.5 | 22.8 | 148.3 | 19.3 | 164.6 | 1.3 | 0.2 | 747.5 |
| 2010 | 0.0 | 399.7 | 114.3 | 5.7 | 22.2 | 142.2 | 16.9 | 173.8 | 1.5 | 0.3 | 734.3 |
| 2011 | 0.0 | 404.3 | 106.6 | 4.1 | 19.5 | 130.2 | 17.3 | 174.8 | 1.6 | 0.7 | 728.9 |
| 2012 | 0.0 | 369.2 | 126.6 | 2.1 | 17.1 | 145.8 | 16.1 | 173.0 | 1.8 | 0.4 | 706.3 |
| 2013 | 0.0 | 430.8 | 105.0 | 2.2 | 19.7 | 126.9 | 22.3 | 173.3 | 2.0 | 0.4 | 755.7 |
| 2014 | 0.0 | 473.6 | 113.5 | 3.8 | 23.4 | 140.7 | 22.7 | 170.5 | 2.8 | 0.4 | 810.8 |
| 2015 | 0.0 | 467.0 | 121.9 | 2.6 | 21.2 | 145.8 | 16.9 | 174.1 | 4.3 | 0.4 | 808.4 |

[1] Distillate consumption estimates include biodiesel blended into diesel fuel.
[2] Includes customer-sited solar electric and thermal energy.

## New York State
## Net Commercial Consumption of Energy by Fuel Type, 2001–2015

**Figure 3-10**

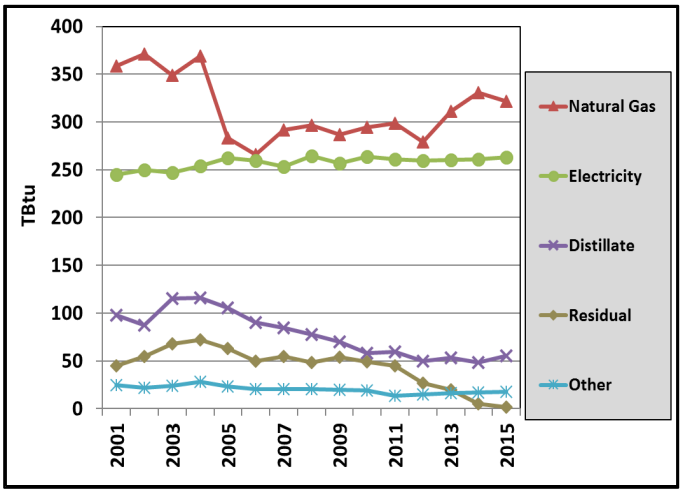



**Table 3-10a. (in physical units)**

| Year | Coal | Natural Gas | Distillate[1] | Residual | Kerosene | LPG | Total Petroleum | Wood | Utility-Scale Electricity | Customer-Sited Solar PV |
|---|---|---|---|---|---|---|---|---|---|---|
| | MTons | Bcf | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mcords | GWh | GWh |
| 2001 | 102 | 347 | 16,865 | 7,193 | 874 | 1,221 | 26,153 | 485 | 71,850 | n.a. |
| 2002 | 40 | 362 | 15,032 | 8,678 | 493 | 1,415 | 25,618 | 496 | 73,198 | n.a. |
| 2003 | 73 | 339 | 19,782 | 10,784 | 665 | 1,408 | 32,639 | 517 | 72,495 | n.a. |
| 2004 | 145 | 359 | 19,907 | 11,441 | 745 | 1,893 | 33,986 | 505 | 74,378 | n.a. |
| 2005 | 147 | 276 | 18,086 | 10,066 | 759 | 1,108 | 30,019 | 404 | 76,822 | n.a. |
| 2006 | 127 | 260 | 15,602 | 7,941 | 354 | 1,145 | 25,042 | 375 | 76,029 | n.a. |
| 2007 | 119 | 285 | 14,606 | 8,723 | 244 | 1,276 | 24,849 | 398 | 74,326 | n.a. |
| 2008 | 68 | 290 | 13,447 | 7,685 | 128 | 1,641 | 22,901 | 420 | 77,416 | n.a. |
| 2009 | 22 | 281 | 12,062 | 8,571 | 169 | 1,724 | 22,526 | 137 | 75,347 | n.a. |
| 2010 | 3 | 287 | 10,050 | 7,835 | 154 | 1,720 | 19,759 | 135 | 77,276 | n.a. |
| 2011 | 4 | 291 | 10,310 | 7,089 | 168 | 1,776 | 19,343 | 130 | 76,406 | n.a. |
| 2012 | 0 | 270 | 8,602 | 4,237 | 60 | 1,581 | 14,480 | 114 | 76,018 | n.a. |
| 2013 | 0 | 301 | 9,223 | 3,139 | 28 | 1,721 | 14,111 | 132 | 76,342 | n.a. |
| 2014 | 0 | 320 | 8,434 | 846 | 54 | 1,682 | 11,016 | 135 | 76,541 | 183 |
| 2015 | 0 | 311 | 9,634 | 312 | 28 | 1,787 | 11,761 | 148 | 77,006 | 259 |

**Table 3-10b. (in trillion Btu)**

| Year | Coal | Natural Gas | Distillate[1] | Residual | Kerosene | LPG | Total Petroleum | Wood | Waste | Electricity | Solar[2] | Geothermal | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 2.5 | 358.9 | 98.1 | 45.2 | 5.0 | 4.7 | 153.0 | 9.7 | 2.5 | 245.2 | 0.0 | 0.3 | 772.0 |
| 2002 | 1.0 | 371.3 | 87.5 | 54.6 | 2.8 | 5.4 | 150.3 | 9.9 | 2.5 | 249.8 | 0.0 | 0.3 | 785.0 |
| 2003 | 1.8 | 348.8 | 115.1 | 67.8 | 3.8 | 5.4 | 192.1 | 10.3 | 2.4 | 247.4 | 0.0 | 0.4 | 803.3 |
| 2004 | 3.6 | 368.9 | 115.8 | 71.9 | 4.2 | 7.3 | 199.2 | 10.1 | 2.5 | 253.8 | 0.0 | 0.4 | 838.6 |
| 2005 | 3.7 | 283.0 | 105.2 | 63.3 | 4.3 | 4.2 | 177.1 | 8.1 | 2.6 | 262.1 | 0.0 | 0.5 | 737.1 |
| 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 | 687.2 |
| 2010 | 0.1 | 294.1 | 58.1 | 49.3 | 0.9 | 6.6 | 114.8 | 2.7 | 2.3 | 263.7 | 0.2 | 0.8 | 684.3 |
| 2011 | 0.1 | 298.9 | 59.5 | 44.6 | 1.0 | 6.8 | 111.9 | 2.6 | 2.1 | 260.7 | 0.4 | 0.6 | 677.3 |
| 2012 | 0.0 | 278.9 | 49.6 | 26.6 | 0.3 | 6.1 | 82.7 | 2.3 | 4.9 | 259.4 | 0.9 | 0.8 | 629.8 |
| 2013 | 0.0 | 311.2 | 53.2 | 19.7 | 0.2 | 6.6 | 79.7 | 2.6 | 4.9 | 260.5 | 1.2 | 0.8 | 660.8 |
| 2014 | 0.0 | 330.9 | 48.6 | 5.3 | 0.3 | 6.5 | 60.7 | 2.7 | 4.8 | 261.2 | 1.7 | 0.8 | 662.8 |
| 2015 | 0.0 | 321.4 | 55.6 | 2.0 | 0.2 | 6.9 | 64.5 | 3.0 | 4.8 | 262.7 | 2.4 | 0.8 | 659.6 |

1 Distillate consumption estimates include biodiesel blended into diesel fuel.
2 Includes customer-sited solar electric and thermal energy.

## New York State Net Industrial Consumption of Energy by Fuel Type, 2001–2015

Figure 3-11

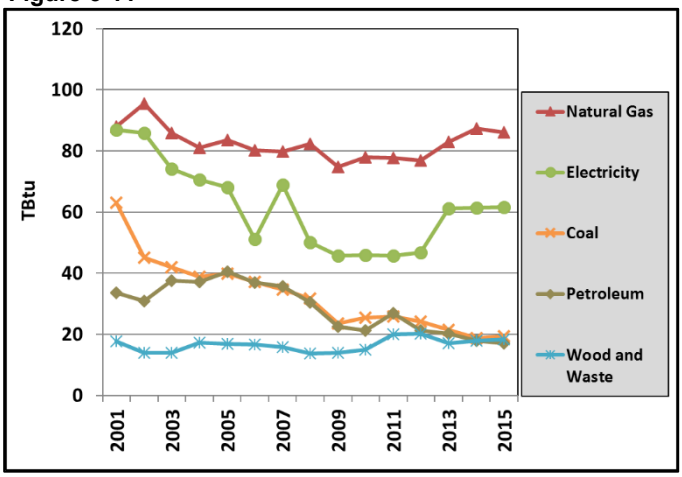



**Table 3-11a. (in physical units)**

| Year | Coal | Natural Gas | Distillate[1] | Residual | Kerosene | LPG | Total Petroleum | Wood | Utility-Scale Electricity | Customer-Sited Electricity |
|---|---|---|---|---|---|---|---|---|---|---|
| | MTons | Bcf | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mcords | GWh | GWh |
| 2001 | 2,411 | 85 | 2,981 | 1,544 | 180 | 1,559 | 6,264 | 858 | 25,450 | n.a. |
| 2002 | 1,708 | 93 | 2,889 | 1,362 | 238 | 1,145 | 5,634 | 676 | 25,148 | n.a. |
| 2003 | 1,583 | 84 | 3,050 | 1,584 | 891 | 1,375 | 6,900 | 669 | 21,745 | n.a. |
| 2004 | 1,472 | 79 | 3,481 | 1,483 | 372 | 1,561 | 6,897 | 837 | 20,675 | n.a. |
| 2005 | 1,510 | 81 | 3,371 | 1,337 | 670 | 2,417 | 7,795 | 822 | 19,947 | n.a. |
| 2006 | 1,422 | 78 | 3,463 | 1,301 | 422 | 1,754 | 6,940 | 771 | 14,976 | n.a. |
| 2007 | 1,313 | 78 | 3,625 | 1,461 | 215 | 1,243 | 6,544 | 735 | 20,213 | n.a. |
| 2008 | 1,205 | 81 | 3,409 | 1,247 | 41 | 753 | 5,450 | 613 | 14,685 | n.a. |
| 2009 | 902 | 73 | 2,931 | 485 | 76 | 583 | 4,075 | 578 | 13,417 | n.a. |
| 2010 | 979 | 76 | 2,274 | 514 | 548 | 502 | 3,838 | 637 | 13,480 | n.a. |
| 2011 | 1,008 | 76 | 2,809 | 1,244 | 164 | 557 | 4,774 | 710 | 13,420 | n.a. |
| 2012 | 909 | 75 | 2,502 | 578 | 144 | 656 | 3,880 | 748 | 13,705 | n.a. |
| 2013 | 816 | 80 | 2,274 | 711 | 84 | 639 | 3,708 | 643 | 17,911 | n.a. |
| 2014 | 714 | 85 | 2,001 | 552 | 153 | 604 | 3,310 | 652 | 18,003 | 5 |
| 2015 | 723 | 83 | 2,031 | 431 | 127 | 556 | 3,145 | 648 | 18,079 | 10 |

**Table 3-11b. (in trillion Btu)**

| Year | Coal | Natural Gas | Distillate[1] | Residual | Kerosene | LPG | Total Petroleum | Wood | Waste | Electricity | Solar[2] | Total[3,4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 63.1 | 87.9 | 17.3 | 9.7 | 1.0 | 5.5 | 33.6 | 17.2 | 0.6 | 86.8 | 0.0 | 289.1 |
| 2002 | 45.2 | 95.4 | 16.8 | 8.6 | 1.4 | 4.1 | 30.8 | 13.5 | 0.5 | 85.8 | 0.0 | 271.2 |
| 2003 | 41.9 | 85.8 | 17.7 | 10.0 | 5.0 | 4.9 | 37.6 | 13.4 | 0.5 | 74.2 | 0.0 | 253.5 |
| 2004 | 38.9 | 81.1 | 20.3 | 9.3 | 2.1 | 5.5 | 37.2 | 16.7 | 0.5 | 70.5 | 0.0 | 244.9 |
| 2005 | 39.9 | 83.6 | 19.6 | 8.4 | 3.8 | 8.6 | 40.4 | 16.4 | 0.5 | 68.1 | 0.0 | 248.9 |
| 2006 | 37.1 | 80.2 | 20.1 | 8.2 | 2.4 | 6.2 | 36.9 | 15.4 | 1.2 | 51.1 | 0.0 | 221.8 |
| 2007 | 34.6 | 79.8 | 21.0 | 9.2 | 1.2 | 4.4 | 35.8 | 14.7 | 1.3 | 69.0 | 0.0 | 234.9 |
| 2008 | 31.6 | 82.4 | 19.7 | 7.8 | 0.2 | 2.6 | 30.4 | 12.3 | 1.3 | 50.1 | 0.0 | 208.2 |
| 2009 | 23.6 | 74.8 | 16.9 | 3.0 | 0.4 | 2.0 | 22.4 | 11.6 | 1.5 | 45.8 | 0.0 | 180.4 |
| 2010 | 25.4 | 77.8 | 13.1 | 3.2 | 3.1 | 1.7 | 21.2 | 12.7 | 1.5 | 46.0 | 0.0 | 185.5 |
| 2011 | 25.9 | 77.7 | 16.2 | 7.8 | 0.9 | 1.9 | 26.9 | 14.2 | 5.9 | 45.8 | 0.0 | 196.3 |
| 2012 | 24.2 | 77.0 | 14.4 | 3.6 | 0.8 | 2.3 | 21.2 | 15.0 | 5.3 | 46.8 | 0.0 | 189.3 |
| 2013 | 21.6 | 82.9 | 13.1 | 4.5 | 0.5 | 2.2 | 20.3 | 12.9 | 4.2 | 61.1 | 0.0 | 203.0 |
| 2014 | 18.7 | 87.4 | 11.5 | 3.5 | 0.9 | 2.1 | 18.0 | 13.0 | 4.9 | 61.4 | 0.0 | 203.5 |
| 2015 | 19.3 | 86.1 | 11.7 | 2.7 | 0.7 | 1.9 | 17.1 | 13.0 | 5.4 | 61.7 | 0.1 | 202.5 |

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

## New York State
## Net Transportation Consumption of Energy by Fuel Type, 2001–2015

**Figure 3-12**

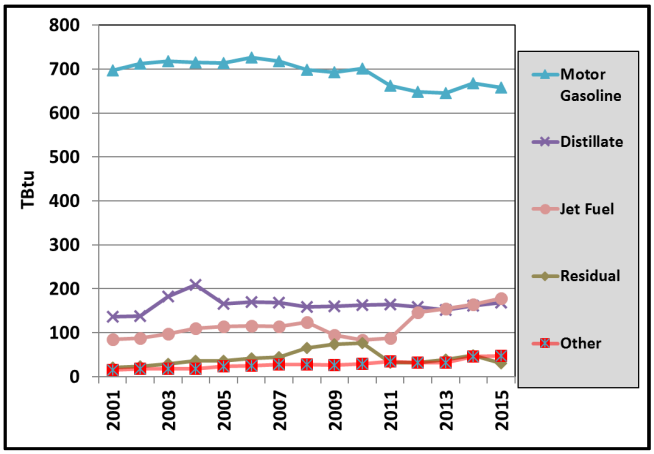



**Table 3-12a. (in physical units)**

| Year | Natural Gas | Distillate[1] | Residual | Motor Gasoline | Jet Fuel[2] | LPG | Total Petroleum | Ethanol | Electricity |
|---|---|---|---|---|---|---|---|---|---|
| | Bcf | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | Mbbl | GWh |
| 2001 | 6 | 23,520 | 3,207 | 133,724 | 14,904 | 25 | 175,273 | 107 | 2,646 |
| 2002 | 9 | 23,641 | 3,826 | 136,664 | 15,603 | 66 | 179,705 | 95 | 2,637 |
| 2003 | 8 | 31,431 | 4,583 | 138,010 | 17,286 | 55 | 190,816 | 549 | 2,689 |
| 2004 | 9 | 35,910 | 5,823 | 137,391 | 19,526 | 66 | 191,692 | 7,024 | 2,650 |
| 2005 | 13 | 28,545 | 5,684 | 137,355 | 20,291 | 75 | 189,628 | 2,322 | 2,846 |
| 2006 | 14 | 29,388 | 6,530 | 140,020 | 20,366 | 99 | 190,346 | 6,057 | 2,806 |
| 2007 | 16 | 29,146 | 7,063 | 139,140 | 20,162 | 56 | 187,952 | 7,615 | 3,397 |
| 2008 | 16 | 27,485 | 10,336 | 136,105 | 21,812 | 257 | 186,029 | 9,966 | 2,918 |
| 2009 | 15 | 27,670 | 11,743 | 135,921 | 16,790 | 97 | 180,198 | 12,023 | 3,025 |
| 2010 | 19 | 28,245 | 12,094 | 138,087 | 14,808 | 138 | 179,908 | 13,464 | 2,922 |
| 2011 | 23 | 28,534 | 5,158 | 130,718 | 15,497 | 180 | 167,353 | 12,734 | 2,981 |
| 2012 | 21 | 27,591 | 4,988 | 127,902 | 25,864 | 290 | 174,017 | 12,618 | 2,748 |
| 2013 | 20 | 26,395 | 6,300 | 127,461 | 27,337 | 289 | 175,044 | 12,738 | 2,864 |
| 2014 | 33 | 28,052 | 7,770 | 131,943 | 29,033 | 332 | 183,953 | 13,177 | 2,853 |
| 2015 | 36 | 29,331 | 4,897 | 130,059 | 31,407 | 265 | 183,097 | 12,862 | 2,816 |

**Table 3-12b. (in trillion Btu)**

| Year | Natural Gas | Distillate[1] | Residual | Motor Gasoline | Jet Fuel[2] | LPG | Total Petroleum | Ethanol[3] | Electricity | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu | TBtu |
| 2001 | 6.2 | 136.9 | 20.2 | 697.2 | 84.3 | 0.1 | 938.3 | 0.4 | 9.0 | 953.9 |
| 2002 | 9.2 | 137.6 | 24.1 | 712.2 | 88.4 | 0.3 | 962.1 | 0.3 | 9.0 | 980.6 |
| 2003 | 8.6 | 182.9 | 28.8 | 718.1 | 98.0 | 0.2 | 1,026.1 | 1.9 | 9.2 | 1,045.7 |
| 2004 | 8.9 | 208.9 | 36.6 | 714.6 | 110.6 | 0.3 | 1,046.6 | 24.4 | 9.0 | 1,088.9 |
| 2005 | 13.1 | 166.1 | 35.7 | 714.0 | 114.9 | 0.3 | 1,022.9 | 8.1 | 9.7 | 1,053.8 |
| 2006 | 14.5 | 170.5 | 41.1 | 726.8 | 115.5 | 0.4 | 1,033.3 | 21.0 | 9.6 | 1,078.4 |
| 2007 | 16.0 | 168.6 | 44.4 | 717.3 | 114.2 | 0.2 | 1,018.3 | 26.4 | 11.6 | 1,072.2 |
| 2008 | 16.3 | 158.9 | 65.0 | 697.7 | 123.6 | 1.0 | 1,011.5 | 34.6 | 10.0 | 1,072.4 |
| 2009 | 15.8 | 160.0 | 73.8 | 693.3 | 95.2 | 0.4 | 981.1 | 41.6 | 10.3 | 1,048.8 |
| 2010 | 19.2 | 163.2 | 76.0 | 701.2 | 83.9 | 0.5 | 978.2 | 46.7 | 10.0 | 1,054.0 |
| 2011 | 23.3 | 164.8 | 32.4 | 662.5 | 87.8 | 0.7 | 904.0 | 44.2 | 10.2 | 981.7 |
| 2012 | 22.2 | 159.2 | 31.4 | 647.6 | 146.6 | 1.1 | 942.1 | 43.8 | 9.4 | 1,017.4 |
| 2013 | 20.8 | 152.3 | 39.6 | 645.2 | 155.0 | 1.1 | 949.0 | 44.2 | 9.8 | 1,023.8 |
| 2014 | 34.5 | 161.8 | 48.8 | 667.6 | 164.6 | 1.3 | 998.4 | 45.7 | 9.7 | 1,088.3 |
| 2015 | 37.0 | 169.2 | 30.8 | 658.1 | 178.0 | 1.0 | 992.4 | 44.7 | 9.6 | 1,083.7 |

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

# 4 New York Energy Prices

This section presents data on retail energy prices for the 15-year period from 2001 through 2015. Energy prices are provided by fuel type in nominal dollars per physical unit and per MMBtu for the residential, commercial, industrial, and transportation sectors.

This section includes a column in the price tables displaying gross domestic product (GDP) price deflators for converting nominal (current year) dollars into constant 2015 (real) dollars. To convert energy prices from nominal to constant 2015 dollars, divide the nominal energy price by the GDP price deflator for that particular year.

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

## 4.1 Key Observations about 2015 New York State Energy Price Data

- Residential sector statewide average nominal fuel prices:
  - Home heating oil prices decreased by 30.2% from an average $3.79 per gallon in 2014 to $2.65 per gallon in 2015.
  - Natural gas prices decreased by 10.6% from an average $12.53 per thousand cubic feet in 2014 to $11.20 per thousand cubic feet in 2015.
  - Electricity prices decreased by 7.6% from 20.1¢ per kWh in 2014 to 18.5¢ in 2015.
- Commercial sector statewide average nominal fuel prices:
  - Distillate fuel prices averaged $1.99 per gallon in 2015, which was a 33.5% decrease from 2014 prices.
  - Residual oil prices averaged $49.23 per barrel in 2015, which was a 46.9% decrease from 2014 prices.
  - Electricity prices averaged 15.3¢ per kWh, which was a 5.1% decrease from 2014 prices.
  - Natural gas prices averaged $6.85 per thousand cubic feet, which was a 17.5% decrease from 2014 prices.
- Industrial sector statewide average nominal fuel prices:
  - Residual oil prices averaged $49.23 per barrel in 2015, which was a 46.9% decrease from 2014 prices.
  - Natural gas prices averaged $6.62 per thousand cubic feet, which was an 18.6% decrease from 2014 prices.
  - Electricity prices averaged 6.3¢ per kWh, which was a 4.1% decrease from 2014 prices.
- The average retail price for all grades of gasoline was $2.46 per gallon, down $0.95 per gallon (27.9%) from the average price in 2014.

