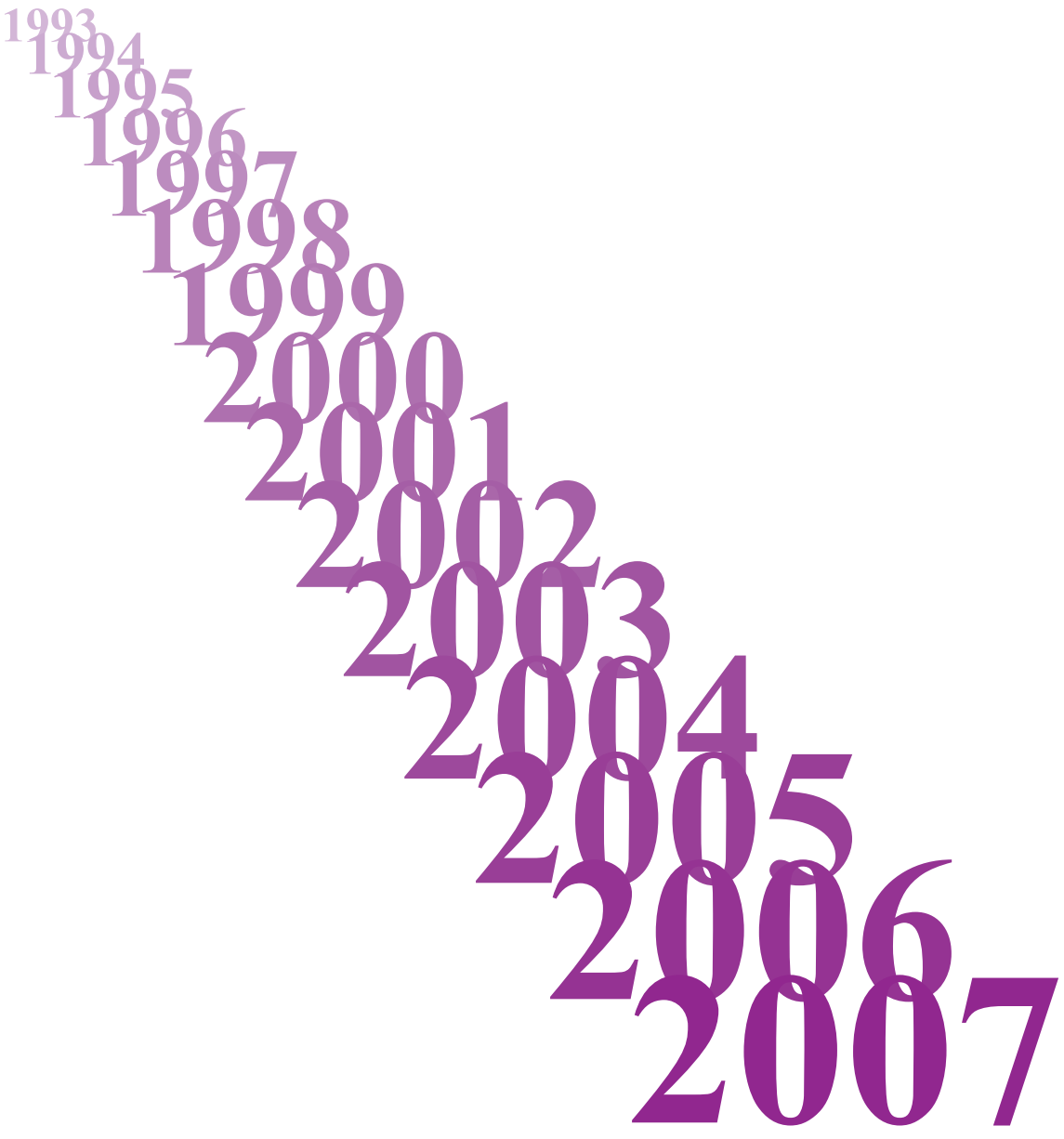



# PATTERNS AND TRENDS

## NEW YORK STATE ENERGY PROFILES: 1993-2007

JANUARY 2009

NEW YORK STATE
ENERGY RESEARCH AND
DEVELOPMENT AUTHORITY

NYSERDA

# PATTERNS AND TRENDS
## NEW YORK STATE ENERGY PROFILES: 1993-2007

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

17 Columbia Circle
Albany, NY 12203-6399

**www.nyserda.org**

January 2009

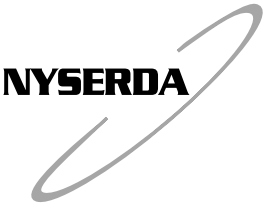
# Message from the President

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

The data in the report is collected and reported by sector and end use for the following: energy production and use, sources of energy supply, fuel prices, and total energy expenditures. Comparisons across states and to the U.S. average are also provided for some data sets.

New York State, and other states across the country, have faced record-high energy costs in 2008. As part of our mission, NYSERDA is working on addressing ways to reduce our dependence on fossil fuels, promote clean, renewable energy and energy efficiency measures, and is seeking new ways to make these solutions as affordable and environmentally friendly as possible. NYSERDA welcomes any feedback that users of this report would like to offer, especially suggestions on how ***Patterns and Trends*** may better meet the needs of the State's energy stakeholders.