# New York State Residential Energy Prices in Nominal Dollars, 2001–2015

**Figure 4-1**

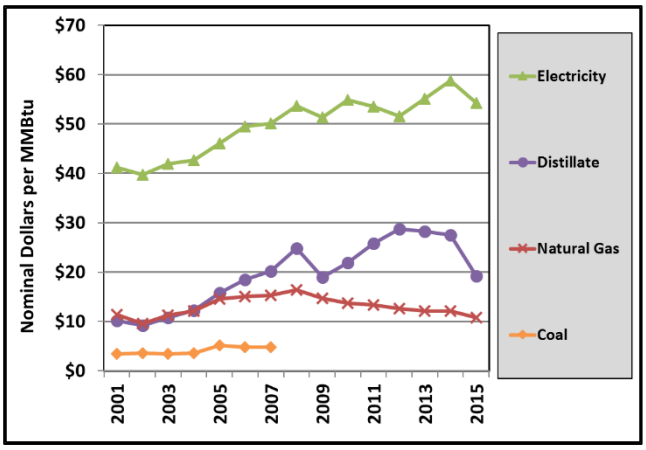



**Table 4-1a. (in physical units)**

| Year | Coal | Distillate[1] | Kerosene | Propane | Natural Gas | Electricity | Wood | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/Ton | Cents/Gal. | Cents/Gal. | Cents/Gal. | $/Mcf | Cents/kWh | $/Cord | 2015=1 |
| 2001 | 84.97 | 141.73 | 117.99 | 150.58 | 11.75 | 14.04 | 66.80 | 0.747 |
| 2002 | 91.09 | 126.63 | 106.92 | 132.22 | 9.85 | 13.55 | 60.60 | 0.759 |
| 2003 | 86.19 | 149.49 | 134.60 | 151.73 | 11.60 | 14.31 | 72.80 | 0.776 |
| 2004 | 89.97 | 169.55 | 162.14 | 168.06 | 12.50 | 14.54 | 82.80 | 0.797 |
| 2005 | 129.55 | 219.14 | 214.92 | 188.07 | 14.89 | 15.72 | 109.60 | 0.824 |
| 2006 | 118.33 | 255.61 | 260.15 | 211.43 | 15.35 | 16.89 | 126.20 | 0.851 |
| 2007 | 118.61 | 278.05 | 289.85 | 244.32 | 15.73 | 17.10 | 139.40 | 0.875 |
| 2008 | N/A | 342.53 | 365.31 | 286.15 | 16.78 | 18.31 | 171.80 | 0.908 |
| 2009 | N/A | 260.42 | 281.21 | 259.39 | 15.05 | 17.50 | 128.00 | 0.905 |
| 2010 | N/A | 301.01 | 320.90 | 275.10 | 14.04 | 18.74 | 152.20 | 0.920 |
| 2011 | N/A | 355.09 | 379.76 | 312.45 | 13.71 | 18.26 | 183.00 | 0.949 |
| 2012 | N/A | 394.42 | 399.87 | 323.69 | 12.96 | 17.62 | 203.60 | 0.969 |
| 2013 | N/A | 388.37 | 400.68 | 318.39 | 12.49 | 18.79 | 199.40 | 0.983 |
| 2014 | N/A | 378.96 | 402.84 | 338.02 | 12.53 | 20.07 | 194.40 | 0.999 |
| 2015 | N/A | 264.60 | 224.78 | 262.58 | 11.20 | 18.54 | 134.00 | 1.000 |

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

| Year | Coal | Distillate[1] | Kerosene | Propane | Natural Gas | Electricity | Wood | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | 2015=1 |
| 2001 | 3.42 | 10.23 | 8.74 | 17.50 | 11.37 | 41.14 | 3.34 | 0.747 |
| 2002 | 3.63 | 9.14 | 7.92 | 15.37 | 9.61 | 39.71 | 3.03 | 0.759 |
| 2003 | 3.42 | 10.79 | 9.97 | 17.56 | 11.28 | 41.94 | 3.64 | 0.776 |
| 2004 | 3.60 | 12.24 | 12.01 | 19.51 | 12.17 | 42.62 | 4.14 | 0.797 |
| 2005 | 5.18 | 15.82 | 15.92 | 21.82 | 14.51 | 46.08 | 5.48 | 0.824 |
| 2006 | 4.76 | 18.50 | 19.27 | 24.64 | 15.02 | 49.51 | 6.31 | 0.851 |
| 2007 | 4.76 | 20.19 | 21.47 | 26.75 | 15.36 | 50.11 | 6.97 | 0.875 |
| 2008 | N/A | 24.89 | 27.06 | 31.33 | 16.42 | 53.66 | 8.59 | 0.908 |
| 2009 | N/A | 18.92 | 20.83 | 28.40 | 14.73 | 51.29 | 6.40 | 0.905 |
| 2010 | N/A | 21.88 | 23.77 | 30.12 | 13.72 | 54.93 | 7.61 | 0.920 |
| 2011 | N/A | 25.82 | 28.13 | 34.21 | 13.35 | 53.52 | 9.15 | 0.949 |
| 2012 | N/A | 28.69 | 29.62 | 35.44 | 12.56 | 51.63 | 10.18 | 0.969 |
| 2013 | N/A | 28.25 | 29.68 | 34.86 | 12.07 | 55.08 | 9.97 | 0.983 |
| 2014 | N/A | 27.57 | 29.84 | 37.01 | 12.13 | 58.83 | 9.72 | 0.999 |
| 2015 | N/A | 19.26 | 16.65 | 28.75 | 10.84 | 54.33 | 6.70 | 1.000 |

[1] Home heating oil.
[2] To convert prices to 2015 dollars, divide the selected price by the deflator factor in the same row.

## New York State Commercial Energy Prices in Nominal Dollars, 2001–2015

**Figure 4-2**

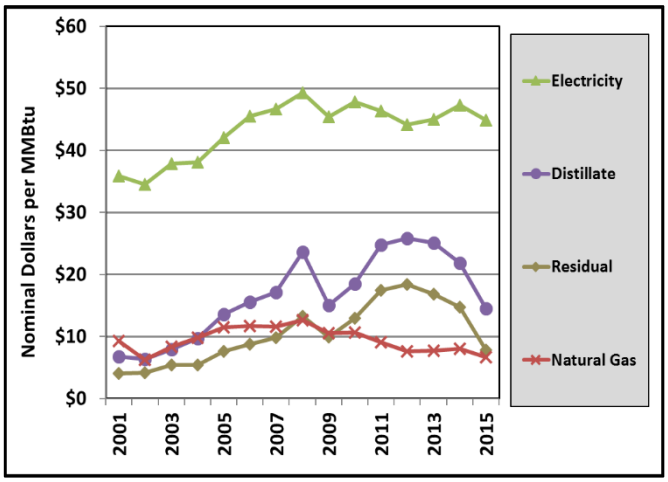



**Table 4-2a. (in physical units)**

| Year | Coal | Distillate[1] | Residual | Kerosene | Propane | Natural Gas | Electricity | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/Ton | Cents/Gal. | $/bbl | Cents/Gal. | Cents/Gal. | $/Mcf | Cents/kWh | 2015=1 |
| 2001 | 38.06 | 93.66 | 25.59 | 117.99 | 113.24 | 9.61 | 12.24 | 0.747 |
| 2002 | 45.11 | 88.39 | 25.90 | 106.92 | 101.68 | 6.42 | 11.79 | 0.759 |
| 2003 | 41.35 | 109.87 | 34.20 | 134.60 | 120.53 | 8.60 | 12.93 | 0.776 |
| 2004 | 43.94 | 134.78 | 33.70 | 162.14 | 134.47 | 10.11 | 12.98 | 0.797 |
| 2005 | 48.87 | 188.53 | 47.59 | 214.92 | 151.09 | 11.80 | 14.36 | 0.824 |
| 2006 | 67.67 | 215.40 | 55.26 | 260.15 | 166.73 | 11.91 | 15.51 | 0.851 |
| 2007 | 64.85 | 236.32 | 61.74 | 289.85 | 193.44 | 11.82 | 15.92 | 0.875 |
| 2008 | 105.50 | 324.51 | 83.43 | 365.31 | 233.36 | 12.87 | 16.79 | 0.908 |
| 2009 | 136.28 | 206.74 | 62.49 | 281.21 | 188.33 | 10.72 | 15.48 | 0.905 |
| 2010 | 138.86 | 254.51 | 81.10 | 320.90 | 215.82 | 10.87 | 16.31 | 0.920 |
| 2011 | 135.81 | 340.10 | 109.46 | 379.76 | 237.83 | 9.33 | 15.81 | 0.949 |
| 2012 | N/A | 354.55 | 115.43 | 399.87 | 220.48 | 7.84 | 15.06 | 0.969 |
| 2013 | N/A | 344.10 | 105.87 | 400.68 | 217.28 | 8.00 | 15.35 | 0.983 |
| 2014 | N/A | 299.51 | 92.73 | 402.84 | 228.97 | 8.31 | 16.12 | 0.999 |
| 2015 | N/A | 199.07 | 49.23 | 224.78 | 203.95 | 6.85 | 15.31 | 1.000 |

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

| Year | Coal | Distillate[1] | Residual | Kerosene | Propane | Natural Gas | Electricity | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | 2015=1 |
| 2001 | 1.62 | 6.76 | 4.07 | 8.74 | 13.16 | 9.30 | 35.88 | 0.747 |
| 2002 | 1.92 | 6.38 | 4.12 | 7.92 | 11.82 | 6.26 | 34.55 | 0.759 |
| 2003 | 1.76 | 7.93 | 5.44 | 9.97 | 13.95 | 8.37 | 37.89 | 0.776 |
| 2004 | 1.87 | 9.73 | 5.36 | 12.01 | 15.61 | 9.84 | 38.04 | 0.797 |
| 2005 | 2.08 | 13.61 | 7.57 | 15.92 | 17.53 | 11.50 | 42.08 | 0.824 |
| 2006 | 2.88 | 15.59 | 8.79 | 19.27 | 19.43 | 11.65 | 45.46 | 0.851 |
| 2007 | 2.76 | 17.16 | 9.82 | 21.47 | 21.18 | 11.54 | 46.65 | 0.875 |
| 2008 | 4.49 | 23.58 | 13.27 | 27.06 | 25.55 | 12.59 | 49.22 | 0.908 |
| 2009 | 5.80 | 15.02 | 9.94 | 20.83 | 20.62 | 10.49 | 45.36 | 0.905 |
| 2010 | 5.91 | 18.50 | 12.90 | 23.77 | 23.63 | 10.63 | 47.79 | 0.920 |
| 2011 | 5.78 | 24.73 | 17.41 | 28.13 | 26.04 | 9.08 | 46.33 | 0.949 |
| 2012 | N/A | 25.79 | 18.36 | 29.62 | 24.14 | 7.60 | 44.13 | 0.969 |
| 2013 | N/A | 25.03 | 16.84 | 29.68 | 23.79 | 7.73 | 45.00 | 0.983 |
| 2014 | N/A | 21.79 | 14.75 | 29.84 | 25.07 | 8.04 | 47.25 | 0.999 |
| 2015 | N/A | 14.49 | 7.83 | 16.65 | 22.33 | 6.63 | 44.86 | 1.000 |

[1] Home heating oil.
[2] To convert prices to 2015 dollars, divide the selected price by the deflator factor in the same row.

## New York State Industrial Energy Prices in Nominal Dollars, 2001–2015

Figure 4-3

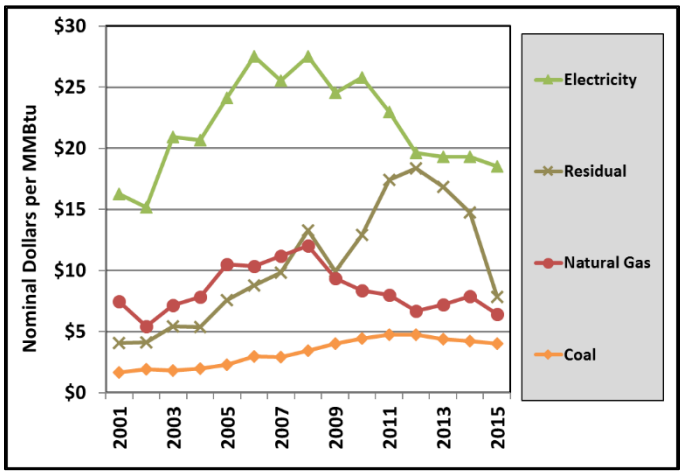



**Table 4-3a. (in physical units)**

| Year | Coal | Distillate[1] | Residual | Kerosene | Propane | Natural Gas | Electricity | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/Ton | Cents/Gal. | $/bbl | Cents/Gal. | Cents/Gal. | $/Mcf | Cents/kWh | 2015=1 |
| 2001 | 43.96 | 91.58 | 25.59 | 90.86 | 111.95 | 7.72 | 5.55 | 0.747 |
| 2002 | 51.26 | 88.53 | 25.90 | 81.41 | 105.90 | 5.54 | 5.18 | 0.759 |
| 2003 | 48.42 | 107.93 | 34.20 | 109.76 | 130.56 | 7.35 | 7.14 | 0.776 |
| 2004 | 52.50 | 127.44 | 33.70 | 137.97 | 147.39 | 8.05 | 7.04 | 0.797 |
| 2005 | 59.97 | 190.19 | 47.59 | 181.85 | 160.92 | 10.75 | 8.23 | 0.824 |
| 2006 | 77.95 | 218.86 | 55.26 | 213.17 | 177.71 | 10.56 | 9.39 | 0.851 |
| 2007 | 76.91 | 238.52 | 61.74 | 243.27 | 220.66 | 11.43 | 8.71 | 0.875 |
| 2008 | 90.61 | 327.12 | 83.43 | 306.86 | 264.41 | 12.30 | 9.39 | 0.908 |
| 2009 | 105.75 | 197.66 | 62.49 | 204.39 | 217.46 | 9.53 | 8.37 | 0.905 |
| 2010 | 116.04 | 263.59 | 81.10 | 251.24 | 249.07 | 8.54 | 8.79 | 0.920 |
| 2011 | 123.02 | 324.56 | 109.46 | 331.56 | 278.20 | 8.19 | 7.83 | 0.949 |
| 2012 | 133.00 | 342.04 | 115.43 | 346.55 | 273.09 | 6.91 | 6.69 | 0.969 |
| 2013 | 120.89 | 332.42 | 105.87 | 351.41 | 267.88 | 7.44 | 6.59 | 0.983 |
| 2014 | 117.10 | 312.98 | 92.73 | 332.64 | 283.50 | 8.13 | 6.58 | 0.999 |
| 2015 | 110.68 | 206.62 | 49.23 | 194.54 | 226.87 | 6.62 | 6.31 | 1.000 |

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

| Year | Coal | Distillate[1] | Residual | Kerosene | Propane | Natural Gas | Electricity | GDP Deflator[2] |
|---|---|---|---|---|---|---|---|---|
| | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | 2015=1 |
| 2001 | 1.66 | 6.61 | 4.07 | 6.73 | 13.01 | 7.47 | 16.28 | 0.747 |
| 2002 | 1.92 | 6.39 | 4.12 | 6.03 | 12.31 | 5.40 | 15.17 | 0.759 |
| 2003 | 1.81 | 7.79 | 5.44 | 8.13 | 15.11 | 7.15 | 20.92 | 0.776 |
| 2004 | 1.96 | 9.20 | 5.36 | 10.22 | 17.11 | 7.84 | 20.63 | 0.797 |
| 2005 | 2.27 | 13.73 | 7.57 | 13.47 | 18.67 | 10.48 | 24.11 | 0.824 |
| 2006 | 2.97 | 15.84 | 8.79 | 15.79 | 20.71 | 10.33 | 27.53 | 0.851 |
| 2007 | 2.91 | 17.32 | 9.82 | 18.02 | 24.16 | 11.16 | 25.53 | 0.875 |
| 2008 | 3.44 | 23.77 | 13.27 | 22.73 | 28.95 | 12.04 | 27.53 | 0.908 |
| 2009 | 4.01 | 14.36 | 9.94 | 15.14 | 23.81 | 9.32 | 24.54 | 0.905 |
| 2010 | 4.44 | 19.16 | 12.90 | 18.61 | 27.27 | 8.35 | 25.76 | 0.920 |
| 2011 | 4.74 | 23.60 | 17.41 | 24.56 | 30.46 | 7.97 | 22.96 | 0.949 |
| 2012 | 4.73 | 24.88 | 18.36 | 25.67 | 29.90 | 6.70 | 19.62 | 0.969 |
| 2013 | 4.37 | 24.18 | 16.84 | 26.03 | 29.33 | 7.19 | 19.30 | 0.983 |
| 2014 | 4.24 | 22.77 | 14.75 | 24.64 | 31.04 | 7.87 | 19.28 | 0.999 |
| 2015 | 4.02 | 15.04 | 7.83 | 14.41 | 24.84 | 6.41 | 18.49 | 1.000 |

[1] Home heating oil.
[2] To convert prices to 2015 dollars, divide the selected price by the deflator factor in the same row.

## New York State Transportation Energy Prices in Nominal Dollars, 2001–2015

**Figure 4-4**

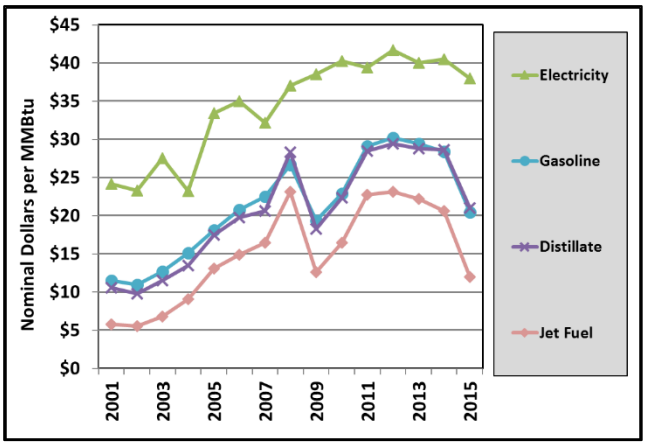



**Table 4-4a. (in physical units)**

| Year | Motor Gasoline | Distillate[1] | Jet Fuel[2] | Residual[3] | Electricity[4] | GDP Deflator[5] |
|---|---|---|---|---|---|---|
| | Cents/Gal. | Cents/Gal. | Cents/Gal. | $/bbl | Cents/kWh | 2015=1 |
| 2001 | 143.26 | 145.89 | 78.17 | 19.93 | 8.25 | 0.747 |
| 2002 | 135.49 | 135.92 | 74.79 | 21.82 | 7.95 | 0.759 |
| 2003 | 156.96 | 159.19 | 91.26 | 28.48 | 9.38 | 0.776 |
| 2004 | 187.36 | 186.73 | 122.31 | 29.61 | 7.92 | 0.797 |
| 2005 | 224.38 | 242.14 | 176.85 | 42.63 | 11.40 | 0.824 |
| 2006 | 256.71 | 273.29 | 201.02 | 49.10 | 11.94 | 0.851 |
| 2007 | 276.04 | 284.38 | 222.21 | 49.35 | 10.97 | 0.875 |
| 2008 | 325.62 | 389.19 | 312.26 | 75.95 | 12.64 | 0.908 |
| 2009 | 235.25 | 251.34 | 170.64 | 51.80 | 13.13 | 0.905 |
| 2010 | 277.23 | 307.06 | 221.81 | 68.28 | 13.74 | 0.920 |
| 2011 | 351.50 | 391.94 | 307.40 | 93.11 | 13.45 | 0.949 |
| 2012 | 363.93 | 404.59 | 312.66 | 96.82 | 14.20 | 0.969 |
| 2013 | 354.58 | 395.93 | 299.03 | 97.57 | 13.65 | 0.983 |
| 2014 | 341.67 | 393.66 | 278.24 | 82.93 | 13.82 | 0.999 |
| 2015 | 246.49 | 288.77 | 161.87 | 46.90 | 12.96 | 1.000 |

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

| Year | Motor Gasoline | Distillate[1] | Jet Fuel[2] | Residual[3] | Electricity[4] | GDP Deflator[5] |
|---|---|---|---|---|---|---|
| | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | $/MMBtu | 2015=1 |
| 2001 | 11.54 | 10.53 | 5.79 | 3.17 | 24.18 | 0.747 |
| 2002 | 10.92 | 9.81 | 5.54 | 3.47 | 23.29 | 0.759 |
| 2003 | 12.67 | 11.49 | 6.76 | 4.53 | 27.49 | 0.776 |
| 2004 | 15.13 | 13.48 | 9.06 | 4.71 | 23.21 | 0.797 |
| 2005 | 18.13 | 17.48 | 13.10 | 6.78 | 33.40 | 0.824 |
| 2006 | 20.77 | 19.78 | 14.89 | 7.81 | 34.98 | 0.851 |
| 2007 | 22.49 | 20.65 | 16.46 | 7.85 | 32.14 | 0.875 |
| 2008 | 26.68 | 28.28 | 23.13 | 12.08 | 37.05 | 0.908 |
| 2009 | 19.37 | 18.26 | 12.64 | 8.24 | 38.49 | 0.905 |
| 2010 | 22.93 | 22.32 | 16.43 | 10.86 | 40.28 | 0.920 |
| 2011 | 29.13 | 28.50 | 22.77 | 14.81 | 39.41 | 0.949 |
| 2012 | 30.19 | 29.43 | 23.16 | 15.40 | 41.63 | 0.969 |
| 2013 | 29.42 | 28.80 | 22.15 | 15.52 | 40.01 | 0.983 |
| 2014 | 28.36 | 28.64 | 20.61 | 13.19 | 40.49 | 0.999 |
| 2015 | 20.46 | 21.02 | 11.99 | 7.46 | 37.97 | 1.000 |

1 Diesel
2 Kerosene-based
3 Bunker fuel
4 Railroad use
5 To convert prices to 2015 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 2015 dollars for the following selected years: 2001, 2006, and 2011 through 2015. Estimated costs were derived by multiplying quantities of fuels consumed, in TBtu, by their respective prices. Out-of-State energy expenditure estimates by fuel type are provided for 2001 through 2015 in both nominal and constant 2015 dollars.

## 5.1 Key Observations about 2015 New York State Energy Expenditures Data

- Cumulative heating degree-days were 4.8% lower in 2015 compared to 2014.
- In nominal dollars, the State's 2015 estimated energy bill of $54.3 billion decreased 18.7% from 2014, but is 38.8% more than the $39.2 billion spent in 2001.
- In constant 2015 dollars, the State's estimated energy bill decreased $12.6 billion (18.8%) from 2014, and was $1.9 billion (3.7%) greater than in 2001.
- NYS residents spent $17.6 billion for household energy, which was a 12.3% decrease from the 2014 level in nominal dollars and 12.4% lower in constant 2015 dollars.
- The total commercial customer energy bill was $14.9 billion, which was 8.7% lower than 2014 in nominal dollars and 8.8% lower in constant 2015 dollars.
- Industrial customers paid $2.0 billion for energy, which was a 13.9% decrease from 2014 levels in nominal dollars and 14.0% lower in constant 2015 dollars.
- The annual energy bill for transporting people and goods was $19.8 billion, a 29.5% decrease from 2014 levels in nominal dollars and 29.6% lower in constant 2015 dollars.
- From 2014 to 2015, statewide expenditures decreased 29.3% for petroleum, 5.0% for electricity and 14.8% for natural gas in nominal dollars.
- In nominal dollars, the 2015 out-of-State estimated energy bill of $25.5 billion decreased 32.2% from 2014, and the estimate is 47.6% more than the $17.3 billion spent in 2001.
- In constant 2015 dollars, the out-of-State estimated energy bill decreased $12.1 billion (32.3%) from 2014, and was $2.4 billion (10.3%) greater than in 2001.

## New York State Energy Expenditure Estimates by Fuel Type and Sector in Nominal Dollars, 2001–2015

Figure 5-1

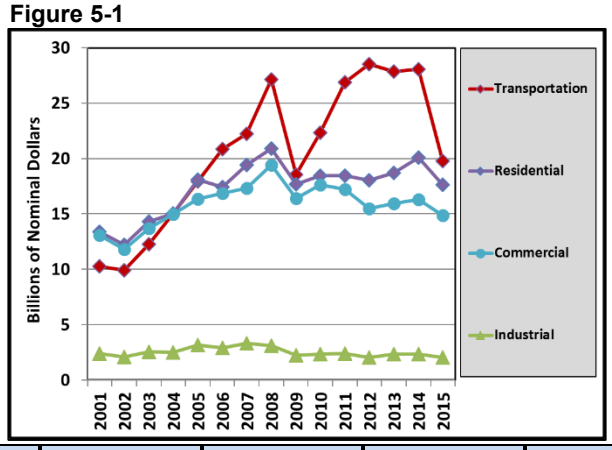



Table 5-1. (in million dollars)

| | 2001 | 2006 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | |
| Coal | $1.1 | $1.5 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Petroleum | $2,580.4 | $3,466.5 | $3,533.8 | $4,300.0 | $3,718.9 | $4,110.1 | $3,002.2 |
| Distillate | $2,172.9 | $2,876.8 | $2,751.3 | $3,633.0 | $2,965.9 | $3,129.9 | $2,348.5 |
| Kerosene | $118.5 | $197.0 | $115.8 | $61.4 | $66.4 | $113.6 | $43.2 |
| LPG | $289.0 | $392.7 | $666.7 | $605.6 | $686.6 | $866.5 | $610.5 |
| Natural Gas | $4,420.3 | $5,471.5 | $5,397.7 | $4,637.7 | $5,199.9 | $5,745.0 | $5,062.0 |
| Electricity | $6,209.3 | $8,180.6 | $9,356.9 | $8,929.9 | $9,542.7 | $10,031.3 | $9,456.4 |
| Wood | $184.0 | $281.9 | $158.0 | $164.1 | $221.9 | $220.3 | $113.1 |
| **Total** | $13,395.1 | $17,402.0 | $18,446.4 | $18,031.7 | $18,683.4 | $20,106.7 | $17,633.8 |
| **Commercial** | | | | | | | |
| Coal | $4.1 | $9.1 | $0.6 | $0.0 | $0.0 | $0.0 | $0.0 |
| Petroleum | $952.4 | $1,974.3 | $2,452.3 | $1,925.8 | $1,825.8 | $1,309.3 | $976.2 |
| Distillate | $663.4 | $1,411.5 | $1,472.2 | $1,280.3 | $1,331.8 | $1,060.0 | $805.2 |
| Residual | $184.1 | $438.8 | $775.9 | $489.0 | $332.3 | $78.5 | $15.4 |
| Kerosene | $43.3 | $38.7 | $26.8 | $10.0 | $4.7 | $9.1 | $2.6 |
| LPG | $61.7 | $85.3 | $177.4 | $146.5 | $157.0 | $161.7 | $153.0 |
| Natural Gas | $3,337.5 | $3,095.2 | $2,713.8 | $2,120.0 | $2,405.7 | $2,660.1 | $2,130.9 |
| Electricity | $8,796.0 | $11,792.8 | $12,078.1 | $11,446.1 | $11,721.6 | $12,339.7 | $11,786.7 |
| **Total** | $13,090.1 | $16,871.4 | $17,244.9 | $15,491.9 | $15,953.1 | $16,309.1 | $14,893.8 |
| **Industrial** | | | | | | | |
| Coal | $104.7 | $110.1 | $122.7 | $114.3 | $94.2 | $79.3 | $77.5 |
| Petroleum | $232.9 | $556.7 | $600.1 | $514.9 | $470.3 | $400.2 | $255.7 |
| Distillate | $114.7 | $318.3 | $382.7 | $359.2 | $317.2 | $262.8 | $176.2 |
| Residual | $39.5 | $71.9 | $136.2 | $66.7 | $75.3 | $51.2 | $21.2 |
| Kerosene | $6.9 | $37.8 | $22.8 | $21.0 | $12.4 | $21.4 | $10.4 |
| LPG | $71.9 | $128.7 | $58.4 | $68.0 | $65.4 | $64.8 | $48.0 |
| Natural Gas | $656.6 | $828.3 | $619.1 | $515.6 | $596.3 | $687.9 | $551.7 |
| Electricity | $1,413.7 | $1,406.8 | $1,051.3 | $917.5 | $1,179.5 | $1,184.3 | $1,140.6 |
| **Total** | $2,407.9 | $2,901.9 | $2,393.2 | $2,062.4 | $2,340.2 | $2,351.7 | $2,025.5 |
| **Transportation** | | | | | | | |
| Petroleum | $10,040.8 | $20,517.5 | $26,495.0 | $28,148.1 | $27,447.3 | $27,643.9 | $19,410.3 |
| Distillate | $1,441.2 | $3,373.3 | $4,695.5 | $4,686.1 | $4,385.4 | $4,634.1 | $3,556.1 |
| Residual | $63.9 | $320.6 | $480.3 | $482.9 | $614.7 | $644.3 | $229.7 |
| Motor Gasoline | $8,046.1 | $15,096.5 | $19,298.1 | $19,550.0 | $18,982.0 | $18,934.0 | $13,464.7 |
| Jet Fuel | $488.4 | $1,719.3 | $2,000.1 | $3,395.8 | $3,432.7 | $3,391.9 | $2,134.6 |
| LPG | $1.2 | $7.9 | $21.0 | $33.3 | $32.5 | $39.5 | $25.2 |
| Electricity | $218.3 | $334.9 | $400.8 | $390.3 | $391.1 | $394.2 | $364.8 |
| **Total** | $10,259.1 | $20,852.5 | $26,895.9 | $28,538.5 | $27,838.4 | $28,038.0 | $19,775.1 |
| **Total** | | | | | | | |
| Coal | $109.9 | $120.7 | $123.3 | $114.3 | $94.2 | $79.3 | $77.5 |
| Petroleum | $13,806.6 | $26,515.1 | $33,081.2 | $34,888.9 | $33,462.3 | $33,463.5 | $23,644.5 |
| Distillate | $4,392.2 | $7,979.9 | $9,301.8 | $9,958.7 | $9,000.3 | $9,086.9 | $6,886.0 |
| Residual | $287.5 | $831.4 | $1,392.4 | $1,038.7 | $1,022.3 | $774.0 | $266.2 |
| Motor Gasoline | $8,046.1 | $15,096.5 | $19,298.1 | $19,550.0 | $18,982.0 | $18,934.0 | $13,464.7 |
| Kerosene | $168.6 | $273.5 | $165.4 | $92.4 | $83.5 | $144.1 | $56.2 |
| Jet Fuel | $488.4 | $1,719.3 | $2,000.1 | $3,395.8 | $3,432.7 | $3,391.9 | $2,134.6 |
| LPG | $423.8 | $614.6 | $923.4 | $853.4 | $941.5 | $1,132.6 | $836.7 |
| Natural Gas | $8,414.4 | $9,395.0 | $8,730.6 | $7,273.3 | $8,201.9 | $9,093.0 | $7,744.7 |
| Electricity | $16,637.3 | $21,715.1 | $22,887.2 | $21,683.8 | $22,834.8 | $23,949.5 | $22,748.4 |
| Wood | $184.0 | $281.9 | $158.0 | $164.1 | $221.9 | $220.3 | $113.1 |
| **Total** | **$39,152.2** | **$58,027.8** | **$64,980.4** | **$64,124.5** | **$64,815.2** | **$66,805.6** | **$54,328.2** |

## New York State Energy Expenditure Estimates by Fuel Type and Sector in Constant 2015 Dollars, 2001–2015

Figure 5-2

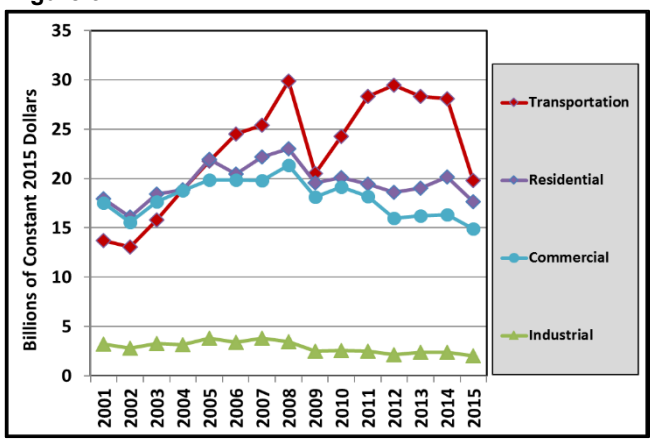



Table 5-2. (in million dollars)

| | 2001 | 2006 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | |
| Coal | $1.4 | $1.8 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Petroleum | $3,453.4 | $4,075.5 | $3,723.5 | $4,439.0 | $3,783.7 | $4,115.0 | $3,002.2 |
| Distillate | $2,908.1 | $3,382.2 | $2,899.0 | $3,750.5 | $3,017.6 | $3,133.7 | $2,348.5 |
| Kerosene | $158.5 | $231.7 | $122.0 | $63.4 | $67.5 | $113.8 | $43.2 |
| LPG | $386.8 | $461.7 | $702.5 | $625.2 | $698.6 | $867.5 | $610.5 |
| Natural Gas | $5,915.8 | $6,432.7 | $5,687.6 | $4,787.7 | $5,290.5 | $5,751.8 | $5,062.0 |
| Electricity | $8,310.1 | $9,617.8 | $9,859.3 | $9,218.6 | $9,709.0 | $10,043.2 | $9,456.4 |
| Wood | $246.3 | $331.4 | $166.5 | $169.4 | $225.8 | $220.5 | $113.1 |
| **Total** | $17,927.0 | $20,459.2 | $19,436.9 | $18,614.7 | $19,009.1 | $20,130.6 | $17,633.8 |
| **Commercial** | | | | | | | |
| Coal | $5.5 | $10.7 | $0.7 | $0.0 | $0.0 | $0.0 | $0.0 |
| Petroleum | $1,274.7 | $2,321.2 | $2,584.0 | $1,988.1 | $1,857.6 | $1,310.8 | $976.2 |
| Distillate | $887.9 | $1,659.5 | $1,551.3 | $1,321.7 | $1,355.0 | $1,061.3 | $805.2 |
| Residual | $246.3 | $515.9 | $817.6 | $504.8 | $338.1 | $78.6 | $15.4 |
| Kerosene | $58.0 | $45.5 | $28.2 | $10.3 | $4.8 | $9.1 | $2.6 |
| LPG | $82.5 | $100.3 | $186.9 | $151.2 | $159.8 | $161.9 | $153.0 |
| Natural Gas | $4,466.7 | $3,638.9 | $2,859.5 | $2,188.5 | $2,447.6 | $2,663.3 | $2,130.9 |
| Electricity | $11,771.9 | $13,864.5 | $12,726.6 | $11,816.2 | $11,925.9 | $12,354.3 | $11,786.7 |
| **Total** | $17,518.8 | $19,835.4 | $18,170.8 | $15,992.8 | $16,231.2 | $16,328.4 | $14,893.8 |
| **Industrial** | | | | | | | |
| Coal | $140.2 | $129.4 | $129.3 | $118.0 | $95.8 | $79.4 | $77.5 |
| Petroleum | $311.7 | $654.5 | $632.3 | $531.6 | $478.5 | $400.7 | $255.7 |
| Distillate | $153.4 | $374.2 | $403.3 | $370.8 | $322.7 | $263.1 | $176.2 |
| Residual | $52.9 | $84.5 | $143.5 | $68.9 | $76.6 | $51.2 | $21.2 |
| Kerosene | $9.2 | $44.4 | $24.0 | $21.7 | $12.6 | $21.4 | $10.4 |
| LPG | $96.2 | $151.3 | $61.5 | $70.2 | $66.5 | $64.9 | $48.0 |
| Natural Gas | $878.7 | $973.8 | $652.3 | $532.3 | $606.7 | $688.7 | $551.7 |
| Electricity | $1,891.9 | $1,653.9 | $1,107.8 | $947.2 | $1,200.0 | $1,185.7 | $1,140.6 |
| **Total** | $3,222.6 | $3,411.7 | $2,521.7 | $2,129.1 | $2,381.0 | $2,354.5 | $2,025.5 |
| **Transportation** | | | | | | | |
| Petroleum | $13,437.8 | $24,122.0 | $27,917.7 | $29,058.2 | $27,925.7 | $27,676.7 | $19,410.3 |
| Distillate | $1,928.7 | $3,965.9 | $4,947.7 | $4,837.6 | $4,461.9 | $4,639.6 | $3,556.1 |
| Residual | $85.5 | $377.0 | $506.1 | $498.5 | $625.4 | $645.1 | $229.7 |
| Motor Gasoline | $10,768.3 | $17,748.7 | $20,334.3 | $20,182.1 | $19,312.8 | $18,956.5 | $13,464.7 |
| Jet Fuel | $653.6 | $2,021.3 | $2,107.5 | $3,505.6 | $3,492.6 | $3,396.0 | $2,134.6 |
| LPG | $1.6 | $9.3 | $22.1 | $34.4 | $33.0 | $39.6 | $25.2 |
| Electricity | $292.1 | $393.8 | $422.4 | $402.9 | $397.9 | $394.6 | $364.8 |
| **Total** | $13,729.9 | $24,515.8 | $28,340.0 | $29,461.1 | $28,323.5 | $28,071.3 | $19,775.1 |
| **Total** | | | | | | | |
| Coal | $147.1 | $141.9 | $130.0 | $118.0 | $95.8 | $79.4 | $77.5 |
| Petroleum | $18,477.6 | $31,173.3 | $34,857.5 | $36,016.9 | $34,045.5 | $33,503.2 | $23,644.5 |
| Distillate | $5,878.1 | $9,381.8 | $9,801.2 | $10,280.6 | $9,157.2 | $9,097.7 | $6,886.0 |
| Residual | $384.7 | $977.4 | $1,467.1 | $1,072.3 | $1,040.1 | $774.9 | $266.2 |
| Motor Gasoline | $10,768.3 | $17,748.7 | $20,334.3 | $20,182.1 | $19,312.8 | $18,956.5 | $13,464.7 |
| Kerosene | $225.7 | $321.6 | $174.3 | $95.4 | $84.9 | $144.3 | $56.2 |
| Jet Fuel | $653.6 | $2,021.3 | $2,107.5 | $3,505.6 | $3,492.6 | $3,396.0 | $2,134.6 |
| LPG | $567.2 | $722.6 | $973.0 | $880.9 | $957.9 | $1,133.9 | $836.7 |
| Natural Gas | $11,261.2 | $11,045.5 | $9,199.4 | $7,508.5 | $8,344.8 | $9,103.8 | $7,744.7 |
| Electricity | $22,266.1 | $25,530.0 | $24,116.1 | $22,384.9 | $23,232.8 | $23,977.9 | $22,748.4 |
| Wood | $246.3 | $331.4 | $166.5 | $169.4 | $225.8 | $220.5 | $113.1 |
| **Total** | **$52,398.3** | **$68,222.1** | **$68,469.5** | **$66,197.7** | **$65,944.8** | **$66,884.8** | **$54,328.2** |

## New York Out-of-State Energy Expenditure Estimates by Fuel Type in Nominal and Constant 2015 Dollars 2001–2015

Figure 5-3

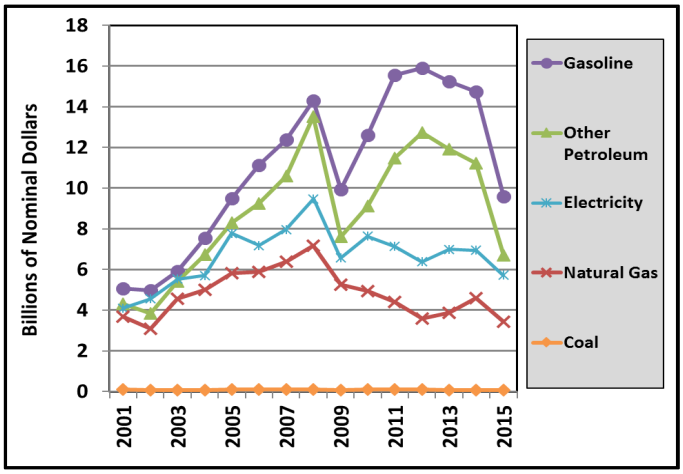



**Table 5-3a. (in million nominal dollars)**

| Year | Coal | Natural Gas | Gasoline | Other Petroleum | Electricity | Total |
|---|---|---|---|---|---|---|
| 2001 | $ 93.4 | $ 3,679.1 | $ 5,075.4 | $ 4,320.3 | $ 4,097.2 | $ 17,265.4 |
| 2002 | $ 75.8 | $ 3,072.9 | $ 4,962.2 | $ 3,834.6 | $ 4,558.8 | $ 16,504.4 |
| 2003 | $ 68.1 | $ 4,561.4 | $ 5,913.9 | $ 5,410.8 | $ 5,530.9 | $ 21,485.1 |
| 2004 | $ 71.8 | $ 4,992.1 | $ 7,548.6 | $ 6,740.9 | $ 5,699.0 | $ 25,052.3 |
| 2005 | $ 84.8 | $ 5,822.3 | $ 9,496.5 | $ 8,302.0 | $ 7,766.1 | $ 31,471.7 |
| 2006 | $ 102.6 | $ 5,886.8 | $ 11,139.2 | $ 9,242.1 | $ 7,171.9 | $ 33,542.6 |
| 2007 | $ 93.8 | $ 6,384.4 | $ 12,382.5 | $ 10,601.3 | $ 7,954.7 | $ 37,416.7 |
| 2008 | $ 99.0 | $ 7,180.7 | $ 14,283.0 | $ 13,510.8 | $ 9,473.9 | $ 44,547.4 |
| 2009 | $ 83.1 | $ 5,241.5 | $ 9,940.7 | $ 7,607.6 | $ 6,570.3 | $ 29,443.2 |
| 2010 | $ 96.4 | $ 4,932.1 | $ 12,587.9 | $ 9,106.5 | $ 7,628.8 | $ 34,351.7 |
| 2011 | $ 104.8 | $ 4,402.7 | $ 15,569.0 | $ 11,467.7 | $ 7,124.4 | $ 38,668.7 |
| 2012 | $ 97.2 | $ 3,592.3 | $ 15,907.9 | $ 12,727.0 | $ 6,369.1 | $ 38,693.5 |
| 2013 | $ 80.1 | $ 3,866.8 | $ 15,249.7 | $ 11,908.1 | $ 6,988.4 | $ 38,093.1 |
| 2014 | $ 67.4 | $ 4,592.9 | $ 14,748.2 | $ 11,234.9 | $ 6,944.5 | $ 37,587.8 |
| 2015 | $ 65.9 | $ 3,417.7 | $ 9,588.7 | $ 6,708.4 | $ 5,708.4 | $ 25,489.1 |

**Table 5-3b. (in million constant 2015 dollars)**

| Year | Coal | Natural Gas | Gasoline | Other Petroleum | Electricity | Total |
|---|---|---|---|---|---|---|
| 2001 | $ 125.0 | $ 4,923.8 | $ 6,792.5 | $ 5,782.0 | $ 5,483.3 | $ 23,106.7 |
| 2002 | $ 99.8 | $ 4,048.5 | $ 6,537.7 | $ 5,052.1 | $ 6,006.2 | $ 21,744.4 |
| 2003 | $ 87.7 | $ 5,875.7 | $ 7,617.9 | $ 6,969.8 | $ 7,124.5 | $ 27,675.7 |
| 2004 | $ 90.0 | $ 6,263.7 | $ 9,471.5 | $ 8,457.9 | $ 7,150.6 | $ 31,433.7 |
| 2005 | $ 102.9 | $ 7,066.0 | $ 11,524.9 | $ 10,075.4 | $ 9,424.9 | $ 38,194.2 |
| 2006 | $ 120.6 | $ 6,921.0 | $ 13,096.2 | $ 10,865.7 | $ 8,431.9 | $ 39,435.3 |
| 2007 | $ 107.2 | $ 7,298.2 | $ 14,154.7 | $ 12,118.6 | $ 9,093.2 | $ 42,771.8 |
| 2008 | $ 109.0 | $ 7,904.9 | $ 15,723.5 | $ 14,873.5 | $ 10,429.3 | $ 49,040.1 |
| 2009 | $ 91.8 | $ 5,790.8 | $ 10,982.3 | $ 8,404.8 | $ 7,258.8 | $ 32,528.4 |
| 2010 | $ 104.8 | $ 5,361.0 | $ 13,682.5 | $ 9,898.3 | $ 8,292.1 | $ 37,338.7 |
| 2011 | $ 110.5 | $ 4,639.1 | $ 16,405.0 | $ 12,083.5 | $ 7,507.0 | $ 40,745.0 |
| 2012 | $ 100.3 | $ 3,708.4 | $ 16,422.3 | $ 13,138.5 | $ 6,575.0 | $ 39,944.5 |
| 2013 | $ 81.5 | $ 3,934.2 | $ 15,515.5 | $ 12,115.7 | $ 7,110.1 | $ 38,757.0 |
| 2014 | $ 67.5 | $ 4,598.3 | $ 14,765.7 | $ 11,248.2 | $ 6,952.7 | $ 37,632.4 |
| 2015 | $ 65.9 | $ 3,417.7 | $ 9,588.7 | $ 6,708.4 | $ 5,708.4 | $ 25,489.1 |

# 6 New York State's Sources of Energy

New York is the eighth largest energy user of all the states. Nevertheless, households, businesses, industries, and electric utilities in the State rely largely on fuels produced elsewhere. More than 10% of the total primary energy requirements were met from in-State resources in 2015. Hydroelectric power is produced at various locations throughout the State and in 2015, New York produced more hydroelectric power than any other state east of the Rocky Mountains. New York is currently the 13th largest state in the U.S. in installed wind power capacity through the end of 2016 with more than 1,827 MW of installed wind capacity. Crude oil and natural gas production are found in the western region of the State. The "Other" category described in this section primarily consists of wood, waste, landfill gas, solar, geothermal, and ethanol.

## 6.1 Key Observations about New York State Sources of Energy in 2015

- In-State resources produced 10.5% of the State's total primary energy requirement, including 6.2% from hydropower and 2.5% from biofuels including ethanol, waste, wood, and landfill gas, collectively. Wind, solar, and geothermal renewable resources met 1.2% of the State's total primary energy requirement. Petroleum and natural gas production accounted for 0.5% of the total primary energy requirement.
- Hydroelectric power and energy collectively from biofuels including ethanol, waste, wood, and landfill gas account for 59.5% and 23.6%, respectively, of the State's primary energy production. Wind, solar, and geothermal resources accounted for 11.8% of the primary energy production while crude oil and natural gas constitute the remaining 5.1%.
- In-state crude oil and natural gas production represent 0.1% and 1.3%, respectively, of the State's 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 11.7% from 2014 to 2015. In 2015, natural gas production was 17.8 billion cubic feet, and accounted for 0.5% of the State's total primary energy use.
- Energy production from solar resources increased 46.2% from 2014 to 2015 while collective production of biofuels including ethanol, waste, wood, and landfill gas decreased 7.1%.

# New York State Primary Energy Production by Fuel Type,[1] 2001–2015

**Figure 6-1**

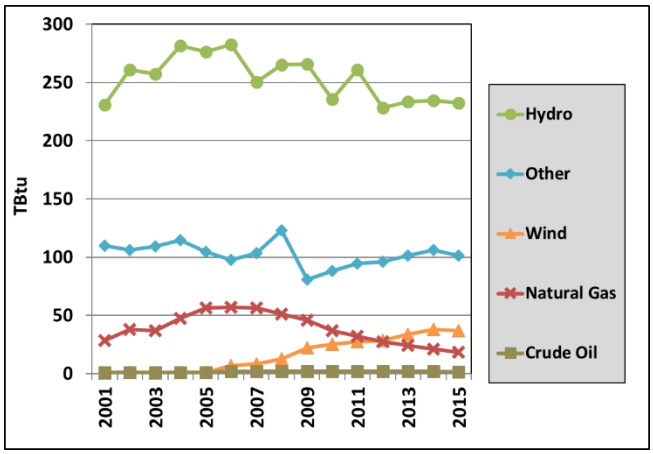



**Table 6-1a. (in physical units)**

| Year | Hydro Electricity[2] | Natural Gas | Crude Oil | Ethanol | Distributed Solar | Utility Solar | Total Solar |
|---|---|---|---|---|---|---|---|
| | GWh | Bcf | Mbbl | Mbbl | GWh | GWh | GWh |
| 2001 | 23,152 | 28.0 | 166 | 0 | n.a. | n.a. | n.a. |
| 2002 | 26,213 | 37.1 | 165 | 0 | n.a. | n.a. | n.a. |
| 2003 | 25,798 | 36.0 | 144 | 0 | n.a. | n.a. | n.a. |
| 2004 | 28,153 | 46.9 | 170 | 0 | n.a. | n.a. | n.a. |
| 2005 | 27,583 | 55.2 | 197 | 0 | n.a. | n.a. | n.a. |
| 2006 | 28,422 | 55.2 | 319 | 0 | n.a. | n.a. | n.a. |
| 2007 | 25,557 | 54.9 | 387 | 100 | n.a. | n.a. | n.a. |
| 2008 | 27,501 | 50.3 | 397 | 2,064 | n.a. | n.a. | n.a. |
| 2009 | 27,945 | 44.8 | 324 | 1,189 | n.a. | n.a. | n.a. |
| 2010 | 25,103 | 35.8 | 387 | 2,672 | n.a. | n.a. | n.a. |
| 2011 | 28,355 | 31.1 | 391 | 4,011 | n.a. | 7 | 7 |
| 2012 | 25,303 | 26.4 | 353 | 3,798 | n.a. | 53 | 53 |
| 2013 | 26,397 | 23.5 | 313 | 3,991 | n.a. | 67 | 67 |
| 2014 | 26,823 | 20.2 | 341 | 4,086 | 350 | 71 | 421 |
| 2015 | 26,704 | 17.8 | 279 | 4,062 | 588 | 101 | 689 |

**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 |
| 2001 | 230.7 | 28.6 | 1.0 | 109.0 | 0.2 | 0.6 | 0.3 | 370.4 |
| 2002 | 260.8 | 37.7 | 1.0 | 105.1 | 0.8 | 0.6 | 0.4 | 406.3 |
| 2003 | 257.1 | 37.1 | 0.8 | 108.5 | 0.4 | 0.6 | 0.5 | 405.0 |
| 2004 | 281.6 | 47.2 | 1.0 | 113.2 | 1.2 | 0.7 | 0.5 | 445.5 |
| 2005 | 276.4 | 56.6 | 1.2 | 102.8 | 1.0 | 0.8 | 0.6 | 439.5 |
| 2006 | 282.4 | 57.2 | 1.8 | 96.1 | 6.5 | 1.0 | 0.7 | 445.7 |
| 2007 | 250.1 | 56.2 | 2.2 | 101.3 | 8.2 | 1.2 | 0.7 | 419.9 |
| 2008 | 265.3 | 51.4 | 2.2 | 120.7 | 12.3 | 1.3 | 0.8 | 454.1 |
| 2009 | 265.8 | 45.8 | 1.9 | 78.2 | 22.1 | 1.5 | 1.0 | 416.2 |
| 2010 | 235.7 | 36.6 | 2.2 | 85.2 | 25.3 | 1.7 | 1.1 | 387.8 |
| 2011 | 260.7 | 31.9 | 2.2 | 91.1 | 27.5 | 2.1 | 1.3 | 416.7 |
| 2012 | 228.0 | 27.2 | 2.1 | 91.8 | 28.4 | 3.2 | 1.2 | 381.9 |
| 2013 | 233.6 | 24.2 | 1.8 | 96.2 | 33.7 | 3.9 | 1.2 | 394.6 |
| 2014 | 234.7 | 20.8 | 2.0 | 99.4 | 37.7 | 5.3 | 1.2 | 401.1 |
| 2015 | 232.3 | 18.4 | 1.6 | 92.3 | 37.0 | 7.7 | 1.2 | 390.5 |

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

# 7 Appendices

# Appendix A-1

## New York State Estimated Greenhouse Gas Emissions[1] from Fuel Combustion, 1990, 2001–2015

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

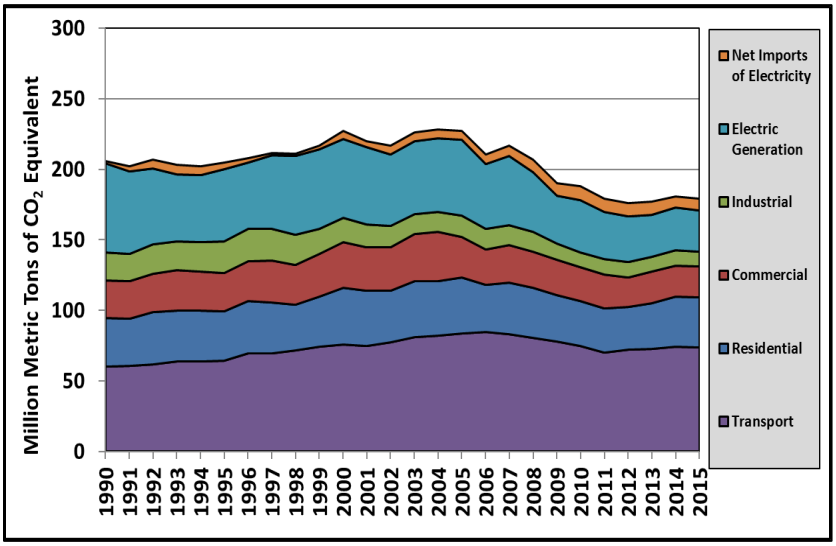



**Table A-1. GHG Emissions by Sector (in million metric tons carbon dioxide equivalent)[2,3,4]**

| Year | Residential | Commercial | Industrial | Transportation | Electric Generation | Net Imports of Electricity[5] | Total[6] |
|---|---|---|---|---|---|---|---|
| **1990** | 34.2 | 26.5 | 20.0 | 60.4 | 63.0 | 1.6 | 205.8 |
| **…….** | | | | | | | |
| **2001** | 39.0 | 30.8 | 16.2 | 75.0 | 54.9 | 3.8 | 219.8 |
| **2002** | 36.7 | 31.1 | 14.8 | 77.1 | 50.7 | 6.2 | 216.6 |
| **2003** | 39.8 | 33.1 | 14.1 | 81.0 | 51.7 | 6.6 | 226.3 |
| **2004** | 38.9 | 34.8 | 14.1 | 82.0 | 52.0 | 6.4 | 228.2 |
| **2005** | 39.8 | 28.6 | 15.0 | 83.7 | 53.6 | 6.6 | 227.3 |
| **2006** | 33.1 | 25.4 | 14.6 | 84.8 | 45.9 | 6.7 | 210.6 |
| **2007** | 36.9 | 26.7 | 14.1 | 82.9 | 48.8 | 7.5 | 216.8 |
| **2008** | 35.6 | 25.9 | 13.8 | 80.3 | 42.5 | 8.6 | 206.7 |
| **2009** | 32.9 | 25.1 | 11.5 | 77.7 | 34.0 | 9.0 | 190.2 |
| **2010** | 31.7 | 24.2 | 10.3 | 74.9 | 37.3 | 9.6 | 187.9 |
| **2011** | 31.1 | 24.2 | 11.1 | 70.1 | 33.4 | 9.1 | 178.9 |
| **2012** | 30.4 | 20.9 | 10.7 | 72.2 | 32.2 | 9.5 | 175.9 |
| **2013** | 32.3 | 22.4 | 10.4 | 72.6 | 29.9 | 9.3 | 177.0 |
| **2014** | 35.5 | 22.0 | 11.0 | 74.0 | 30.4 | 8.0 | 181.0 |
| **2015** | 35.5 | 21.8 | 10.7 | 73.8 | 29.1 | 8.0 | 178.9 |
| **% Change 1990-2015** | **3.8%** | **-17.8%** | **-46.7%** | **22.2%** | **-53.8%** | **392.5%** | **-13.0%** |

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

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

3 Emissions levels for 1990 form the basis of the U.S. GHG inventory and it was the base year for the United Nations Framework Convention on Climate Change's Kyoto Protocol. Data for 1991–2000 can be found by clicking on the table above.

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

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

6 In 2015 GHG emissions from fuel combustion represented 83% of total GHG emissions.

# Appendix A-2

## New York State Estimated $CO_2$ Emissions by Fuel Type[1,2,3] from Fuel Combustion, 2015

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

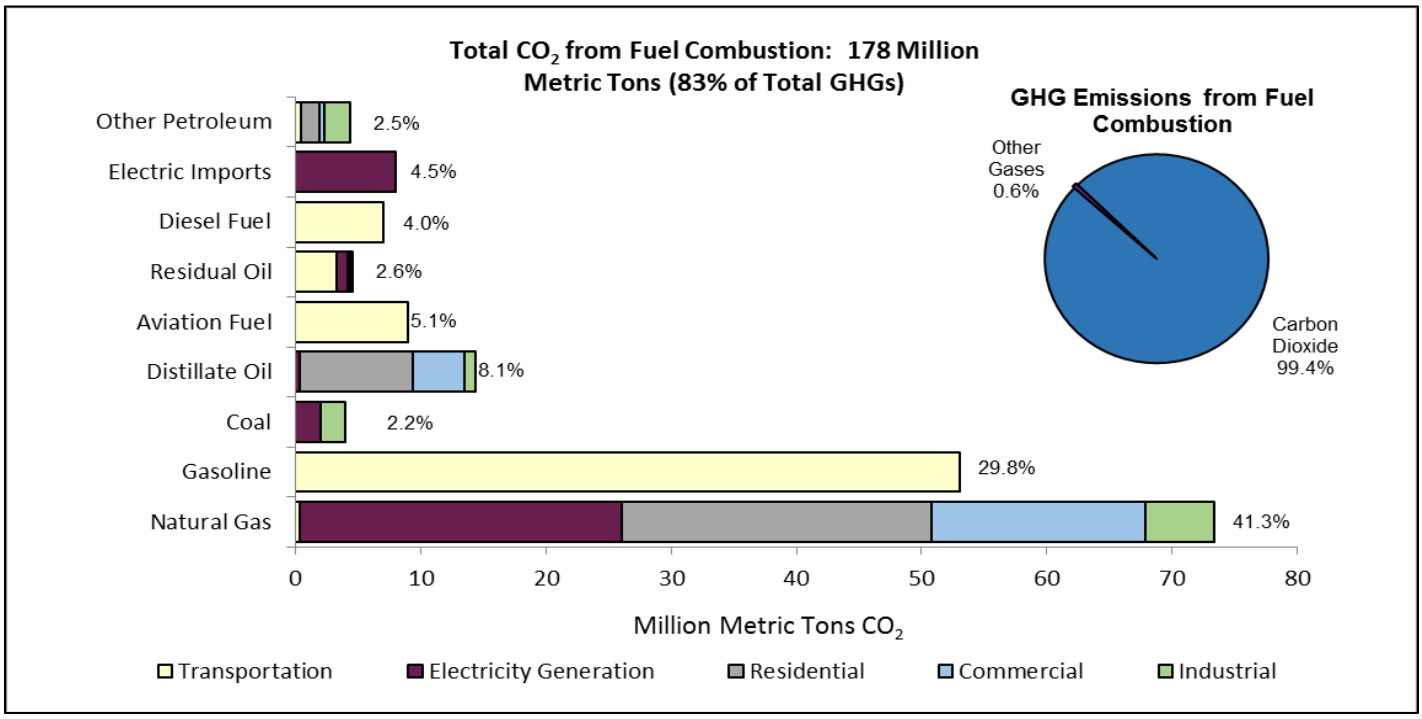


**Table A-2. $CO_2$ Emissions from Fuel Combustion by Fuel Type (in million metric tons carbon dioxide)[4]**

| Fuel Type | Transportation | Electricity Generation | Residential | Commercial | Industrial | Total $CO_2$ Emissions | Percent of Total $CO_2$ Emissions |
|---|---|---|---|---|---|---|---|
| | (million metric tons $CO_2$) | | | | | | (%) |
| **Other Petroleum** | 0.43 | N/A | 1.50 | 0.43 | 2.03 | 4.40 | 2.5 |
| **Net Imports of Electricity** | N/A | 8.02 | N/A | N/A | N/A | 8.02 | 4.5 |
| **Diesel Fuel (Distillate)** | 7.04 | N/A | N/A | N/A | N/A | 7.04 | 4.0 |
| **Residual Oil** | 3.28 | 0.92 | N/A | 0.15 | 0.20 | 4.54 | 2.6 |
| **Jet Fuel** | 9.00 | N/A | N/A | N/A | N/A | 9.00 | 5.1 |
| **Heating Oil (Distillate)** | N/A | 0.36 | 9.02 | 4.11 | 0.86 | 14.35 | 8.1 |
| **Coal** | N/A | 2.03 | 0.00 | 0.00 | 1.95 | 3.98 | 2.2 |
| **Gasoline** | 53.06 | N/A | N/A | N/A | N/A | 53.06 | 29.8 |
| **Natural Gas** | 0.33 | 25.76 | 24.72 | 17.01 | 5.55 | 73.37 | 41.3 |

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1 Emissions from fuel combustion by fuel type only include carbon dioxide ($CO_2$) emissions. These emissions comprise 99% of total GHG emissions from fuel combustion.

2 In 2015 GHG emissions from fuel combustion represented 83% of total GHG emissions.

3 Additional information on GHG emissions can be found in the Climate Action Plan (http://www.dec.ny.gov/energy/80930.html) and NYS Energy Plan (https://energyplan.ny.gov/).

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

# Appendix B

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

**Table B-1. Total Household Energy**

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

**Table B-2. Space-Heating[4]**

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

**Table B-3. Water-Heating**

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

**Table B-4. Electric Air Conditioning**

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

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

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

3 Propane

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

5 Propane usage and expenditure estimates for heating are from EIA's Short-Term Energy and Winter Fuels Outlook for the Winter 2008–2009 period.

See Appendix D-1 and D-2 for estimate of number of households using the fuel as a primary heating source.

Q = Data not reported by the DOE's Energy Information Administration's Residential Energy Consumption Survey.

# Appendix C

## Estimated Annual Gasoline Sales by County in New York State, 2013–2015

**Table C-1. (in thousand gallons)**

| County | 2013 | 2014 | 2015 |
|---|---|---|---|
| **New York State** | **5,373,436** | **5,561,069** | **5,520,551** |
| **New York City** | **987,083** | **1,015,641** | **1,029,969** |
| **Rest of State** | **4,386,354** | **4,545,428** | **4,490,582** |
| Albany | 130,168 | 133,346 | 129,617 |
| Alleghany | 13,873 | 14,710 | 14,875 |
| Broome | 95,872 | 100,444 | 97,336 |
| Cattaraugus | 21,268 | 23,038 | 23,698 |
| Cayuga | 31,077 | 35,070 | 33,368 |
| Chautauqua | 37,399 | 35,898 | 36,371 |
| Chemung | 30,254 | 32,281 | 32,924 |
| Chenango | 20,444 | 20,906 | 21,586 |
| Clinton | 43,546 | 45,376 | 45,980 |
| Columbia | 32,661 | 35,291 | 33,670 |
| Cortland | 24,273 | 25,576 | 26,840 |
| Delaware | 20,930 | 22,069 | 20,985 |
| Dutchess | 100,123 | 104,094 | 101,794 |
| Erie | 356,154 | 352,098 | 360,650 |
| Essex | 17,532 | 20,394 | 20,356 |
| Franklin | 16,319 | 17,403 | 17,338 |
| Fulton | 22,700 | 25,897 | 22,611 |
| Genesee | 50,757 | 54,871 | 54,576 |
| Greene | 25,971 | 28,080 | 27,843 |
| Hamilton | 2,277 | 2,811 | 3,191 |
| Herkimer | 28,000 | 26,672 | 28,236 |
| Jefferson | 55,249 | 55,607 | 54,744 |
| Lewis | 11,403 | 12,792 | 12,377 |
| Livingston | 36,186 | 38,373 | 36,266 |
| Madison | 18,020 | 19,009 | 19,897 |
| Monroe | 278,573 | 280,493 | 274,338 |
| Montgomery | 38,270 | 40,514 | 36,850 |
| Nassau | 487,158 | 497,316 | 496,762 |
| Niagara | 77,473 | 75,881 | 71,696 |
| Oneida | 98,615 | 100,915 | 99,762 |
| Onondaga | 228,602 | 236,568 | 227,662 |
| Ontario | 60,546 | 62,288 | 60,388 |
| Orange | 158,245 | 164,798 | 159,407 |
| Orleans | 11,231 | 12,021 | 11,541 |
| Oswego | 51,180 | 52,038 | 49,358 |
| Otsego | 29,828 | 30,252 | 28,859 |
| Putnam | 46,629 | 48,540 | 45,616 |
| Rensselaer | 69,303 | 74,604 | 71,457 |
| Rockland | 49,103 | 50,915 | 51,801 |
| St. Lawrence | 33,988 | 43,907 | 44,359 |
| Saratoga | 104,634 | 110,111 | 102,139 |
| Schenectady | 67,284 | 71,920 | 70,208 |
| Schoharie | 13,075 | 13,614 | 13,276 |
| Schuyler | 8,193 | 8,537 | 8,598 |
| Seneca | 26,086 | 27,000 | 28,691 |
| Steuben | 48,439 | 51,575 | 53,224 |
| Suffolk | 637,062 | 660,495 | 655,777 |
| Sullivan | 22,543 | 29,661 | 30,692 |
| Tioga | 17,959 | 18,808 | 19,697 |
| Tompkins | 32,182 | 34,268 | 32,868 |
| Ulster | 86,014 | 81,326 | 82,308 |
| Warren | 40,390 | 42,186 | 39,783 |
| Washington | 15,474 | 16,853 | 15,393 |
| Wayne | 38,509 | 41,335 | 40,230 |
| Westchester | 243,345 | 259,440 | 266,018 |
| Wyoming | 16,569 | 17,365 | 16,943 |
| Yates | 7,399 | 7,778 | 7,757 |

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

# Estimated Annual Residential Energy Consumption by County in New York State, 2001–2015

**Table C-2**

| Residential Energy Consumption | Natural Gas | | Propane | | Electricity | | Distillate | | Kerosene | | Wood | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bcf | | Mbbl | | GWh | | Mbbl | | Mbbl | | MCords | |
| County | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 |
| Albany | 10.0 | 9.0 | 59 | 44 | 1,422 | 1,171 | 147 | 286 | 3 | 19 | 11 | 34 |
| Allegany | 1.3 | 1.1 | 46 | 36 | 131 | 146 | 16 | 35 | 0 | 2 | 16 | 62 |
| Bronx | 15.0 | 10.8 | 100 | 72 | 2,114 | 1,833 | 2,102 | 3,406 | 46 | 223 | 1 | 3 |
| Broome | 6.2 | 5.9 | 125 | 94 | 739 | 627 | 119 | 197 | 3 | 13 | 16 | 61 |
| Cattaraugus | 2.1 | 1.9 | 91 | 81 | 324 | 336 | 34 | 55 | 1 | 4 | 21 | 85 |
| Cayuga | 2.0 | 1.8 | 94 | 78 | 261 | 245 | 63 | 114 | 1 | 7 | 14 | 51 |
| Chautauqua | 4.8 | 4.4 | 95 | 76 | 570 | 543 | 17 | 35 | 0 | 2 | 18 | 68 |
| Chemung | 3.3 | 3.0 | 35 | 29 | 263 | 239 | 30 | 50 | 1 | 3 | 9 | 30 |
| Chenango | 0.4 | 0.3 | 66 | 44 | 240 | 228 | 87 | 159 | 2 | 10 | 17 | 62 |
| Clinton | 0.4 | 0.3 | 31 | 21 | 705 | 671 | 178 | 284 | 4 | 19 | 19 | 53 |
| Columbia | 0.4 | 0.3 | 59 | 42 | 299 | 314 | 186 | 297 | 4 | 19 | 13 | 41 |
| Cortland | 1.1 | 1.0 | 30 | 28 | 189 | 164 | 38 | 61 | 1 | 4 | 8 | 29 |
| Delaware | 0.3 | 0.3 | 53 | 40 | 199 | 172 | 114 | 196 | 2 | 13 | 23 | 74 |
| Dutchess | 3.5 | 2.9 | 113 | 82 | 1,152 | 1,007 | 726 | 1,143 | 16 | 75 | 20 | 46 |
| Erie | 41.6 | 36.1 | 150 | 128 | 1,741 | 1,628 | 80 | 143 | 2 | 9 | 17 | 85 |
| Essex | 0.1 | 0.1 | 43 | 32 | 195 | 232 | 109 | 178 | 2 | 12 | 16 | 49 |
| Franklin | 0.1 | 0.1 | 39 | 26 | 208 | 218 | 141 | 222 | 3 | 15 | 19 | 49 |
| Fulton | 1.2 | 1.0 | 44 | 33 | 148 | 131 | 87 | 146 | 2 | 10 | 13 | 42 |
| Genesee | 1.8 | 1.6 | 69 | 56 | 183 | 178 | 43 | 66 | 1 | 4 | 7 | 27 |
| Greene | 0.2 | 0.1 | 47 | 37 | 194 | 169 | 135 | 236 | 3 | 15 | 12 | 32 |
| Hamilton | 0.0 | 0.0 | 10 | 10 | 7 | 16 | 7 | 24 | 0 | 2 | 2 | 11 |
| Herkimer | 1.5 | 1.3 | 45 | 30 | 226 | 246 | 89 | 151 | 2 | 10 | 14 | 48 |
| Jefferson | 2.3 | 1.9 | 117 | 91 | 595 | 540 | 100 | 183 | 2 | 12 | 21 | 62 |
| Kings | 59.9 | 47.7 | 255 | 203 | 3,205 | 2,358 | 1,095 | 2,457 | 24 | 161 | 2 | 11 |
| Lewis | 0.2 | 0.1 | 36 | 24 | 73 | 67 | 51 | 98 | 1 | 6 | 18 | 68 |
| Livingston | 1.5 | 1.3 | 88 | 69 | 284 | 266 | 37 | 68 | 1 | 4 | 11 | 43 |
| Madison | 1.5 | 1.3 | 71 | 48 | 266 | 236 | 82 | 149 | 2 | 10 | 13 | 43 |
| Monroe | 30.4 | 26.8 | 105 | 93 | 3,416 | 2,710 | 100 | 203 | 2 | 13 | 12 | 46 |
| Montgomery | 1.1 | 1.0 | 24 | 19 | 135 | 117 | 68 | 117 | 1 | 8 | 8 | 25 |
| Nassau | 31.9 | 24.8 | 121 | 82 | 2,013 | 1,849 | 2,461 | 4,204 | 53 | 275 | 5 | 15 |
| New York | 22.4 | 16.1 | 168 | 125 | 7,834 | 6,148 | 1,970 | 3,720 | 43 | 244 | 0 | 2 |
| Niagara | 8.9 | 7.7 | 107 | 86 | 576 | 510 | 75 | 130 | 2 | 9 | 9 | 34 |
| Oneida | 6.7 | 6.0 | 100 | 77 | 762 | 734 | 208 | 368 | 5 | 24 | 26 | 63 |
| Onondaga | 17.1 | 15.4 | 119 | 96 | 2,358 | 1,929 | 106 | 204 | 2 | 13 | 14 | 52 |
| Ontario | 3.3 | 2.9 | 121 | 104 | 517 | 391 | 46 | 100 | 1 | 7 | 13 | 44 |
| Orange | 7.8 | 6.6 | 145 | 107 | 967 | 899 | 544 | 876 | 12 | 57 | 16 | 42 |
| Orleans | 0.9 | 0.8 | 69 | 54 | 143 | 141 | 37 | 65 | 1 | 4 | 8 | 28 |
| Oswego | 2.5 | 2.2 | 181 | 167 | 354 | 337 | 92 | 148 | 2 | 10 | 30 | 95 |
| Otsego | 0.5 | 0.4 | 83 | 72 | 186 | 215 | 127 | 219 | 3 | 14 | 21 | 69 |
| Putnam | 0.3 | 0.3 | 34 | 29 | 589 | 585 | 320 | 486 | 7 | 32 | 7 | 16 |
| Queens | 53.1 | 42.4 | 269 | 177 | 2,789 | 2,534 | 1,458 | 2,969 | 32 | 194 | 3 | 9 |
| Rensselaer | 3.6 | 3.1 | 95 | 75 | 652 | 569 | 205 | 341 | 4 | 22 | 20 | 59 |
| Richmond | 16.7 | 14.3 | 43 | 34 | 439 | 360 | 134 | 265 | 3 | 17 | 1 | 1 |
| Rockland | 10.6 | 9.5 | 22 | 18 | 643 | 498 | 45 | 70 | 1 | 5 | 2 | 5 |
| St. Lawrence | 1.9 | 1.5 | 80 | 61 | 399 | 362 | 164 | 295 | 4 | 19 | 35 | 124 |
| Saratoga | 6.5 | 5.3 | 203 | 150 | 871 | 772 | 191 | 334 | 4 | 22 | 22 | 73 |
| Schenectady | 5.1 | 4.6 | 32 | 29 | 546 | 473 | 65 | 133 | 1 | 9 | 5 | 14 |
| Schoharie | 0.1 | 0.1 | 38 | 26 | 138 | 157 | 79 | 142 | 2 | 9 | 14 | 43 |
| Schuyler | 0.2 | 0.2 | 43 | 36 | 68 | 71 | 22 | 36 | 0 | 2 | 6 | 19 |
| Seneca | 0.8 | 0.7 | 61 | 52 | 125 | 109 | 31 | 43 | 1 | 3 | 4 | 12 |
| Steuben | 2.8 | 2.5 | 113 | 99 | 364 | 288 | 42 | 77 | 1 | 5 | 24 | 88 |
| Suffolk | 25.3 | 20.6 | 268 | 189 | 2,849 | 2,816 | 3,839 | 5,875 | 83 | 385 | 24 | 57 |
| Sullivan | 0.1 | 0.1 | 84 | 92 | 351 | 327 | 222 | 336 | 5 | 22 | 18 | 54 |
| Tioga | 0.8 | 0.7 | 59 | 42 | 168 | 135 | 83 | 155 | 2 | 10 | 12 | 41 |
| Tompkins | 2.3 | 2.0 | 90 | 78 | 482 | 500 | 51 | 82 | 1 | 5 | 12 | 40 |
| Ulster | 1.7 | 1.5 | 167 | 114 | 695 | 581 | 472 | 801 | 10 | 52 | 27 | 76 |
| Warren | 1.6 | 1.4 | 75 | 51 | 246 | 274 | 83 | 161 | 2 | 11 | 11 | 33 |
| Washington | 0.7 | 0.6 | 60 | 54 | 215 | 194 | 134 | 219 | 3 | 14 | 24 | 70 |
| Wayne | 2.5 | 2.2 | 105 | 86 | 382 | 394 | 69 | 112 | 1 | 7 | 16 | 53 |
| Westchester | 17.7 | 14.9 | 124 | 95 | 2,499 | 1,967 | 1,643 | 2,703 | 36 | 177 | 6 | 18 |
| Wyoming | 1.0 | 0.9 | 55 | 37 | 191 | 179 | 21 | 41 | 0 | 3 | 10 | 39 |
| Yates | 0.4 | 0.3 | 59 | 47 | 116 | 129 | 19 | 31 | 0 | 2 | 8 | 27 |
| ***New York State*** | **452.1** | **376.2** | **5,536** | **4,306** | **51,013** | **44,236** | **21,140** | **36,502** | **458** | **2,390** | **844** | **2,755** |

# Estimated Annual Residential Energy Consumption by County in New York State (TBtu), 2001–2015

**Table C-3**

| Residential Energy Consumption | Natural Gas (TBtu) | | Propane (TBtu) | | Electricity (TBtu) | | Distillate (TBtu) | | Kerosene (TBtu) | | Wood (TBtu) | | Solar (TBtu) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| County | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 | 2015 | 2001 |
| Albany | 10.3 | 9.3 | 0.2 | 0.2 | 4.9 | 4.0 | 0.8 | 1.7 | 0.0 | 0.1 | 0.2 | 0.7 | 0.1 | 0.0 |
| Allegany | 1.4 | 1.2 | 0.2 | 0.1 | 0.4 | 0.5 | 0.1 | 0.2 | 0.0 | 0.0 | 0.3 | 1.2 | 0.0 | 0.0 |
| Bronx | 15.5 | 11.1 | 0.4 | 0.3 | 7.2 | 6.3 | 12.1 | 19.8 | 0.3 | 1.3 | 0.0 | 0.1 | 0.2 | 0.0 |
| Broome | 6.4 | 6.1 | 0.5 | 0.4 | 2.5 | 2.1 | 0.7 | 1.1 | 0.0 | 0.1 | 0.3 | 1.2 | 0.0 | 0.0 |
| Cattaraugus | 2.2 | 2.0 | 0.3 | 0.3 | 1.1 | 1.1 | 0.2 | 0.3 | 0.0 | 0.0 | 0.4 | 1.7 | 0.0 | 0.0 |
| Cayuga | 2.1 | 1.8 | 0.4 | 0.3 | 0.9 | 0.8 | 0.4 | 0.7 | 0.0 | 0.0 | 0.3 | 1.0 | 0.0 | 0.0 |
| Chautauqua | 4.9 | 4.5 | 0.4 | 0.3 | 1.9 | 1.9 | 0.1 | 0.2 | 0.0 | 0.0 | 0.4 | 1.4 | 0.1 | 0.0 |
| Chemung | 3.4 | 3.1 | 0.1 | 0.1 | 0.9 | 0.8 | 0.2 | 0.3 | 0.0 | 0.0 | 0.2 | 0.6 | 0.0 | 0.0 |
| Chenango | 0.4 | 0.3 | 0.3 | 0.2 | 0.8 | 0.8 | 0.5 | 0.9 | 0.0 | 0.1 | 0.3 | 1.2 | 0.0 | 0.0 |
| Clinton | 0.4 | 0.3 | 0.1 | 0.1 | 2.4 | 2.3 | 1.0 | 1.7 | 0.0 | 0.1 | 0.4 | 1.1 | 0.0 | 0.0 |
| Columbia | 0.4 | 0.4 | 0.2 | 0.2 | 1.0 | 1.1 | 1.1 | 1.7 | 0.0 | 0.1 | 0.3 | 0.8 | 0.0 | 0.0 |
| Cortland | 1.1 | 1.0 | 0.1 | 0.1 | 0.6 | 0.6 | 0.2 | 0.4 | 0.0 | 0.0 | 0.2 | 0.6 | 0.0 | 0.0 |
| Delaware | 0.3 | 0.3 | 0.2 | 0.2 | 0.7 | 0.6 | 0.7 | 1.1 | 0.0 | 0.1 | 0.5 | 1.5 | 0.0 | 0.0 |
| Dutchess | 3.6 | 3.0 | 0.4 | 0.3 | 3.9 | 3.4 | 4.2 | 6.6 | 0.1 | 0.4 | 0.4 | 0.9 | 0.2 | 0.0 |
| Erie | 43.0 | 37.3 | 0.6 | 0.5 | 5.9 | 5.6 | 0.5 | 0.8 | 0.0 | 0.1 | 0.3 | 1.7 | 0.0 | 0.0 |
| Essex | 0.1 | 0.1 | 0.2 | 0.1 | 0.7 | 0.8 | 0.6 | 1.0 | 0.0 | 0.1 | 0.3 | 1.0 | 0.1 | 0.0 |
| Franklin | 0.1 | 0.2 | 0.2 | 0.1 | 0.7 | 0.7 | 0.8 | 1.3 | 0.0 | 0.1 | 0.4 | 1.0 | 0.0 | 0.0 |
| Fulton | 1.2 | 1.0 | 0.2 | 0.1 | 0.5 | 0.4 | 0.5 | 0.9 | 0.0 | 0.1 | 0.3 | 0.8 | 0.0 | 0.0 |
| Genesee | 1.9 | 1.6 | 0.3 | 0.2 | 0.6 | 0.6 | 0.2 | 0.4 | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.0 |
| Greene | 0.2 | 0.1 | 0.2 | 0.1 | 0.7 | 0.6 | 0.8 | 1.4 | 0.0 | 0.1 | 0.2 | 0.6 | 0.0 | 0.0 |
| Hamilton | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Herkimer | 1.6 | 1.3 | 0.2 | 0.1 | 0.8 | 0.8 | 0.5 | 0.9 | 0.0 | 0.1 | 0.3 | 1.0 | 0.1 | 0.0 |
| Jefferson | 2.4 | 2.0 | 0.4 | 0.3 | 2.0 | 1.8 | 0.6 | 1.1 | 0.0 | 0.1 | 0.4 | 1.2 | 0.0 | 0.0 |
| Kings | 61.8 | 49.3 | 1.0 | 0.8 | 10.9 | 8.0 | 6.3 | 14.3 | 0.1 | 0.9 | 0.0 | 0.2 | 0.4 | 0.1 |
| Lewis | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.6 | 0.0 | 0.0 | 0.4 | 1.4 | 0.0 | 0.0 |
| Livingston | 1.5 | 1.4 | 0.3 | 0.3 | 1.0 | 0.9 | 0.2 | 0.4 | 0.0 | 0.0 | 0.2 | 0.9 | 0.0 | 0.0 |
| Madison | 1.5 | 1.3 | 0.3 | 0.2 | 0.9 | 0.8 | 0.5 | 0.9 | 0.0 | 0.1 | 0.3 | 0.9 | 0.0 | 0.0 |
| Monroe | 31.4 | 27.7 | 0.4 | 0.4 | 11.7 | 9.2 | 0.6 | 1.2 | 0.0 | 0.1 | 0.2 | 0.9 | 0.1 | 0.0 |
| Montgomery | 1.1 | 1.1 | 0.1 | 0.1 | 0.5 | 0.4 | 0.4 | 0.7 | 0.0 | 0.0 | 0.2 | 0.5 | 0.0 | 0.0 |
| Nassau | 32.9 | 25.6 | 0.5 | 0.3 | 6.9 | 6.3 | 14.2 | 24.5 | 0.3 | 1.6 | 0.1 | 0.3 | 0.2 | 0.0 |
| New York | 23.1 | 16.6 | 0.6 | 0.5 | 26.7 | 21.0 | 11.4 | 21.6 | 0.2 | 1.4 | 0.0 | 0.0 | 0.3 | 0.1 |
| Niagara | 9.2 | 8.0 | 0.4 | 0.3 | 2.0 | 1.7 | 0.4 | 0.8 | 0.0 | 0.0 | 0.2 | 0.7 | 0.0 | 0.0 |
| Oneida | 6.9 | 6.2 | 0.4 | 0.3 | 2.6 | 2.5 | 1.2 | 2.1 | 0.0 | 0.1 | 0.5 | 1.3 | 0.1 | 0.0 |
| Onondaga | 17.7 | 15.9 | 0.5 | 0.4 | 8.0 | 6.6 | 0.6 | 1.2 | 0.0 | 0.1 | 0.3 | 1.0 | 0.1 | 0.0 |
| Ontario | 3.5 | 3.0 | 0.5 | 0.4 | 1.8 | 1.3 | 0.3 | 0.6 | 0.0 | 0.0 | 0.3 | 0.9 | 0.0 | 0.0 |
| Orange | 8.0 | 6.8 | 0.6 | 0.4 | 3.3 | 3.1 | 3.1 | 5.1 | 0.1 | 0.3 | 0.3 | 0.8 | 0.2 | 0.0 |
| Orleans | 0.9 | 0.8 | 0.3 | 0.2 | 0.5 | 0.5 | 0.2 | 0.4 | 0.0 | 0.0 | 0.2 | 0.6 | 0.0 | 0.0 |
| Oswego | 2.5 | 2.3 | 0.7 | 0.6 | 1.2 | 1.2 | 0.5 | 0.9 | 0.0 | 0.1 | 0.6 | 1.9 | 0.0 | 0.0 |
| Otsego | 0.6 | 0.4 | 0.3 | 0.3 | 0.6 | 0.7 | 0.7 | 1.3 | 0.0 | 0.1 | 0.4 | 1.4 | 0.0 | 0.0 |
| Putnam | 0.3 | 0.3 | 0.1 | 0.1 | 2.0 | 2.0 | 1.8 | 2.8 | 0.0 | 0.2 | 0.1 | 0.3 | 0.0 | 0.0 |
| Queens | 54.9 | 43.8 | 1.0 | 0.7 | 9.5 | 8.6 | 8.4 | 17.3 | 0.2 | 1.1 | 0.1 | 0.2 | 0.2 | 0.0 |
| Rensselaer | 3.7 | 3.3 | 0.4 | 0.3 | 2.2 | 1.9 | 1.2 | 2.0 | 0.0 | 0.1 | 0.4 | 1.2 | 0.1 | 0.0 |
| Richmond | 17.2 | 14.8 | 0.2 | 0.1 | 1.5 | 1.2 | 0.8 | 1.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rockland | 10.9 | 9.9 | 0.1 | 0.1 | 2.2 | 1.7 | 0.3 | 0.4 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| St. Lawrence | 2.0 | 1.6 | 0.3 | 0.2 | 1.4 | 1.2 | 0.9 | 1.7 | 0.0 | 0.1 | 0.7 | 2.5 | 0.1 | 0.0 |
| Saratoga | 6.7 | 5.5 | 0.8 | 0.6 | 3.0 | 2.6 | 1.1 | 1.9 | 0.0 | 0.1 | 0.4 | 1.5 | 0.1 | 0.0 |
| Schenectady | 5.3 | 4.8 | 0.1 | 0.1 | 1.9 | 1.6 | 0.4 | 0.8 | 0.0 | 0.0 | 0.1 | 0.3 | 0.1 | 0.0 |
| Schoharie | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 0.5 | 0.5 | 0.8 | 0.0 | 0.1 | 0.3 | 0.9 | 0.0 | 0.0 |
| Schuyler | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 | 0.0 |
| Seneca | 0.8 | 0.7 | 0.2 | 0.2 | 0.4 | 0.4 | 0.2 | 0.3 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Steuben | 2.9 | 2.6 | 0.4 | 0.4 | 1.2 | 1.0 | 0.2 | 0.5 | 0.0 | 0.0 | 0.5 | 1.8 | 0.0 | 0.0 |
| Suffolk | 26.2 | 21.3 | 1.0 | 0.7 | 9.7 | 9.6 | 22.1 | 34.2 | 0.5 | 2.2 | 0.5 | 1.1 | 0.3 | 0.0 |
| Sullivan | 0.1 | 0.1 | 0.3 | 0.4 | 1.2 | 1.1 | 1.3 | 2.0 | 0.0 | 0.1 | 0.4 | 1.1 | 0.0 | 0.0 |
| Tioga | 0.8 | 0.7 | 0.2 | 0.2 | 0.6 | 0.5 | 0.5 | 0.9 | 0.0 | 0.1 | 0.2 | 0.8 | 0.0 | 0.0 |
| Tompkins | 2.4 | 2.1 | 0.3 | 0.3 | 1.6 | 1.7 | 0.3 | 0.5 | 0.0 | 0.0 | 0.2 | 0.8 | 0.1 | 0.0 |
| Ulster | 1.8 | 1.5 | 0.6 | 0.4 | 2.4 | 2.0 | 2.7 | 4.7 | 0.1 | 0.3 | 0.5 | 1.5 | 0.2 | 0.0 |
| Warren | 1.7 | 1.5 | 0.3 | 0.2 | 0.8 | 0.9 | 0.5 | 0.9 | 0.0 | 0.1 | 0.2 | 0.7 | 0.0 | 0.0 |
| Washington | 0.7 | 0.7 | 0.2 | 0.2 | 0.7 | 0.7 | 0.8 | 1.3 | 0.0 | 0.1 | 0.5 | 1.4 | 0.1 | 0.0 |
| Wayne | 2.6 | 2.3 | 0.4 | 0.3 | 1.3 | 1.3 | 0.4 | 0.7 | 0.0 | 0.0 | 0.3 | 1.1 | 0.0 | 0.0 |
| Westchester | 18.3 | 15.4 | 0.5 | 0.4 | 8.5 | 6.7 | 9.5 | 15.7 | 0.2 | 1.0 | 0.1 | 0.4 | 0.1 | 0.0 |
| Wyoming | 1.0 | 0.9 | 0.2 | 0.1 | 0.7 | 0.6 | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | 0.8 | 0.0 | 0.0 |
| Yates | 0.4 | 0.3 | 0.2 | 0.2 | 0.4 | 0.4 | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | 0.5 | 0.0 | 0.0 |
| ***New York State*** | **467.0** | **388.8** | **21.2** | **16.5** | **174.1** | **150.9** | **121.9** | **212.4** | **2.6** | **13.6** | **16.9** | **55.1** | **4.3** | **0.5** |

# 2013 Estimated Electricity and Natural Gas Usage by Sector by County

**Table C-4**

| County | Population | Residential Electricity (MWh) | Residential Natural Gas (Mcf) | Commercial Electricity (MWh) | Commercial Natural Gas (Mcf) | Industrial Electricity (MWh) | Industrial Natural Gas (Mcf) |
|---|---|---|---|---|---|---|---|
| Albany | 303,957 | 899,724 | 8,812,027 | 1,212,363 | 5,343,312 | 325,990 | 1,509,430 |
| Allegany | 48,988 | 119,906 | 1,110,517 | 103,018 | 466,755 | 168,665 | 1,012,122 |
| Broome | 200,448 | 702,325 | 5,070,251 | 524,802 | 2,261,735 | 242,504 | 876,329 |
| Cattaraugus | 82,379 | 292,796 | 1,898,015 | 198,998 | 892,640 | 193,703 | 949,846 |
| Cayuga | 94,459 | 267,422 | 1,891,759 | 259,987 | 1,049,641 | 231,492 | 723,977 |
| Chautauqua | 134,981 | 445,432 | 2,885,493 | 351,615 | 1,533,307 | 441,733 | 2,175,581 |
| Chemung | 88,730 | 371,103 | 2,302,824 | 227,720 | 982,692 | 180,695 | 780,553 |
| Chenango | 50,787 | 144,179 | 1,120,179 | 112,450 | 345,162 | 311,824 | 2,434,948 |
| Clinton | 82,264 | 349,284 | 2,088,621 | 241,570 | 905,537 | 171,534 | 736,733 |
| Columbia | 58,893 | 159,328 | 932,486 | 186,600 | 538,459 | 84,910 | 170,478 |
| Cortland | 49,442 | 138,939 | 988,005 | 129,525 | 552,036 | 145,598 | 736,768 |
| Delaware | 72,425 | 222,448 | 1,004,958 | 139,829 | 182,981 | 140,212 | 50,396 |
| Dutchess | 296,227 | 870,861 | 5,733,768 | 974,544 | 4,226,488 | 256,723 | 343,437 |
| Erie | 974,548 | 3,179,040 | 15,762,018 | 2,849,342 | 12,460,458 | 1,565,573 | 7,362,180 |
| Essex | 39,356 | 133,655 | 0 | 176,526 | 0 | 105,604 | 0 |
| Franklin | 51,712 | 136,455 | 0 | 141,293 | 92,686 | 39,875 | 22,664 |
| Fulton | 55,456 | 170,166 | 1,250,004 | 151,168 | 540,914 | 73,467 | 336,524 |
| Genesee | 67,694 | 173,954 | 1,480,967 | 177,781 | 764,426 | 152,681 | 731,520 |
| Greene | 49,298 | 127,376 | 913,754 | 157,573 | 637,235 | 55,498 | 196,685 |
| Hamilton | 4,868 | 14,059 | 0 | 29,942 | 0 | 781 | 0 |
| Herkimer | 64,353 | 198,644 | 1,568,080 | 144,049 | 515,571 | 95,929 | 493,684 |
| Jefferson | 115,921 | 421,272 | 3,236,403 | 321,774 | 1,130,744 | 119,265 | 558,327 |
| Lewis | 27,037 | 79,239 | 842,499 | 58,690 | 231,936 | 43,685 | 359,536 |
| Livingston | 65,387 | 155,765 | 1,408,882 | 158,962 | 689,906 | 84,877 | 322,491 |
| Madison | 73,143 | 197,418 | 1,637,776 | 166,665 | 740,972 | 186,830 | 489,940 |
| Monroe | 739,895 | 2,925,228 | 19,326,436 | 1,665,876 | 7,188,403 | 942,745 | 4,194,838 |
| Montgomery | 49,985 | 149,578 | 1,524,140 | 138,721 | 611,784 | 174,057 | 662,801 |
| Nassau | 1,337,612 | 3,723,190 | 22,103,409 | 6,887,684 | 27,797,181 | 638,943 | 1,974,577 |
| New York | 8,115,643 | 18,200,343 | 180,069,690 | 35,045,797 | 138,667,341 | 1,832,760 | 7,491,743 |
| Niagara | 214,982 | 639,428 | 4,333,950 | 557,021 | 2,486,689 | 325,497 | 1,560,626 |
| Oneida | 234,563 | 780,739 | 5,921,469 | 629,494 | 2,631,945 | 462,500 | 1,322,211 |
| Onondaga | 464,921 | 1,965,294 | 11,677,430 | 1,534,568 | 6,615,547 | 752,533 | 3,076,566 |
| Ontario | 120,269 | 302,882 | 2,390,662 | 349,679 | 1,460,829 | 305,441 | 1,224,768 |
| Orange | 350,882 | 934,707 | 6,979,308 | 1,226,002 | 5,125,054 | 423,746 | 1,711,165 |
| Orleans | 44,986 | 117,160 | 984,934 | 85,760 | 365,060 | 71,428 | 290,678 |
| Oswego | 120,230 | 337,855 | 3,022,608 | 224,642 | 986,307 | 277,829 | 3,179,724 |
| Otsego | 62,379 | 178,999 | 1,079,086 | 195,240 | 542,120 | 49,181 | 62,068 |
| Putnam | 99,662 | 255,120 | 2,653,377 | 355,482 | 1,434,836 | 96,183 | 145,968 |
| Rensselaer | 159,053 | 502,918 | 4,750,295 | 375,487 | 1,613,121 | 127,085 | 658,925 |
| Rockland | 308,682 | 719,114 | 6,587,729 | 1,353,281 | 5,663,545 | 418,161 | 3,357,267 |
| Saratoga | 218,520 | 686,960 | 5,305,878 | 657,684 | 2,811,857 | 390,586 | 1,846,428 |
| Schenectady | 153,935 | 469,386 | 4,043,728 | 391,519 | 1,718,193 | 113,108 | 448,148 |
| Schoharie | 32,765 | 88,412 | 472,727 | 98,897 | 350,766 | 25,805 | 375,957 |
| Schuyler | 17,998 | 58,964 | 369,333 | 49,006 | 191,629 | 49,107 | 161,395 |
| Seneca | 35,306 | 97,041 | 723,394 | 94,581 | 362,147 | 59,842 | 198,311 |
| St. Lawrence | 111,810 | 425,429 | 1,941,137 | 241,982 | 963,689 | 290,585 | 849,695 |
| Steuben | 99,891 | 294,620 | 1,982,296 | 232,226 | 1,003,524 | 261,439 | 1,946,227 |
| Suffolk | 1,491,087 | 2,423,344 | 30,016,703 | 6,464,432 | 26,418,091 | 2,188,249 | 8,601,717 |
| Sullivan | 77,553 | 202,815 | 0 | 252,156 | 113,610 | 42,515 | 89,112 |
| Tioga | 51,288 | 153,714 | 1,034,030 | 98,326 | 349,530 | 51,692 | 102,198 |
| Tompkins | 101,033 | 391,916 | 2,835,759 | 307,907 | 1,454,917 | 107,065 | 389,608 |
| Ulster | 177,029 | 561,106 | 3,361,492 | 1,248,053 | 5,331,865 | 602,493 | 2,321,436 |
| Warren | 62,372 | 198,943 | 1,431,629 | 317,322 | 1,170,054 | 155,333 | 1,761,111 |
| Washington | 63,174 | 188,449 | 1,043,047 | 127,585 | 415,954 | 123,580 | 637,307 |
| Wayne | 93,628 | 250,717 | 2,404,202 | 211,718 | 925,988 | 214,822 | 873,578 |
| Westchester | 942,978 | 2,411,722 | 20,435,469 | 4,405,645 | 18,827,211 | 614,369 | 1,325,302 |
| Wyoming | 34,495 | 104,710 | 892,853 | 86,642 | 378,082 | 143,974 | 445,671 |
| Yates | 25,343 | 67,316 | 560,051 | 65,583 | 295,997 | 46,718 | 173,532 |
| **New York State** | **19,366,702** | **50,778,909** | **416,197,537** | **75,172,778** | **303,358,459** | **17,799,019** | **76,834,807** |

# Appendix D-1

## Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2011–2015, Five-Year Estimates

**Table D-1. (in housing units)**

| County | Total Occupied Units | Utility Gas | Bottled Tank or LP Gas | Electricity | Fuel Oil or Kerosene | Coal or Coke | Wood | Solar Energy | Other | No Fuel Used |
|---|---|---|---|---|---|---|---|---|---|---|
| **New York State** | 7,262,279 | 4,122,437 | 251,521 | 769,345 | 1,819,152 | 18,278 | 147,079 | 2,615 | 73,760 | 58,092 |
| **New York City** | 3,113,535 | 1,878,794 | 52,262 | 323,528 | 766,585 | 2,069 | 1,659 | 947 | 41,781 | 45,910 |
| Bronx | 484,902 | 181,096 | 6,539 | 41,714 | 242,202 | 355 | 229 | 169 | 5,180 | 7,418 |
| Kings | 931,786 | 706,797 | 16,439 | 61,954 | 123,594 | 346 | 520 | 327 | 9,016 | 12,793 |
| New York | 750,419 | 288,747 | 11,830 | 165,680 | 243,291 | 822 | 101 | 274 | 21,082 | 18,592 |
| Queens | 780,644 | 557,263 | 15,408 | 47,922 | 146,324 | 437 | 678 | 166 | 6,099 | 6,347 |
| Richmond | 165,784 | 144,891 | 2,046 | 6,258 | 11,174 | 109 | 131 | 11 | 404 | 760 |
| **Rest of State** | 4,148,744 | 2,243,643 | 199,259 | 445,817 | 1,052,567 | 16,209 | 145,420 | 1,668 | 31,979 | 12,182 |
| Albany | 123,451 | 85,457 | 2,759 | 19,894 | 11,975 | 45 | 2,099 | 59 | 729 | 434 |
| Alleghany | 18,285 | 10,026 | 1,902 | 1,632 | 1,149 | 608 | 2,652 | 0 | 266 | 50 |
| Broome | 79,132 | 50,192 | 5,503 | 9,771 | 9,211 | 471 | 2,822 | 20 | 856 | 286 |
| Cattaraugus | 31,635 | 16,469 | 3,809 | 4,088 | 2,497 | 415 | 3,690 | 5 | 589 | 73 |
| Cayuga | 30,972 | 15,416 | 3,964 | 3,301 | 4,692 | 486 | 2,485 | 3 | 500 | 125 |
| Chautauqua | 53,546 | 36,768 | 4,030 | 7,225 | 1,294 | 135 | 3,133 | 32 | 811 | 118 |
| Chemung | 35,167 | 25,725 | 1,463 | 3,328 | 2,242 | 374 | 1,586 | 17 | 336 | 96 |
| Chenango | 19,641 | 2,956 | 2,875 | 3,156 | 6,686 | 511 | 3,017 | 0 | 408 | 32 |
| Clinton | 31,898 | 3,479 | 1,367 | 9,351 | 13,755 | 119 | 3,467 | 0 | 253 | 107 |
| Columbia | 25,235 | 3,217 | 2,415 | 3,647 | 13,289 | 37 | 2,123 | 20 | 444 | 43 |
| Cortland | 17,935 | 8,867 | 1,340 | 2,505 | 2,904 | 520 | 1,439 | 14 | 261 | 85 |
| Deleware | 19,262 | 2,218 | 2,160 | 2,438 | 8,114 | 178 | 3,817 | 1 | 323 | 13 |
| Dutchess | 106,771 | 27,657 | 4,845 | 14,793 | 54,472 | 143 | 3,476 | 133 | 945 | 307 |
| Erie | 382,846 | 340,669 | 6,715 | 23,333 | 6,239 | 224 | 3,119 | 25 | 1,446 | 1,076 |
| Essex | 15,268 | 666 | 1,717 | 2,329 | 7,645 | 107 | 2,548 | 60 | 173 | 23 |
| Franklin | 19,148 | 993 | 1,627 | 2,591 | 10,240 | 124 | 3,309 | 0 | 219 | 45 |
| Fulton | 22,281 | 9,119 | 1,872 | 1,888 | 6,457 | 81 | 2,229 | 24 | 582 | 29 |
| Genesee | 23,938 | 13,695 | 2,834 | 2,266 | 3,086 | 227 | 1,254 | 2 | 479 | 95 |
| Greene | 17,634 | 1,373 | 1,906 | 2,362 | 9,619 | 28 | 2,048 | 17 | 281 | 0 |
| Hamilton | 1,376 | 37 | 376 | 79 | 495 | 3 | 343 | 0 | 43 | 0 |
| Herkimer | 26,130 | 11,648 | 1,893 | 2,839 | 6,493 | 255 | 2,420 | 64 | 400 | 118 |
| Jefferson | 44,306 | 18,850 | 5,201 | 7,936 | 7,811 | 41 | 3,872 | 6 | 428 | 161 |
| Lewis | 10,539 | 1,454 | 1,451 | 874 | 3,584 | 57 | 2,928 | 0 | 174 | 17 |
| Livingston | 24,226 | 11,499 | 3,675 | 3,573 | 2,752 | 270 | 1,953 | 0 | 472 | 32 |
| Madison | 26,288 | 11,141 | 2,930 | 3,297 | 5,906 | 419 | 2,282 | 0 | 253 | 60 |
| Monroe | 299,764 | 238,529 | 4,507 | 43,854 | 7,469 | 153 | 2,032 | 42 | 1,856 | 1,322 |
| Montgomery | 19,539 | 9,006 | 1,066 | 1,826 | 5,345 | 258 | 1,482 | 2 | 527 | 27 |
| Nassau | 440,640 | 234,805 | 4,871 | 24,273 | 173,325 | 113 | 903 | 112 | 1,368 | 870 |
| Niagara | 87,807 | 68,259 | 4,510 | 7,266 | 5,556 | 82 | 1,542 | 15 | 393 | 184 |
| Oneida | 90,844 | 54,015 | 4,417 | 10,062 | 16,060 | 300 | 4,676 | 59 | 937 | 318 |
| Onondaga | 184,641 | 135,106 | 5,102 | 30,460 | 7,978 | 894 | 2,419 | 58 | 1,760 | 864 |
| Ontario | 44,252 | 25,821 | 5,087 | 6,549 | 3,431 | 501 | 2,196 | 3 | 508 | 156 |
| Orange | 125,270 | 61,034 | 6,244 | 12,462 | 40,918 | 382 | 2,884 | 91 | 732 | 523 |
| Orleans | 16,016 | 6,782 | 2,860 | 1,782 | 2,713 | 68 | 1,381 | 8 | 327 | 95 |
| Oswego | 45,300 | 19,328 | 7,753 | 4,546 | 6,927 | 369 | 5,275 | 0 | 785 | 317 |
| Ostego | 23,636 | 4,179 | 3,479 | 2,353 | 9,347 | 143 | 3,713 | 0 | 374 | 48 |
| Putnam | 34,090 | 2,241 | 1,347 | 6,914 | 21,955 | 35 | 1,123 | 0 | 438 | 37 |
| Rensselaer | 63,447 | 29,631 | 4,241 | 8,749 | 16,088 | 52 | 3,600 | 62 | 851 | 173 |
| Rockland | 98,806 | 85,000 | 949 | 8,469 | 3,453 | 17 | 298 | 10 | 337 | 273 |
| St. Lawrence | 41,449 | 14,407 | 3,303 | 4,973 | 11,968 | 77 | 6,016 | 41 | 566 | 98 |
| Saratoga | 89,921 | 50,858 | 8,702 | 11,206 | 14,319 | 113 | 3,816 | 53 | 703 | 151 |
| Schenectady | 56,760 | 41,584 | 1,424 | 7,276 | 5,063 | 50 | 939 | 66 | 238 | 120 |
| Schoharie | 12,409 | 586 | 1,585 | 1,710 | 5,713 | 118 | 2,297 | 7 | 320 | 73 |
| Schuyler | 7,686 | 1,484 | 1,818 | 870 | 1,625 | 601 | 1,087 | 11 | 133 | 57 |
| Seneca | 13,561 | 5,754 | 2,536 | 1,570 | 2,244 | 513 | 692 | 0 | 202 | 50 |
| Steuben | 41,058 | 21,675 | 4,829 | 4,667 | 3,162 | 1,817 | 4,224 | 22 | 538 | 124 |
| Suffolk | 493,849 | 180,960 | 10,445 | 33,330 | 262,244 | 459 | 3,854 | 169 | 1,475 | 913 |
| Sullivan | 28,404 | 859 | 3,500 | 4,396 | 16,222 | 131 | 3,021 | 14 | 199 | 62 |
| Tioga | 19,872 | 5,990 | 2,460 | 2,105 | 6,092 | 848 | 2,054 | 0 | 269 | 54 |
| Tompkins | 38,460 | 19,993 | 4,167 | 6,732 | 4,131 | 486 | 2,288 | 37 | 502 | 124 |
| Ulster | 69,474 | 13,322 | 6,995 | 8,730 | 34,606 | 119 | 4,709 | 120 | 623 | 250 |
| Warren | 26,788 | 12,357 | 3,076 | 3,033 | 5,993 | 84 | 1,892 | 11 | 233 | 109 |
| Washington | 24,237 | 5,007 | 2,464 | 2,643 | 9,575 | 200 | 4,013 | 73 | 215 | 47 |
| Wayne | 36,476 | 19,107 | 4,328 | 4,704 | 4,984 | 317 | 2,715 | 5 | 263 | 53 |
| Westchester | 341,866 | 156,327 | 5,986 | 36,096 | 138,600 | 383 | 1,142 | 68 | 2,027 | 1,237 |
| Wyoming | 15,787 | 7,399 | 2,232 | 2,328 | 1,520 | 186 | 1,668 | 0 | 443 | 11 |
| Yates | 9,725 | 2,647 | 2,347 | 1,387 | 1,334 | 462 | 1,358 | 7 | 166 | 17 |

# Appendix D-2

## Occupied Housing Units by Type of Space Heating Fuel by County in New York State, 2015, One-Year Estimates[1]

**Table D-2. (in housing units)**

| County | Total Occupied Units | Utility Gas | Bottled Tank or LP Gas | Electricity | Fuel Oil or Kerosene | Coal or Coke | Wood | Solar Energy | Other | No Fuel Used |
|---|---|---|---|---|---|---|---|---|---|---|
| **New York State** | 7,233,694 | 4,202,413 | 265,224 | 808,370 | 1,649,860 | 18,107 | 141,016 | 3,120 | 78,999 | 66,585 |
| **New York City** | 3,129,147 | 1,954,144 | 56,745 | 355,107 | 661,817 | 2,459 | 1,810 | 512 | 43,665 | 52,888 |
| Bronx | 495,513 | 192,189 | 7,991 | 44,787 | 233,634 | 805 | 169 | 58 | 5,889 | 9,991 |
| Kings | 940,176 | 725,779 | 16,452 | 67,069 | 102,981 | 347 | 515 | 269 | 10,241 | 16,523 |
| New York | 751,244 | 296,954 | 13,886 | 186,431 | 213,677 | 720 | 78 | 163 | 20,853 | 18,482 |
| Queens | 774,752 | 591,834 | 16,160 | 49,325 | 102,834 | 475 | 1,048 | 0 | 5,980 | 7,096 |
| Richmond | 167,462 | 147,388 | 2,256 | 7,495 | 8,691 | 112 | 0 | 22 | 702 | 796 |
| **Rest of State** | 4,104,547 | 2,248,269 | 208,479 | 453,263 | 988,043 | 15,648 | 139,206 | 2,608 | 35,334 | 13,697 |
| Albany | 123,862 | 86,780 | 2,968 | 20,498 | 10,043 | 44 | 1,727 | 210 | 914 | 678 |
| Broome | 78,398 | 46,129 | 5,766 | 11,544 | 9,929 | 265 | 3,359 | 0 | 1,173 | 233 |
| Cattaraugus | 31,174 | 15,779 | 4,227 | 4,427 | 2,179 | 399 | 3,531 | 14 | 586 | 32 |
| Cayuga | 31,368 | 15,127 | 3,987 | 3,739 | 4,731 | 603 | 2,276 | 0 | 631 | 274 |
| Chautauqua | 51,579 | 35,524 | 3,572 | 7,289 | 1,317 | 164 | 2,553 | 44 | 1,009 | 107 |
| Chemung | 34,546 | 25,151 | 1,379 | 3,890 | 1,787 | 264 | 1,650 | 82 | 320 | 23 |
| Clinton | 31,249 | 4,096 | 1,718 | 8,917 | 13,121 | 38 | 3,144 | 0 | 125 | 90 |
| Dutchess | 106,319 | 28,571 | 6,744 | 14,445 | 51,484 | 0 | 3,277 | 104 | 1,133 | 561 |
| Erie | 383,099 | 337,755 | 8,203 | 26,027 | 5,591 | 108 | 2,910 | 41 | 1,202 | 1,262 |
| Jefferson | 43,145 | 18,608 | 5,716 | 8,269 | 6,388 | 58 | 3,569 | 0 | 408 | 129 |
| Livingston | 24,189 | 11,599 | 3,256 | 3,831 | 2,583 | 140 | 2,118 | 0 | 601 | 61 |
| Madison | 26,305 | 11,537 | 3,932 | 2,738 | 5,134 | 484 | 2,197 | 0 | 171 | 112 |
| Monroe | 298,151 | 239,221 | 4,548 | 41,731 | 7,257 | 68 | 1,770 | 0 | 1,906 | 1,650 |
| Nassau | 436,567 | 244,563 | 5,939 | 20,915 | 161,832 | 41 | 509 | 232 | 1,353 | 1,183 |
| Niagara | 84,893 | 65,888 | 3,665 | 7,950 | 5,104 | 159 | 1,563 | 0 | 425 | 139 |
| Oneida | 90,396 | 53,270 | 4,723 | 9,942 | 15,542 | 338 | 4,393 | 43 | 1,730 | 415 |
| Onondaga | 182,581 | 130,429 | 4,832 | 34,054 | 7,879 | 493 | 1,851 | 112 | 1,797 | 1,134 |
| Ontario | 43,692 | 27,190 | 4,570 | 5,946 | 2,648 | 441 | 2,148 | 0 | 381 | 368 |
| Orange | 125,470 | 65,715 | 5,672 | 12,051 | 38,412 | 262 | 1,955 | 140 | 901 | 362 |
| Oswego | 45,115 | 19,242 | 7,608 | 4,648 | 6,044 | 379 | 6,348 | 0 | 780 | 66 |
| Putnam | 34,181 | 2,689 | 1,352 | 6,706 | 21,741 | 0 | 1,047 | 0 | 646 | 0 |
| Rensselaer | 62,585 | 31,488 | 3,683 | 8,359 | 14,520 | 79 | 3,172 | 101 | 994 | 189 |
| Rockland | 99,875 | 85,026 | 1,026 | 9,174 | 3,495 | 0 | 127 | 52 | 556 | 419 |
| St. Lawrence | 42,771 | 15,503 | 3,599 | 5,430 | 11,631 | 90 | 6,215 | 0 | 303 | 0 |
| Saratoga | 90,999 | 51,005 | 10,857 | 11,290 | 12,753 | 54 | 3,779 | 107 | 930 | 224 |
| Schenectady | 52,514 | 38,534 | 1,099 | 6,576 | 4,387 | 0 | 1,245 | 200 | 182 | 291 |
| Steuben | 39,517 | 20,134 | 5,990 | 4,813 | 2,632 | 1,930 | 3,478 | 0 | 475 | 65 |
| Suffolk | 481,796 | 183,903 | 10,529 | 34,699 | 246,349 | 399 | 3,212 | 389 | 1,405 | 911 |
| Sullivan | 28,394 | 1,038 | 3,126 | 4,881 | 16,558 | 101 | 2,508 | 16 | 119 | 47 |
| Tompkins | 38,112 | 19,939 | 4,467 | 6,499 | 4,056 | 415 | 1,881 | 110 | 650 | 95 |
| Ulster | 69,594 | 14,054 | 6,008 | 7,636 | 35,358 | 143 | 5,244 | 114 | 930 | 107 |
| Warren | 24,222 | 11,794 | 2,734 | 2,641 | 5,022 | 70 | 1,468 | 0 | 438 | 55 |
| Wayne | 35,841 | 18,510 | 4,182 | 5,848 | 4,033 | 195 | 2,620 | 0 | 404 | 49 |
| Westchester | 338,319 | 158,981 | 6,528 | 38,469 | 128,595 | 350 | 1,119 | 0 | 2,553 | 1,724 |

[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, 2005–2015

**Table D-3**

| County | July 2005 | July 2006 | July 2007 | July 2008 | July 2009 | July 2010 | July 2011 | July 2012 | July 2013 | July 2014 | July 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **New York State** | 19,132,610 | 19,104,631 | 19,132,335 | 19,212,436 | 19,307,066 | 19,402,640 | 19,519,529 | 19,602,769 | 19,673,546 | 19,718,515 | 19,747,183 |
| Albany | 302,791 | 303,997 | 303,858 | 303,739 | 304,733 | 304,078 | 305,019 | 306,384 | 307,496 | 308,295 | 308,432 |
| Alleghany | 49,768 | 49,359 | 49,079 | 49,177 | 48,969 | 48,949 | 48,818 | 48,247 | 48,005 | 47,765 | 47,407 |
| Bronx | 1,351,736 | 1,348,164 | 1,354,056 | 1,363,488 | 1,376,261 | 1,388,240 | 1,399,990 | 1,414,774 | 1,426,550 | 1,437,687 | 1,449,196 |
| Broome | 200,477 | 200,905 | 200,877 | 201,029 | 200,935 | 200,469 | 199,459 | 198,916 | 198,370 | 197,669 | 196,618 |
| Cattaraugus | 82,039 | 81,342 | 81,056 | 80,761 | 80,491 | 80,249 | 79,839 | 79,365 | 78,958 | 78,621 | 77,909 |
| Cayuga | 81,104 | 80,892 | 80,629 | 80,482 | 80,172 | 79,844 | 79,811 | 79,637 | 79,242 | 78,857 | 78,316 |
| Chautauqua | 136,139 | 135,640 | 135,481 | 135,229 | 135,197 | 134,760 | 134,266 | 133,438 | 133,005 | 131,980 | 130,811 |
| Chemung | 88,860 | 88,732 | 88,634 | 88,503 | 88,849 | 88,972 | 88,988 | 89,264 | 88,498 | 87,506 | 87,120 |
| Chenango | 51,154 | 51,391 | 51,463 | 51,326 | 50,639 | 50,371 | 50,254 | 49,919 | 49,522 | 49,432 | 48,979 |
| Clinton | 82,233 | 82,547 | 82,556 | 82,401 | 82,280 | 82,068 | 81,852 | 81,869 | 81,749 | 81,682 | 81,154 |
| Columbia | 63,717 | 63,427 | 63,430 | 63,253 | 63,023 | 63,017 | 62,626 | 62,539 | 62,269 | 62,013 | 61,491 |
| Cortland | 49,330 | 49,449 | 49,624 | 49,537 | 49,358 | 49,245 | 49,497 | 49,154 | 49,038 | 48,875 | 48,429 |
| Deleware | 48,377 | 48,271 | 48,450 | 48,363 | 48,182 | 47,877 | 47,654 | 47,330 | 46,874 | 46,600 | 46,074 |
| Dutchess | 294,362 | 294,712 | 295,319 | 296,267 | 296,887 | 297,757 | 298,289 | 297,213 | 296,708 | 295,903 | 295,228 |
| Erie | 931,745 | 925,564 | 921,887 | 920,571 | 919,334 | 919,220 | 920,088 | 920,792 | 922,150 | 923,702 | 922,957 |
| Essex | 39,321 | 39,490 | 39,373 | 39,435 | 39,478 | 39,288 | 39,479 | 39,114 | 38,832 | 38,572 | 38,371 |
| Franklin | 51,257 | 51,511 | 51,782 | 51,907 | 51,706 | 51,624 | 51,568 | 51,788 | 51,242 | 51,092 | 50,502 |
| Fulton | 55,301 | 55,328 | 55,489 | 55,584 | 55,558 | 55,468 | 55,264 | 55,033 | 54,521 | 54,145 | 53,960 |
| Genesee | 60,068 | 59,919 | 59,930 | 59,895 | 59,932 | 59,939 | 59,923 | 59,762 | 59,262 | 58,949 | 58,810 |
| Greene | 49,142 | 49,513 | 49,537 | 49,467 | 49,372 | 49,118 | 48,992 | 48,711 | 48,416 | 48,015 | 47,695 |
| Hamilton | 5,093 | 4,987 | 4,969 | 4,893 | 4,858 | 4,834 | 4,834 | 4,797 | 4,760 | 4,689 | 4,698 |
| Herkimer | 64,292 | 64,029 | 64,343 | 64,404 | 64,381 | 64,426 | 64,615 | 64,527 | 64,122 | 63,602 | 62,924 |
| Jefferson | 113,486 | 113,650 | 115,059 | 115,033 | 115,023 | 116,571 | 118,161 | 120,730 | 119,112 | 118,724 | 117,260 |
| Kings | 2,445,809 | 2,436,132 | 2,441,324 | 2,460,361 | 2,487,751 | 2,510,240 | 2,543,667 | 2,572,282 | 2,595,344 | 2,612,544 | 2,624,941 |
| Lewis | 26,773 | 27,001 | 27,086 | 26,878 | 27,047 | 27,063 | 27,087 | 27,267 | 27,168 | 27,214 | 27,022 |
| Livingston | 65,322 | 65,357 | 65,460 | 65,637 | 65,420 | 65,234 | 64,890 | 64,854 | 64,723 | 64,692 | 64,583 |
| Madison | 71,471 | 72,042 | 72,709 | 73,075 | 73,169 | 73,431 | 72,970 | 72,490 | 72,547 | 72,306 | 71,771 |
| Monroe | 738,506 | 738,329 | 739,249 | 741,018 | 743,386 | 744,959 | 747,714 | 748,947 | 750,367 | 750,089 | 749,048 |
| Montgomery | 49,505 | 49,724 | 49,798 | 49,951 | 50,001 | 50,286 | 49,932 | 49,848 | 49,789 | 49,747 | 49,673 |
| Nassau | 1,332,318 | 1,324,905 | 1,322,048 | 1,325,129 | 1,332,088 | 1,341,879 | 1,346,815 | 1,350,748 | 1,354,258 | 1,357,799 | 1,359,702 |
| New York | 1,573,573 | 1,578,171 | 1,581,402 | 1,587,022 | 1,583,431 | 1,588,530 | 1,609,533 | 1,625,121 | 1,630,453 | 1,634,468 | 1,641,168 |
| Niagara | 216,818 | 216,148 | 215,791 | 215,793 | 216,043 | 216,489 | 215,729 | 214,841 | 214,267 | 213,484 | 212,522 |
| Oneida | 234,282 | 234,229 | 234,488 | 234,482 | 234,619 | 234,836 | 234,292 | 234,061 | 233,800 | 233,213 | 232,025 |
| Onondaga | 460,910 | 460,925 | 461,287 | 463,472 | 465,633 | 467,522 | 467,913 | 467,712 | 469,328 | 468,742 | 468,275 |
| Ontario | 104,259 | 104,644 | 105,216 | 106,302 | 107,214 | 108,218 | 108,750 | 108,801 | 109,285 | 109,684 | 109,654 |
| Orange | 364,522 | 366,908 | 368,464 | 370,201 | 372,079 | 373,484 | 374,358 | 374,100 | 374,956 | 375,814 | 377,130 |
| Orleans | 43,475 | 43,420 | 43,342 | 43,254 | 42,975 | 42,846 | 42,693 | 42,465 | 42,328 | 41,947 | 41,604 |
| Oswego | 122,640 | 122,354 | 122,213 | 122,366 | 122,055 | 122,129 | 121,999 | 121,551 | 121,321 | 120,744 | 119,962 |
| Ostego | 63,069 | 63,032 | 62,914 | 62,561 | 62,280 | 62,192 | 61,982 | 61,805 | 61,558 | 60,907 | 60,530 |
| Putnam | 99,575 | 99,357 | 99,454 | 99,537 | 99,666 | 99,827 | 99,958 | 99,717 | 99,678 | 99,478 | 99,265 |
| Queens | 2,185,222 | 2,173,862 | 2,177,351 | 2,193,623 | 2,217,166 | 2,235,310 | 2,259,756 | 2,278,024 | 2,297,598 | 2,314,149 | 2,327,228 |
| Rensselaer | 156,104 | 157,312 | 158,243 | 159,011 | 159,150 | 159,347 | 159,694 | 159,669 | 159,862 | 160,092 | 160,101 |
| Richmond | 457,028 | 457,577 | 459,642 | 463,701 | 466,965 | 469,706 | 471,152 | 470,978 | 472,515 | 473,142 | 473,969 |
| Rockland | 298,737 | 299,390 | 301,668 | 305,413 | 308,652 | 312,533 | 315,772 | 317,763 | 320,321 | 322,855 | 325,491 |
| St. Lawrence | 111,606 | 111,556 | 111,586 | 111,684 | 112,169 | 111,821 | 112,468 | 112,621 | 112,253 | 111,800 | 110,935 |
| Saratoga | 212,975 | 214,627 | 215,798 | 217,282 | 218,652 | 220,094 | 221,166 | 222,553 | 224,207 | 224,692 | 226,140 |
| Schenectady | 150,200 | 151,768 | 152,275 | 153,360 | 154,050 | 154,896 | 154,673 | 154,945 | 154,964 | 155,006 | 154,758 |
| Schoharie | 32,534 | 32,661 | 32,894 | 32,890 | 32,776 | 32,688 | 32,662 | 32,086 | 31,872 | 31,690 | 31,372 |
| Schuyler | 18,880 | 18,752 | 18,707 | 18,644 | 18,398 | 18,309 | 18,492 | 18,579 | 18,502 | 18,301 | 18,199 |
| Seneca | 35,177 | 35,223 | 35,469 | 35,370 | 35,286 | 35,246 | 35,353 | 35,380 | 35,272 | 34,904 | 34,848 |
| Steuben | 98,868 | 98,473 | 98,541 | 98,726 | 98,949 | 98,990 | 99,272 | 99,064 | 98,952 | 98,253 | 97,546 |
| Suffolk | 1,477,687 | 1,475,626 | 1,475,255 | 1,480,218 | 1,487,206 | 1,494,747 | 1,500,259 | 1,499,382 | 1,500,776 | 1,500,008 | 1,497,903 |
| Sullivan | 76,780 | 77,231 | 77,991 | 77,755 | 77,647 | 77,412 | 77,104 | 76,952 | 76,919 | 75,667 | 74,751 |
| Tioga | 51,611 | 51,536 | 51,565 | 51,498 | 51,236 | 51,000 | 50,945 | 50,303 | 50,128 | 49,793 | 49,261 |
| Tompkins | 99,433 | 99,651 | 99,910 | 100,383 | 101,497 | 101,774 | 102,111 | 103,135 | 104,270 | 104,498 | 104,564 |
| Ulster | 182,438 | 182,845 | 182,818 | 183,174 | 182,638 | 182,408 | 182,647 | 181,811 | 180,987 | 180,680 | 179,824 |
| Warren | 65,206 | 65,554 | 65,740 | 65,848 | 65,694 | 65,678 | 65,694 | 65,418 | 65,145 | 64,882 | 64,544 |
| Washington | 62,468 | 62,771 | 63,054 | 63,252 | 63,077 | 63,321 | 63,112 | 63,066 | 62,777 | 62,442 | 62,238 |
| Wayne | 93,727 | 93,595 | 93,539 | 93,739 | 93,643 | 93,756 | 93,260 | 93,012 | 92,393 | 91,829 | 91,340 |
| Westchester | 933,401 | 931,426 | 933,414 | 937,449 | 944,201 | 950,588 | 957,052 | 961,073 | 967,377 | 970,255 | 972,900 |
| Wyoming | 42,780 | 42,673 | 42,515 | 42,281 | 42,236 | 42,118 | 41,930 | 41,771 | 41,431 | 41,200 | 41,004 |
| Yates | 25,129 | 25,025 | 25,234 | 25,352 | 25,303 | 25,349 | 25,387 | 25,271 | 25,154 | 25,130 | 25,051 |

# Appendix E

## New York State Heating and Cooling Degree-Days, 2001–2015

**Figure E-1**

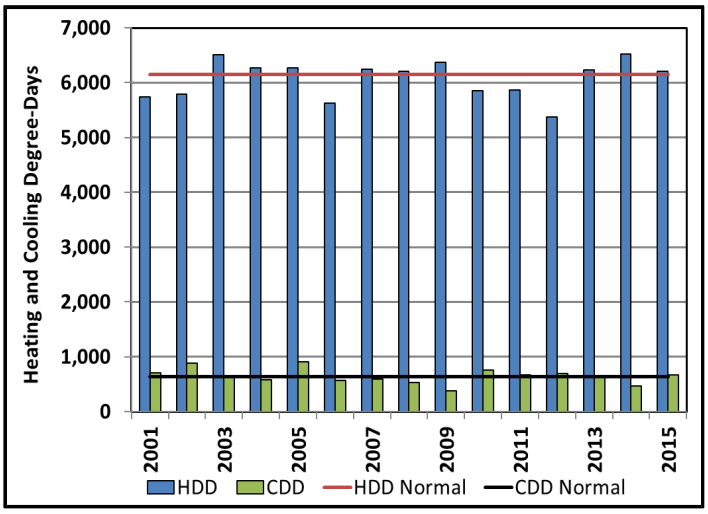


**Table E-1 (monthly heating degree-days)**

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | 1,199 | 1,001 | 992 | 496 | 188 | 39 | 13 | 0 | 97 | 339 | 538 | 832 | 5,734 |
| 2002 | 971 | 868 | 827 | 462 | 299 | 40 | 3 | 6 | 46 | 445 | 725 | 1,099 | 5,791 |
| 2003 | 1,375 | 1,164 | 898 | 597 | 277 | 62 | 1 | 5 | 64 | 438 | 610 | 1,012 | 6,503 |
| 2004 | 1,441 | 1,103 | 818 | 500 | 148 | 57 | 3 | 15 | 49 | 384 | 675 | 1,080 | 6,273 |
| 2005 | 1,277 | 1,011 | 1,029 | 456 | 325 | 18 | 0 | 3 | 35 | 365 | 622 | 1,130 | 6,271 |
| 2006 | 951 | 997 | 886 | 487 | 254 | 53 | 1 | 15 | 136 | 442 | 571 | 828 | 5,621 |
| 2007 | 1,054 | 1,213 | 939 | 622 | 218 | 40 | 16 | 23 | 74 | 243 | 752 | 1,045 | 6,239 |
| 2008 | 1,085 | 1,053 | 930 | 450 | 315 | 22 | 1 | 18 | 107 | 455 | 743 | 1,031 | 6,210 |
| 2009 | 1,367 | 997 | 890 | 497 | 240 | 71 | 18 | 16 | 140 | 476 | 583 | 1,073 | 6,368 |
| 2010 | 1,183 | 1,021 | 715 | 386 | 175 | 35 | 6 | 5 | 91 | 394 | 693 | 1,153 | 5,857 |
| 2011 | 1,292 | 1,051 | 910 | 490 | 193 | 33 | 0 | 4 | 70 | 381 | 569 | 876 | 5,869 |
| 2012 | 1,038 | 894 | 601 | 508 | 146 | 51 | 0 | 7 | 117 | 347 | 775 | 889 | 5,373 |
| 2013 | 1,102 | 1,028 | 936 | 540 | 230 | 54 | 3 | 9 | 166 | 350 | 771 | 1,042 | 6,231 |
| 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 |
| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | 0 | 0 | 0 | 2 | 27 | 157 | 160 | 285 | 65 | 5 | 0 | 0 | 701 |
| 2002 | 0 | 0 | 0 | 27 | 16 | 135 | 307 | 276 | 99 | 17 | 0 | 0 | 877 |
| 2003 | 0 | 0 | 0 | 0 | 1 | 90 | 233 | 269 | 58 | 0 | 1 | 0 | 652 |
| 2004 | 0 | 0 | 0 | 0 | 35 | 103 | 197 | 174 | 70 | 0 | 0 | 0 | 579 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 196 | 285 | 296 | 120 | 12 | 0 | 0 | 909 |
| 2006 | 0 | 0 | 0 | 0 | 24 | 104 | 251 | 170 | 14 | 0 | 0 | 0 | 563 |
| 2007 | 0 | 0 | 0 | 0 | 26 | 104 | 169 | 188 | 76 | 28 | 0 | 0 | 591 |
| 2008 | 0 | 0 | 0 | 0 | 3 | 144 | 224 | 96 | 65 | 0 | 0 | 0 | 532 |
| 2009 | 0 | 0 | 0 | 9 | 5 | 43 | 107 | 191 | 20 | 0 | 0 | 0 | 375 |
| 2010 | 0 | 0 | 0 | 0 | 42 | 142 | 295 | 196 | 75 | 1 | 0 | 0 | 751 |
| 2011 | 0 | 0 | 0 | 0 | 39 | 97 | 280 | 169 | 84 | 1 | 0 | 0 | 670 |
| 2012 | 0 | 0 | 0 | 4 | 44 | 105 | 271 | 203 | 59 | 2 | 0 | 0 | 688 |
| 2013 | 0 | 0 | 0 | 0 | 32 | 113 | 301 | 135 | 57 | 6 | 0 | 0 | 644 |
| 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 |
| Normal* | 0 | 0 | 0 | 0 | 18 | 119 | 233 | 200 | 64 | 3 | 0 | 0 | 637 |

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

# Appendix F-1

## New York State Electricity Prices by Sector by Utility[1] in Nominal Dollars, 2001–2015

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

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

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

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

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

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

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

# Appendix F-2

## New York State Electricity Customers by Sector by Utility,[1] 2001–2015

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 237,756 | 2,676,565 | 923,730 | 710,050 | 1,382,740 | 143,613 | 284,898 |
| 2002 | 239,249 | 2,683,349 | 936,810 | 715,299 | 1,369,959 | 142,212 | 281,565 |
| 2003 | 243,689 | 2,691,906 | 967,606 | 708,149 | 1,357,582 | 131,739 | 278,996 |
| 2004 | 245,088 | 2,626,379 | 977,980 | 706,360 | 1,348,800 | 130,148 | 282,578 |
| 2005 | 248,409 | 2,625,628 | 981,532 | 696,362 | 1,349,917 | 131,200 | 264,873 |
| 2006 | 246,921 | 2,527,297 | 988,501 | 701,371 | 1,343,802 | 137,776 | 258,345 |
| 2007 | 248,621 | 2,403,262 | 989,705 | 679,298 | 1,308,819 | 138,326 | 264,226 |
| 2008 | 244,470 | 2,312,650 | 991,385 | 653,965 | 1,271,407 | 138,899 | 261,889 |
| 2009 | 240,551 | 2,280,223 | 995,350 | 636,962 | 1,245,334 | 140,244 | 259,569 |
| 2010 | 237,920 | 2,288,286 | 997,361 | 611,712 | 1,224,605 | 132,344 | 256,607 |
| 2011 | 235,742 | 2,263,566 | 997,520 | 587,353 | 1,199,358 | 128,238 | 249,138 |
| 2012 | 225,159 | 2,161,397 | 998,404 | 576,672 | 1,174,731 | 120,892 | 245,761 |
| 2013 | 217,523 | 2,113,173 | 996,217 | 574,429 | 1,165,012 | 117,183 | 246,295 |
| 2014 | 213,187 | 2,135,972 | 996,453 | 583,185 | 1,164,691 | 117,671 | 253,092 |
| 2015 | 213,731 | 2,196,201 | 1,002,930 | 597,341 | 1,189,904 | 121,745 | 261,440 |

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 38,157 | 422,659 | 106,563 | 80,008 | 145,892 | 22,579 | 26,639 |
| 2002 | 38,698 | 429,641 | 107,888 | 82,376 | 146,566 | 22,459 | 26,570 |
| 2003 | 44,571 | 445,078 | 115,170 | 85,555 | 141,499 | 20,713 | 28,457 |
| 2004 | 44,092 | 423,526 | 112,431 | 95,739 | 137,116 | 19,659 | 28,225 |
| 2005 | 44,673 | 410,162 | 112,638 | 89,068 | 124,672 | 20,037 | 23,527 |
| 2006 | 42,938 | 390,897 | 117,700 | 86,541 | 123,449 | 21,335 | 23,640 |
| 2007 | 43,399 | 391,071 | 117,844 | 81,786 | 117,655 | 21,622 | 24,108 |
| 2008 | 42,761 | 391,694 | 117,966 | 76,284 | 109,098 | 21,563 | 23,916 |
| 2009 | 40,613 | 391,850 | 118,095 | 75,082 | 104,171 | 20,769 | 22,832 |
| 2010 | 39,196 | 388,876 | 118,320 | 71,547 | 101,607 | 19,322 | 22,285 |
| 2011 | 37,576 | 371,054 | 117,917 | 68,473 | 98,730 | 18,672 | 21,372 |
| 2012 | 35,638 | 349,340 | 117,568 | 67,874 | 98,886 | 17,759 | 20,516 |
| 2013 | 34,217 | 341,327 | 116,388 | 69,136 | 97,955 | 16,935 | 20,991 |
| 2014 | 33,384 | 342,181 | 116,293 | 69,443 | 94,509 | 16,848 | 21,250 |
| 2015 | 33,288 | 349,478 | 112,610 | 70,993 | 98,408 | 16,322 | 21,193 |

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 918 | 360 | N/A | 2,394 | 1,589 | 99 | 882 |
| 2002 | 1,027 | 388 | N/A | 2,376 | 1,469 | 95 | 900 |
| 2003 | 1,026 | 298 | N/A | 2,284 | 1,218 | 80 | 809 |
| 2004 | 981 | 305 | N/A | 2,191 | 1,071 | 73 | 744 |
| 2005 | 988 | 324 | N/A | 1,858 | 890 | 78 | 618 |
| 2006 | 959 | 259 | N/A | 1,644 | 874 | 78 | 493 |
| 2007 | 1,181 | 247 | N/A | 1,415 | 817 | 73 | 472 |
| 2008 | 1,027 | 238 | N/A | 1,215 | 768 | 71 | 438 |
| 2009 | 905 | 223 | N/A | 1,056 | 755 | 67 | 406 |
| 2010 | 864 | 184 | N/A | 939 | 748 | 57 | 364 |
| 2011 | 834 | 130 | N/A | 853 | 702 | 52 | 325 |
| 2012 | 789 | 97 | N/A | 796 | 655 | 48 | 333 |
| 2013 | 799 | 85 | N/A | 758 | 630 | 47 | 314 |
| 2014 | 763 | 93 | N/A | 725 | 588 | 42 | 293 |
| 2015 | 727 | 81 | N/A | 682 | 569 | 42 | 282 |

[1] Electricity customers by sector by utility are based on bundled electricity sales.

# Appendix F-3

## New York State Electricity Sales by Sector by Utility,[1] 2001–2015

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 1,806 | 12,050 | 8,143 | 5,288 | 9,834 | 1,102 | 2,045 |
| 2002 | 1,883 | 12,510 | 8,490 | 5,544 | 10,120 | 1,092 | 2,156 |
| 2003 | 1,978 | 12,441 | 8,998 | 5,574 | 10,232 | 1,038 | 1,997 |
| 2004 | 2,003 | 12,673 | 9,183 | 5,607 | 10,169 | 986 | 2,144 |
| 2005 | 2,147 | 13,690 | 9,706 | 5,732 | 10,750 | 1,070 | 2,223 |
| 2006 | 2,005 | 12,590 | 9,278 | 5,649 | 10,248 | 1,035 | 1,983 |
| 2007 | 2,087 | 12,312 | 9,508 | 5,659 | 10,140 | 1,131 | 2,097 |
| 2008 | 2,004 | 11,720 | 9,512 | 5,297 | 9,637 | 1,130 | 2,013 |
| 2009 | 1,916 | 10,952 | 9,211 | 5,107 | 9,361 | 1,076 | 1,987 |
| 2010 | 1,959 | 11,518 | 9,972 | 5,121 | 9,543 | 1,115 | 2,035 |
| 2011 | 1,945 | 11,404 | 9,849 | 4,984 | 9,367 | 1,025 | 1,999 |
| 2012 | 1,801 | 10,718 | 9,734 | 4,848 | 9,036 | 955 | 1,927 |
| 2013 | 1,760 | 10,273 | 9,533 | 4,950 | 9,012 | 927 | 1,921 |
| 2014 | 1,685 | 9,869 | 9,389 | 5,015 | 8,915 | 877 | 1,947 |
| 2015 | 1,712 | 10,534 | 9,611 | 5,167 | 9,158 | 913 | 2,016 |

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 1,488 | 19,222 | 9,002 | 2,883 | 9,897 | 1,250 | 1,702 |
| 2002 | 1,534 | 18,595 | 9,026 | 2,918 | 8,984 | 1,227 | 1,646 |
| 2003 | 1,935 | 17,766 | 9,593 | 2,474 | 8,075 | 1,296 | 1,618 |
| 2004 | 1,890 | 16,804 | 9,666 | 3,178 | 6,964 | 1,129 | 1,386 |
| 2005 | 1,801 | 15,272 | 9,199 | 2,714 | 5,887 | 1,138 | 1,097 |
| 2006 | 1,521 | 13,230 | 8,825 | 2,532 | 5,075 | 1,133 | 897 |
| 2007 | 1,615 | 12,743 | 8,969 | 2,447 | 4,691 | 1,189 | 931 |
| 2008 | 1,576 | 12,679 | 8,542 | 2,280 | 4,135 | 1,152 | 846 |
| 2009 | 1,297 | 12,324 | 8,305 | 2,002 | 4,016 | 981 | 711 |
| 2010 | 1,183 | 12,417 | 8,854 | 1,774 | 3,873 | 833 | 657 |
| 2011 | 1,052 | 11,082 | 8,771 | 1,581 | 3,453 | 696 | 612 |
| 2012 | 900 | 9,788 | 8,661 | 1,522 | 3,232 | 601 | 576 |
| 2013 | 849 | 9,744 | 8,499 | 1,438 | 3,290 | 571 | 602 |
| 2014 | 802 | 9,783 | 8,344 | 1,413 | 3,220 | 524 | 612 |
| 2015 | 774 | 9,585 | 8,221 | 1,365 | 2,945 | 501 | 542 |

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

| Year | Central Hudson | Consolidated Edison | Long Island Power Authority | New York State Elec. & Gas Corp. (NYSEG) | National Grid | Orange & Rockland | Rochester Gas & Electric |
|---|---|---|---|---|---|---|---|
| 2001 | 1,305 | 562 | N/A | 2,848 | 10,069 | 472 | 1,472 |
| 2002 | 1,000 | 468 | N/A | 2,891 | 9,185 | 288 | 1,380 |
| 2003 | 553 | 403 | N/A | 3,314 | 2,627 | 242 | 1,197 |
| 2004 | 478 | 372 | N/A | 2,176 | 2,445 | 252 | 823 |
| 2005 | 328 | 366 | N/A | 1,815 | 1,881 | 432 | 748 |
| 2006 | 511 | 268 | N/A | 1,745 | 1,589 | 305 | 641 |
| 2007 | 1,048 | 246 | N/A | 1,609 | 1,635 | 340 | 612 |
| 2008 | 148 | 230 | N/A | 1,236 | 1,346 | 282 | 589 |
| 2009 | 106 | 200 | N/A | 843 | 1,155 | 249 | 396 |
| 2010 | 95 | 201 | N/A | 585 | 1,490 | 219 | 343 |
| 2011 | 93 | 131 | N/A | 481 | 1,254 | 167 | 230 |
| 2012 | 72 | 114 | N/A | 372 | 1,515 | 113 | 111 |
| 2013 | 102 | 99 | N/A | 323 | 1,085 | 90 | 71 |
| 2014 | 83 | 102 | N/A | 192 | 1,018 | 66 | 62 |
| 2015 | 68 | 86 | N/A | 173 | 933 | 49 | 48 |

[1] Electricity sales by sector by utility are based on bundled electricity sales.

# Appendix F-4

## New York State Natural Gas Prices by Sector by Utility in Nominal Dollars, 2001–2015

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

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

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

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

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

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

# Appendix F-5

## New York State Natural Gas Customers by Sector by Utility, 2001–2015

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

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

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

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

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

| Year | Brooklyn Union Gas (National Grid) | Central Hudson Gas & Electric | Consolidated Edison | Corning Natural Gas | Keyspan Energy (National Grid) | National Fuel Gas Dist. | New York State Elec. And Gas Corp. (NYSEG) | Niagara Mohawk (National Grid) | Orange & Rockland Utilities | Rochester Gas And Elec. Corp. | St. Lawrence Gas Co. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | N/A | 326 | N/A | 14 | NA | 621 | 557 | 420 | 151 | 944 | 22 |
| 2002 | N/A | 306 | 46 | 20 | NA | 614 | 707 | 263 | 123 | 934 | 26 |
| 2003 | N/A | 310 | 50 | 22 | NA | 594 | 696 | 256 | 85 | 918 | 24 |
| 2004 | N/A | 301 | 55 | 22 | NA | 595 | 708 | 251 | 74 | 909 | 22 |
| 2005 | 827 | 299 | 56 | 22 | NA | 584 | 707 | 256 | 54 | 899 | 22 |
| 2006 | 784 | 288 | 54 | 24 | NA | 550 | 712 | 261 | 44 | 882 | 20 |
| 2007 | 4,686 | 279 | 48 | 65 | NA | 536 | 679 | 266 | 37 | 844 | 21 |
| 2008 | 4,318 | 278 | 51 | 61 | NA | 530 | 691 | 254 | 34 | 817 | 22 |
| 2009 | 3,960 | 264 | 48 | 61 | NA | 507 | 673 | 255 | 29 | 795 | 20 |
| 2010 | 3,622 | 259 | 46 | 64 | NA | 500 | 654 | 251 | 26 | 771 | 20 |
| 2011 | 4,053 | 253 | 48 | 69 | NA | 490 | 626 | 252 | 20 | 754 | 21 |
| 2012 | 3,428 | 251 | 48 | 74 | NA | 493 | 615 | 234 | 20 | 704 | 21 |
| 2013 | 3,864 | 245 | 48 | 40 | NA | 491 | 618 | 214 | 20 | 727 | 21 |
| 2014 | 3,885 | 251 | 48 | 38 | NA | 482 | 624 | 215 | 18 | 709 | 22 |
| 2015 | 3,657 | 259 | 48 | 38 | NA | 439 | 616 | 221 | 19 | 689 | 22 |

# Appendix F-6

## New York State Natural Gas Sales by Sector by Utility, 2001–2015

### 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | 102,120 | 4,795 | 57,687 | 1,937 | 43,107 | 51,451 | 23,548 | 50,201 | 13,562 | 25,590 | 1,652 |
| 2002 | 93,469 | 4,532 | 56,302 | 2,258 | 43,288 | 53,961 | 23,024 | 50,485 | 13,431 | 26,661 | 1,700 |
| 2003 | 102,811 | 5,482 | 63,541 | 2,443 | 48,061 | 57,548 | 26,145 | 56,790 | 15,241 | 29,138 | 1,892 |
| 2004 | 100,666 | 5,221 | 60,779 | 2,279 | 47,514 | 54,012 | 24,081 | 53,500 | 14,595 | 27,761 | 1,811 |
| 2005 | 115,538 | 5,282 | 63,140 | 2,261 | 47,901 | 52,013 | 22,924 | 52,801 | 14,541 | 27,522 | 1,710 |
| 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 |

### 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | 40,814 | 5,669 | 150,550 | 293 | 31,194 | 23,356 | 18,784 | 52,569 | 8,534 | 13,718 | 1,500 |
| 2002 | 64,514 | 5,666 | 155,227 | 233 | 32,984 | 24,541 | 19,098 | 33,716 | 9,573 | 14,804 | 1,536 |
| 2003 | 59,784 | 6,521 | 124,436 | 442 | 37,362 | 26,440 | 20,511 | 36,210 | 9,846 | 15,762 | 1,681 |
| 2004 | 104,493 | 6,758 | 103,119 | 414 | 37,592 | 24,764 | 19,255 | 34,785 | 10,173 | 15,726 | 1,656 |
| 2005 | 23,640 | 6,922 | 100,877 | 399 | 38,078 | 24,868 | 19,148 | 34,281 | 9,382 | 16,198 | 1,569 |
| 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 |

### 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2001 | NA | 3,184 | 3,417 | 2,944 | NA | 23,704 | 14,290 | 14,815 | 4,237 | 9,789 | 6,041 |
| 2002 | NA | 3,742 | 3,807 | 3,459 | NA | 24,512 | 13,898 | 21,583 | 3,259 | 9,770 | 6,334 |
| 2003 | NA | 3,389 | 2,918 | 2,253 | NA | 22,004 | 14,489 | 16,373 | 3,172 | 9,260 | 5,922 |
| 2004 | NA | 3,529 | 1,309 | 2,460 | NA | 20,000 | 13,827 | 16,375 | 3,073 | 9,233 | 6,006 |
| 2005 | 4,682 | 3,125 | 1,451 | 2,579 | NA | 19,257 | 13,056 | 17,545 | 2,999 | 8,597 | 5,730 |
| 2006 | 3,696 | 3,082 | 1,387 | 2,745 | NA | 16,765 | 12,561 | 20,317 | 2,609 | 7,286 | 5,867 |
| 2007 | 4,345 | 2,904 | 1,534 | 352 | NA | 17,166 | 13,254 | 20,703 | 2,635 | 7,275 | 5,680 |
| 2008 | 4,422 | 2,987 | 1,668 | 335 | NA | 16,282 | 13,739 | 23,289 | 2,555 | 8,233 | 5,124 |
| 2009 | 3,914 | 2,819 | 1,599 | 394 | NA | 13,919 | 13,155 | 21,348 | 2,393 | 7,200 | 3,546 |
| 2010 | 4,277 | 2,922 | 1,684 | 282 | NA | 14,672 | 12,666 | 23,651 | 2,450 | 6,998 | 3,710 |
| 2011 | 3,720 | 2,903 | 1,764 | 327 | NA | 14,145 | 12,643 | 24,440 | 2,281 | 6,967 | 3,805 |
| 2012 | 3,107 | 2,574 | 1,601 | 318 | NA | 13,929 | 12,594 | 25,622 | 2,358 | 6,548 | 3,378 |
| 2013 | 3,279 | 2,896 | 1,847 | 3,165 | NA | 14,379 | 13,160 | 26,296 | 2,327 | 6,826 | 3,426 |
| 2014 | 3,534 | 3,053 | 1,913 | 3,634 | NA | 16,993 | 13,606 | 26,660 | 2,176 | 7,030 | 3,577 |
| 2015 | 3,201 | 3,153 | 1,776 | 4,020 | NA | 16,358 | 12,476 | 27,671 | 2,266 | 6,689 | 3,402 |

# Appendix G-1

## New York State Weather Normalized Residential Energy Consumption, 1980–2015

**Figure G-1**

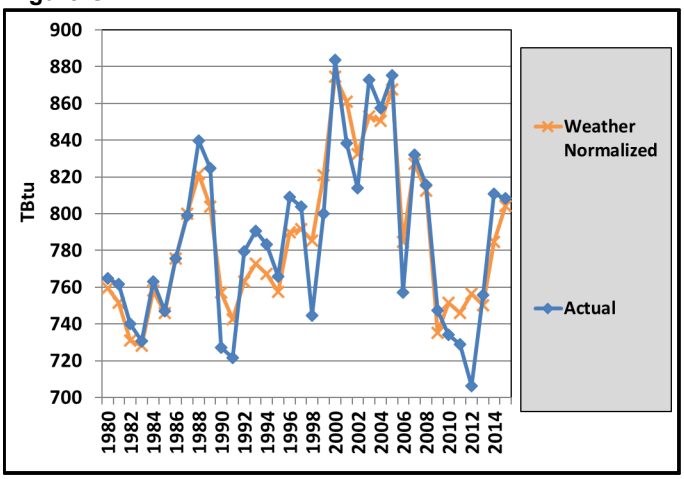


**Table G-1. (in trillion Btu)**

| 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 | 339.9 | 217.1 | 9.8 | 9.0 | 235.9 | 77.8 | 104.2 | 0.0 | 0.0 | 759.6 |
| 1981 | 2.1 | 339.5 | 199.9 | 8.6 | 9.7 | 218.2 | 87.0 | 104.8 | 0.0 | 0.0 | 751.6 |
| 1982 | 2.6 | 347.0 | 180.8 | 10.5 | 9.1 | 200.3 | 76.4 | 104.7 | 0.0 | 0.0 | 730.9 |
| 1983 | 1.5 | 329.6 | 170.5 | 8.5 | 10.5 | 189.5 | 99.2 | 108.3 | 0.0 | 0.0 | 728.2 |
| 1984 | 2.3 | 343.9 | 199.4 | 20.2 | 10.5 | 230.1 | 69.7 | 112.1 | 0.0 | 0.0 | 758.0 |
| 1985 | 2.3 | 328.3 | 201.0 | 18.3 | 11.4 | 230.7 | 72.7 | 111.9 | 0.0 | 0.0 | 745.9 |
| 1986 | 2.6 | 345.9 | 221.2 | 12.5 | 11.5 | 245.2 | 66.6 | 115.3 | 0.0 | 0.0 | 775.6 |
| 1987 | 2.2 | 344.8 | 241.4 | 18.2 | 13.5 | 273.1 | 59.4 | 120.4 | 0.0 | 0.0 | 799.8 |
| 1988 | 1.7 | 360.0 | 235.6 | 23.7 | 13.3 | 272.6 | 59.9 | 127.6 | 0.0 | 0.0 | 821.8 |
| 1989 | 1.6 | 365.5 | 217.3 | 15.8 | 14.0 | 247.1 | 60.1 | 129.3 | 0.3 | 0.1 | 803.9 |
| 1990 | 1.4 | 363.2 | 194.7 | 9.9 | 14.1 | 218.8 | 41.9 | 131.6 | 0.3 | 0.0 | 757.1 |
| 1991 | 1.3 | 359.5 | 175.9 | 11.8 | 17.6 | 205.4 | 42.5 | 133.4 | 0.3 | 0.0 | 742.3 |
| 1992 | 1.2 | 380.4 | 184.0 | 7.1 | 17.5 | 208.6 | 40.1 | 132.5 | 0.3 | 0.1 | 763.1 |
| 1993 | 1.0 | 385.3 | 172.9 | 8.9 | 15.1 | 196.9 | 53.0 | 136.0 | 0.3 | 0.1 | 772.7 |
| 1994 | 0.7 | 386.9 | 168.6 | 8.0 | 15.2 | 191.8 | 50.7 | 136.8 | 0.4 | 0.1 | 767.4 |
| 1995 | 0.7 | 381.6 | 164.2 | 7.1 | 15.8 | 187.1 | 51.6 | 136.0 | 0.4 | 0.1 | 757.4 |
| 1996 | 0.8 | 402.0 | 170.5 | 8.3 | 17.2 | 196.0 | 52.8 | 137.6 | 0.5 | 0.1 | 789.8 |
| 1997 | 0.7 | 378.1 | 167.4 | 9.9 | 15.3 | 192.6 | 82.6 | 136.8 | 0.5 | 0.1 | 791.5 |
| 1998 | 0.4 | 375.2 | 166.2 | 10.4 | 15.7 | 192.4 | 78.5 | 138.3 | 0.5 | 0.0 | 785.4 |
| 1999 | 0.6 | 395.0 | 170.6 | 13.1 | 16.8 | 200.5 | 78.3 | 146.0 | 0.5 | 0.1 | 821.0 |
| 2000 | 0.3 | 407.3 | 202.3 | 13.3 | 21.6 | 237.3 | 82.0 | 147.0 | 0.5 | 0.1 | 874.4 |
| 2001 | 0.3 | 403.3 | 219.6 | 13.4 | 16.9 | 249.9 | 55.9 | 150.8 | 0.5 | 0.1 | 860.8 |
| 2002 | 0.1 | 391.3 | 197.0 | 9.2 | 19.6 | 225.8 | 56.4 | 158.0 | 0.6 | 0.1 | 832.3 |
| 2003 | 0.3 | 407.7 | 197.3 | 9.4 | 18.5 | 225.2 | 58.5 | 160.7 | 0.6 | 0.1 | 853.1 |
| 2004 | 0.4 | 398.8 | 197.3 | 11.8 | 19.4 | 228.5 | 60.3 | 161.8 | 0.7 | 0.1 | 850.5 |
| 2005 | 0.3 | 412.0 | 201.9 | 12.5 | 17.7 | 232.1 | 50.4 | 171.8 | 0.8 | 0.1 | 867.5 |
| 2006 | 0.3 | 384.0 | 162.6 | 10.0 | 16.7 | 189.3 | 44.5 | 165.4 | 1.0 | 0.1 | 784.6 |
| 2007 | 0.4 | 406.1 | 172.8 | 7.5 | 18.1 | 198.4 | 49.4 | 171.5 | 1.1 | 0.2 | 827.1 |
| 2008 | 0.0 | 400.2 | 161.8 | 3.8 | 22.4 | 188.0 | 55.4 | 167.5 | 1.3 | 0.2 | 812.5 |
| 2009 | 0.0 | 404.4 | 117.7 | 5.6 | 22.3 | 145.5 | 18.5 | 165.2 | 1.3 | 0.3 | 735.2 |
| 2010 | 0.0 | 412.2 | 117.4 | 5.6 | 22.9 | 145.9 | 18.2 | 173.6 | 1.5 | 0.3 | 751.6 |
| 2011 | 0.0 | 416.6 | 109.5 | 4.0 | 20.1 | 133.6 | 18.6 | 174.8 | 1.6 | 0.7 | 745.9 |
| 2012 | 0.0 | 402.9 | 137.3 | 2.0 | 18.8 | 158.1 | 20.4 | 172.8 | 1.8 | 0.4 | 756.3 |
| 2013 | 0.0 | 426.9 | 104.1 | 2.3 | 19.5 | 125.8 | 21.7 | 173.2 | 2.0 | 0.4 | 750.1 |
| 2014 | 0.0 | 455.0 | 108.9 | 4.0 | 22.3 | 135.2 | 20.2 | 170.9 | 2.8 | 0.5 | 784.6 |
| 2015 | 0.0 | 464.1 | 121.1 | 2.6 | 21.1 | 144.8 | 16.5 | 174.0 | 4.3 | 0.4 | 804.0 |

[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, 1990–2015

**Figure G-2a: Residential Energy Usage/Household**

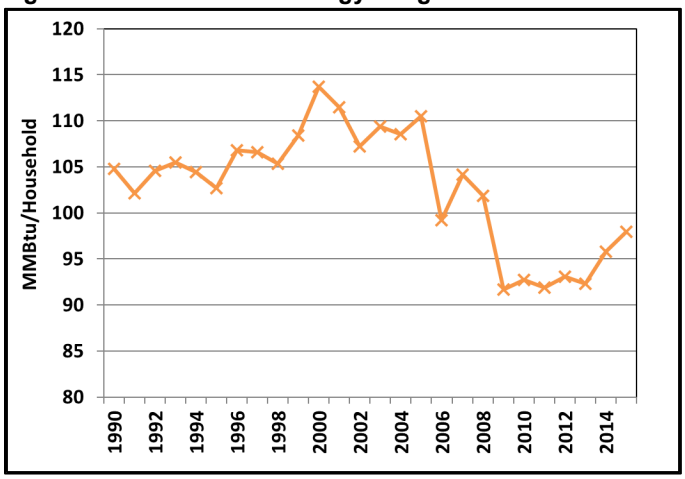


**Figure G-2b: Residential Energy Usage/GSP (2015$)**

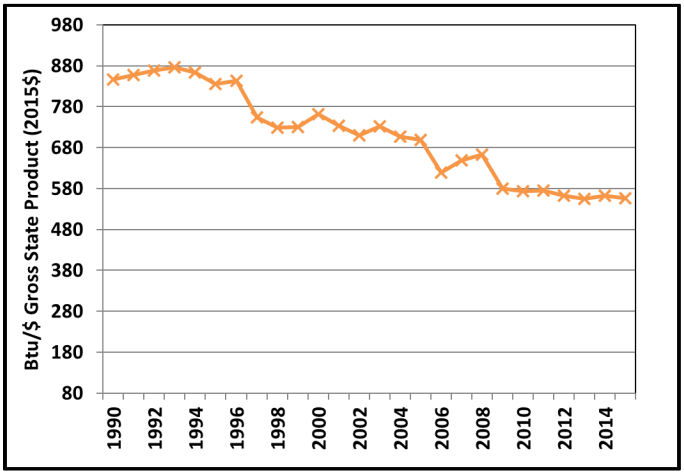


**Table G-2. (in trillion Btu)**

| Year | Weather Normalized Residential Total Energy | Households | Energy Usage/Household | Gross State Product | Res Energy Usage Per GSP (2015$) |
|---|---|---|---|---|---|
| | Tbtu | Thousands | (MMBtu/Household) | Million (2015$) | (Btu/$) |
| 1990 | 757.1 | 7,227 | 104.8 | $894,376 | 846.5 |
| 1991 | 742.3 | 7,270 | 102.1 | $865,471 | 857.7 |
| 1992 | 763.1 | 7,297 | 104.6 | $877,966 | 869.2 |
| 1993 | 772.7 | 7,324 | 105.5 | $881,644 | 876.5 |
| 1994 | 767.4 | 7,346 | 104.5 | $888,129 | 864.0 |
| 1995 | 757.4 | 7,374 | 102.7 | $906,164 | 835.8 |
| 1996 | 789.8 | 7,397 | 106.8 | $936,818 | 843.1 |
| 1997 | 791.5 | 7,423 | 106.6 | $1,050,365 | 753.6 |
| 1998 | 785.4 | 7,455 | 105.3 | $1,077,878 | 728.6 |
| 1999 | 821.0 | 7,572 | 108.4 | $1,124,023 | 730.4 |
| 2000 | 874.4 | 7,689 | 113.7 | $1,146,967 | 762.4 |
| 2001 | 860.8 | 7,724 | 111.4 | $1,173,171 | 733.7 |
| 2002 | 832.3 | 7,760 | 107.2 | $1,173,375 | 709.3 |
| 2003 | 853.1 | 7,799 | 109.4 | $1,166,527 | 731.3 |
| 2004 | 850.5 | 7,836 | 108.5 | $1,202,472 | 707.3 |
| 2005 | 867.5 | 7,853 | 110.5 | $1,242,043 | 698.5 |
| 2006 | 784.6 | 7,908 | 99.2 | $1,267,254 | 619.1 |
| 2007 | 827.1 | 7,940 | 104.2 | $1,274,235 | 649.1 |
| 2008 | 812.5 | 7,977 | 101.8 | $1,225,741 | 662.9 |
| 2009 | 735.2 | 8,018 | 91.7 | $1,268,741 | 579.5 |
| 2010 | 751.6 | 8,108 | 92.7 | $1,309,441 | 574.0 |
| 2011 | 745.9 | 8,120 | 91.9 | $1,295,774 | 575.7 |
| 2012 | 756.3 | 8,124 | 93.1 | $1,343,105 | 563.1 |
| 2013 | 750.1 | 8,126 | 92.3 | $1,353,419 | 554.2 |
| 2014 | 784.6 | 8,192 | 95.8 | $1,392,737 | 563.4 |
| 2015 | 804.0 | 8,207 | 98.0 | $1,445,611 | 556.2 |

# Appendix H

## New York State Estimated Customer-Sited Solar Capacity and Generation by County, 2005–2015

**Table H-1. Solar Installed Capacity (kW)**

| County | 2005 | 2010 | 2015 |
|---|---|---|---|
| **New York State** | 4,492 | 51,892 | 517,662 |
| Albany | 38 | 1,206 | 18,574 |
| Alleghany | 4 | 54 | 2,922 |
| Bronx | 18 | 727 | 9,644 |
| Broome | 10 | 277 | 2,181 |
| Cattaraugus | 0 | 79 | 663 |
| Cayuga | 4 | 99 | 1,951 |
| Chautauqua | 0 | 238 | 3,464 |
| Chemung | 0 | 72 | 3,134 |
| Chenango | 3 | 66 | 478 |
| Clinton | 103 | 264 | 1,392 |
| Columbia | 71 | 1,107 | 6,659 |
| Cortland | 12 | 107 | 2,590 |
| Deleware | 21 | 155 | 1,046 |
| Dutchess | 212 | 2,065 | 17,036 |
| Erie | 12 | 2,943 | 16,414 |
| Essex | 23 | 192 | 713 |
| Franklin | 17 | 73 | 386 |
| Fulton | 0 | 47 | 1,762 |
| Genesee | 0 | 88 | 1,117 |
| Greene | 30 | 297 | 2,291 |
| Hamilton | 12 | 27 | 104 |
| Herkimer | 0 | 51 | 810 |
| Jefferson | 6 | 121 | 3,075 |
| Kings | 47 | 622 | 10,313 |
| Lewis | 0 | 6 | 289 |
| Livingston | 13 | 127 | 850 |
| Madison | 3 | 129 | 1,418 |
| Monroe | 0 | 325 | 9,135 |
| Montgomery | 0 | 75 | 4,665 |
| Nassau | 922 | 7,516 | 44,852 |
| New York | 20 | 450 | 1,674 |
| Niagara | 0 | 341 | 2,593 |
| Oneida | 3 | 261 | 8,599 |
| Onondaga | 3 | 311 | 7,909 |
| Ontario | 4 | 128 | 3,571 |
| Orange | 26 | 1,236 | 29,120 |
| Orleans | 0 | 36 | 760 |
| Oswego | 3 | 55 | 2,696 |
| Ostego | 15 | 117 | 733 |
| Putnam | 3 | 204 | 2,878 |
| Queens | 40 | 1,312 | 15,357 |
| Rensselaer | 17 | 884 | 11,888 |
| Richmond | 0 | 149 | 23,449 |
| Rockland | 23 | 489 | 13,471 |
| St. Lawrence | 33 | 694 | 15,319 |
| Saratoga | 0 | 546 | 9,028 |
| Schenectady | 0 | 131 | 1,715 |
| Schoharie | 4 | 25 | 595 |
| Schuyler | 15 | 58 | 1,967 |
| Seneca | 20 | 116 | 3,974 |
| Steuben | 0 | 33 | 495 |
| Suffolk | 2,269 | 18,146 | 111,888 |
| Sullivan | 20 | 466 | 4,617 |
| Tioga | 17 | 132 | 909 |
| Tompkins | 119 | 685 | 12,645 |
| Ulster | 156 | 2,271 | 14,415 |
| Warren | 9 | 196 | 5,741 |
| Washington | 18 | 379 | 3,324 |
| Wayne | 0 | 155 | 4,038 |
| Westchester | 75 | 2,637 | 31,064 |
| Wyoming | 0 | 69 | 353 |
| Yates | 0 | 27 | 948 |

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

| County | 2005 | 2010 | 2015 |
|---|---|---|---|
| **New York State** | 5,273 | 60,912 | 594,914 |
| Albany | 44 | 1,416 | 21,076 |
| Alleghany | 5 | 63 | 2,881 |
| Bronx | 21 | 853 | 11,336 |
| Broome | 12 | 325 | 2,560 |
| Cattaraugus | 0 | 93 | 778 |
| Cayuga | 5 | 116 | 2,225 |
| Chautauqua | 0 | 280 | 3,645 |
| Chemung | 0 | 84 | 3,150 |
| Chenango | 4 | 77 | 562 |
| Clinton | 121 | 309 | 1,633 |
| Columbia | 83 | 1,299 | 7,631 |
| Cortland | 15 | 126 | 2,703 |
| Deleware | 25 | 181 | 1,228 |
| Dutchess | 249 | 2,423 | 19,589 |
| Erie | 15 | 3,454 | 18,631 |
| Essex | 27 | 226 | 837 |
| Franklin | 20 | 86 | 453 |
| Fulton | 0 | 55 | 2,068 |
| Genesee | 0 | 103 | 1,311 |
| Greene | 35 | 348 | 2,689 |
| Hamilton | 14 | 31 | 122 |
| Herkimer | 0 | 60 | 951 |
| Jefferson | 7 | 142 | 3,609 |
| Kings | 55 | 730 | 11,913 |
| Lewis | 0 | 7 | 339 |
| Livingston | 15 | 149 | 997 |
| Madison | 4 | 151 | 1,664 |
| Monroe | 0 | 381 | 9,825 |
| Montgomery | 0 | 88 | 5,475 |
| Nassau | 1,082 | 8,823 | 52,646 |
| New York | 24 | 529 | 1,965 |
| Niagara | 0 | 400 | 3,044 |
| Oneida | 4 | 306 | 9,002 |
| Onondaga | 3 | 365 | 9,138 |
| Ontario | 5 | 150 | 4,089 |
| Orange | 31 | 1,450 | 33,595 |
| Orleans | 0 | 42 | 892 |
| Oswego | 3 | 65 | 3,165 |
| Ostego | 18 | 137 | 860 |
| Putnam | 3 | 240 | 3,180 |
| Queens | 47 | 1,540 | 17,509 |
| Rensselaer | 20 | 1,037 | 13,954 |
| Richmond | 0 | 175 | 27,418 |
| Rockland | 27 | 574 | 15,168 |
| St. Lawrence | 39 | 814 | 17,394 |
| Saratoga | 0 | 640 | 10,451 |
| Schenectady | 0 | 154 | 2,013 |
| Schoharie | 4 | 29 | 698 |
| Schuyler | 17 | 68 | 2,131 |
| Seneca | 23 | 137 | 4,179 |
| Steuben | 0 | 38 | 580 |
| Suffolk | 2,664 | 21,301 | 131,328 |
| Sullivan | 23 | 547 | 4,886 |
| Tioga | 19 | 155 | 1,068 |
| Tompkins | 139 | 805 | 13,800 |
| Ulster | 183 | 2,666 | 16,729 |
| Warren | 11 | 230 | 6,739 |
| Washington | 22 | 445 | 3,902 |
| Wayne | 0 | 182 | 4,287 |
| Westchester | 89 | 3,095 | 35,696 |
| Wyoming | 0 | 81 | 414 |
| Yates | 0 | 31 | 1,113 |

# Appendix I

## New York State Estimated Combined Heat and Power (CHP) Capacity and Generation by County, 2000–2015

**Table I-1. CHP Installed Capacity (kW)**

| County | 2000 | 2005 | 2010 | 2015 |
|---|---|---|---|---|
| **New York State** | 5,591,455 | 5,923,435 | 6,093,821 | 6,200,976 |
| Albany | 446,000 | 447,100 | 449,945 | 455,820 |
| Allegany | 941 | 1,691 | 1,691 | 1,691 |
| Bronx | 15,470 | 17,925 | 19,564 | 59,288 |
| Broome | 0 | 1,050 | 1,185 | 1,585 |
| Cattaraugus | 94,140 | 94,140 | 94,140 | 94,140 |
| Cayuga | 450 | 700 | 4,775 | 6,295 |
| Chautauqua | 101,000 | 101,680 | 101,680 | 101,750 |
| Chemung | 205 | 205 | 505 | 505 |
| Clinton | 285,600 | 285,600 | 288,600 | 288,600 |
| Cortland | 0 | 1,645 | 1,645 | 1,645 |
| Dutchess | 7,500 | 7,500 | 8,500 | 8,500 |
| Erie | 67,675 | 70,425 | 73,543 | 74,343 |
| Essex | 42,100 | 42,100 | 42,700 | 42,700 |
| Genesee | 73,850 | 75,130 | 75,930 | 75,930 |
| Herkimer | 60,500 | 60,500 | 60,500 | 60,500 |
| Jefferson | 375 | 375 | 500 | 500 |
| Kings | 404,974 | 408,294 | 431,539 | 434,901 |
| Lewis | 128,900 | 128,900 | 128,900 | 128,900 |
| Madison | 80 | 80 | 130 | 130 |
| Monroe | 130,625 | 142,025 | 169,825 | 170,550 |
| Montgomery | 0 | 1,770 | 1,770 | 1,770 |
| Nassau | 223,730 | 226,185 | 231,205 | 236,305 |
| New York | 733,195 | 741,315 | 785,810 | 807,355 |
| Niagara | 328,600 | 340,600 | 346,630 | 346,630 |
| Oneida | 66,078 | 71,578 | 75,778 | 79,748 |
| Onondaga | 332,890 | 333,190 | 334,765 | 339,945 |
| Ontario | 1,200 | 1,600 | 1,600 | 2,140 |
| Orange | 0 | 0 | 0 | 5,000 |
| Orleans | 0 | 0 | 0 | 60 |
| Oswego | 1,315,225 | 1,315,225 | 1,315,225 | 1,315,225 |
| Otsego | 96 | 161 | 161 | 161 |
| Queens | 156,557 | 411,507 | 413,155 | 415,610 |
| Rensselaer | 0 | 7,300 | 7,400 | 7,410 |
| Richmond | 7,022 | 7,922 | 7,922 | 8,522 |
| Rockland | 23,400 | 24,800 | 25,721 | 25,796 |
| Saratoga | 148,225 | 148,225 | 148,225 | 148,225 |
| Schenectady | 0 | 560 | 1,000 | 1,480 |
| Schuyler | 8,000 | 8,000 | 8,000 | 8,000 |
| Seneca | 11,200 | 11,650 | 11,650 | 11,650 |
| St. Lawrence | 187,450 | 187,450 | 187,645 | 190,851 |
| Suffolk | 82,553 | 86,913 | 89,333 | 89,643 |
| Sullivan | 60 | 60 | 60 | 60 |
| Tioga | 505 | 505 | 1,173 | 1,173 |
| Tompkins | 240 | 240 | 30,365 | 30,935 |
| Ulster | 360 | 360 | 360 | 360 |
| Warren | 29,000 | 29,450 | 29,450 | 29,450 |
| Washington | 14,000 | 14,000 | 14,000 | 14,320 |
| Wayne | 515 | 1,785 | 1,785 | 1,785 |
| Westchester | 4,369 | 6,249 | 8,516 | 12,626 |
| Wyoming | 56,600 | 57,770 | 59,320 | 60,468 |

**Table I-2. CHP Estimated Annual Generation (MWh)**

| County | 2000 | 2005 | 2010 | 2015 |
|---|---|---|---|---|
| **New York State** | 18,479,458 | 20,473,750 | 21,434,973 | 22,039,481 |
| Albany | 834,640 | 840,846 | 856,895 | 890,039 |
| Allegany | 5,309 | 9,540 | 9,540 | 9,540 |
| Bronx | 87,273 | 101,123 | 110,369 | 334,470 |
| Broome | 0 | 5,924 | 6,685 | 8,942 |
| Cattaraugus | 407,649 | 407,649 | 407,649 | 407,649 |
| Cayuga | 2,539 | 3,949 | 26,938 | 35,513 |
| Chautauqua | 5,773 | 9,610 | 9,610 | 10,004 |
| Chemung | 1,156 | 1,156 | 2,849 | 2,849 |
| Clinton | 185,279 | 185,279 | 202,203 | 202,203 |
| Cortland | 0 | 9,280 | 9,280 | 9,280 |
| Dutchess | 42,311 | 42,311 | 47,952 | 47,952 |
| Erie | 165,584 | 181,098 | 198,688 | 203,201 |
| Essex | 70 | 70 | 3,455 | 3,455 |
| Genesee | 71,163 | 78,384 | 82,897 | 82,897 |
| Herkimer | 341,307 | 341,307 | 341,307 | 341,307 |
| Jefferson | 2,116 | 2,116 | 2,821 | 2,821 |
| Kings | 2,334,126 | 2,352,855 | 2,483,991 | 2,502,957 |
| Lewis | 135,106 | 135,106 | 135,106 | 135,106 |
| Madison | 451 | 451 | 733 | 733 |
| Monroe | 736,913 | 801,226 | 958,058 | 962,148 |
| Montgomery | 0 | 9,985 | 9,985 | 9,985 |
| Nassau | 1,244,718 | 1,258,568 | 1,286,888 | 1,315,659 |
| New York | 597,468 | 643,276 | 894,292 | 1,015,837 |
| Niagara | 569,801 | 637,498 | 671,516 | 671,516 |
| Oneida | 25,984 | 57,012 | 80,706 | 103,102 |
| Onondaga | 940,851 | 942,543 | 951,429 | 980,651 |
| Ontario | 6,770 | 9,026 | 9,026 | 12,073 |
| Orange | 0 | 0 | 0 | 28,207 |
| Orleans | 0 | 0 | 0 | 338 |
| Oswego | 6,589,048 | 6,589,048 | 6,589,048 | 6,589,048 |
| Otsego | 542 | 908 | 908 | 908 |
| Queens | 912,708 | 2,472,441 | 2,481,738 | 2,495,587 |
| Rensselaer | 0 | 41,183 | 41,747 | 41,803 |
| Richmond | 39,614 | 44,691 | 44,691 | 48,076 |
| Rockland | 132,010 | 139,908 | 145,103 | 145,527 |
| Saratoga | 768,818 | 768,818 | 768,818 | 768,818 |
| Schenectady | 0 | 3,159 | 5,641 | 8,349 |
| Schuyler | 45,132 | 45,132 | 45,132 | 45,132 |
| Seneca | 63,184 | 65,723 | 65,723 | 65,723 |
| St. Lawrence | 484,656 | 484,656 | 485,756 | 503,842 |
| Suffolk | 478,436 | 503,033 | 516,685 | 518,434 |
| Sullivan | 338 | 338 | 338 | 338 |
| Tioga | 2,849 | 2,849 | 6,617 | 6,617 |
| Tompkins | 1,354 | 1,354 | 171,302 | 174,518 |
| Ulster | 2,031 | 2,031 | 2,031 | 2,031 |
| Warren | 0 | 2,539 | 2,539 | 2,539 |
| Washington | 78,980 | 78,980 | 78,980 | 80,785 |
| Wayne | 2,905 | 10,070 | 10,070 | 10,070 |
| Westchester | 24,647 | 35,253 | 48,043 | 71,229 |
| Wyoming | 107,850 | 114,451 | 123,195 | 129,671 |

# Appendix J

## Abbreviations

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

## Conversion Factors

Approximate heat content of various fuels (2015)

**Coal**

| | |
|---|---|
| Electric generation | 21,155,000 Btu/ton |
| Industrial end use sector | 27,533,000 Btu/ton |

**Natural Gas**

| | |
|---|---|
| Electric generation | 1,031 Btu/cf |
| Other end use sectors | 1,033 Btu/cf |

**Wood** 20,000,000 Btu/cord

**Electricity Sales** 3,412 Btu/kWh

**Electricity Generation** 8,697 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 | 5,770,000 Btu/barrel |
| Ethanol | 3,558,000 Btu/barrel |
| Jet fuel, kerosene-type | 5,670,000 Btu/barrel |
| Kerosene | 5,670,000 Btu/barrel |
| Motor gasoline | 5,060,000 Btu/barrel |
| LPG (propane) | 3,836,000 Btu/barrel |
| Residual fuel oil | 6,287,000 Btu/barrel |

# Appendix K

## Glossary

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

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

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

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

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

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

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

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

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

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

**Crude oil** - A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs. Refined crude oil produces 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 those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.

**Electric generation** - Includes both publicly and privately owned generating plants in NYS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Therm** - 100,000 Btu.

**Transportation Sector** - An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles, trucks, buses, motorcycles, trains, subways, 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." 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 L

## 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

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

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