Francis J. Murray, President and Chief Executive Officer
New York State Energy Research and Development Authority



# 2007
# NEW YORK STATE
# ENERGY FAST FACTS

## PRIMARY ENERGY CONSUMPTION

*3.3% higher than 2006*

Primary consumption (4.1% of U.S. total) (trillion Btu) . . . . 4,128.9
By sector:
- Residential . . . . . (17%) . . . . . 687.1
- Commercial . . . . . (11%) . . . . . 457.5
- Industrial . . . . . ( 4%). . . . . 170.7
- Transportation . . . . . (28%) . . . . . 1,167.1
- Electric Generation. . . . . (40%) . . . . . 1,646.5

By fuel type:
- Petroleum . . . . . (40%) . . . . . 1,641.0
- Natural gas . . . . . (29%) . . . . . 1,203.5
- Nuclear . . . . . (11%) . . . . . 442.4
- Coal . . . . . ( 6%) . . . . . 252.5
- Hydro . . . . . ( 6%). . . . . 264.1
- Biofuels[1] . . . . . ( 3%). . . . . 212.7
- Net imported electricity . . ( 5%). . . . . 192.9

Primary consumption per capita (million Btu). . . . . 214.0

## NET ENERGY CONSUMPTION AND EXPENDITURES

| | Net Energy Consumption (trillion Btu) | | Estimated Expenditures (billion dollars) | |
|---|---|---|---|---|
| Total: | 2,987.9 | | | $64.9 |
| By sector: | | | | |
| Residential | (29%) | 858.5 | (29%) | $19.1 |
| Commercial | (24%) | 711.2 | (27%) | $17.4 |
| Industrial | (8%) | 239.6 | (5%) | $3.4 |
| Transportation | (39%) | 1,178.6 | (39%) | $24.9 |
| By fuel type: | | | | |
| Petroleum | (52%) | 1,554.5 | (49%) | $31.8 |
| Natural gas | (27%) | 796.9 | (16%) | $10.4 |
| Electricity | (17%) | 505.6 | (35%) | $22.6 |
| Biofuels[1] | ( 3%) | 177.4 | | |
| Coal | ( 1%) | 33.8 | (< 1%) | $0.1 |
| Estimated energy expenditures leaving the state | | | | $34.6 |

## AVERAGE ENERGY PRICES

| | 2007 | 2006 |
|---|---|---|
| Gasoline - all grades (gallon) | $2.93 | $2.55 |
| Heating oil (gallon) | $2.79 | $2.56 |
| Natural gas (thousand cubic feet) | | |
| Residential | $15.49 | $15.38 |
| Commercial | $11.72 | $11.94 |
| Industrial | $11.33 | $10.59 |
| Electricity (kilowatthour) | | |
| Residential | 17.1¢ | 16.9¢ |
| Commercial | 15.9¢ | 15.5¢ |
| Industrial | 8.7¢ | 9.4¢ |

## GREENHOUSE GAS EMISSIONS FROM FUEL COMBUSTION

Total (million tons of $CO_2$ equivalent) . . . . . 229.5
By sector:
- Residential . . . . . (18%) . . . . . 41.4
- Commercial . . . . . (13%) . . . . . 29.9
- Industrial . . . . . ( 8%). . . . . 17.5
- Transportation . . . . . (37%) . . . . . 86.5
- Electric Generation. . . . . (24%) . . . . . 54.1

By fuel type:
- Petroleum . . . . . (57%)
- Natural gas . . . . . (31%)
- Coal . . . . . (12%)

Greenhouse gas emissions per capita
(tons of $CO_2$ equivalent). . . . . 11.9

[1]Ethanol is included in the "Biofuel" totals, but is not included in the state total or biofuel percentages because it is already captured in motor gasoline use.

## ELECTRICITY

*Sales increased 4% from 2006*

Sales to ultimate consumers (gigawatthours) . . . . . 148,177
By sector:
- Residential . . . . . (34%) . . . . . 50,241
- Commercial . . . . . (50%) . . . . . 74,326
- Industrial . . . . . (14%) . . . . . 20,213
- Transportation. . . . . ( 2%). . . . . 3,397

Generation (gigawatthours) . . . . . 167,341
By fuel type:
- Natural Gas . . . . . (27%) . . . . . 45,634
- Nuclear . . . . . (25%) . . . . . 42,451
- Hydro . . . . . (15%) . . . . . 25,557
- Coal . . . . . (13%) . . . . . 21,406
- Net Imported Electricity . (12%) . . . . . 20,391
- Petroleum . . . . . (5%) . . . . . 8,195
- Biofuels (excluding wind) (2%) . . . . . 2,834
- Wind. . . . . (0.5%). . . . . 873

## PETROLEUM

*Consumption increased 3% from 2006*

Consumption (4% of U.S. total) (million barrels) . . . . . 298.0
By sector:
- Residential . . . . . (13%) . . . . . 38.3
- Commercial. . . . . ( 9%). . . . . 25.6
- Industrial . . . . . ( 2%). . . . . 7.4
- Transportation . . . . . (71%) . . . . . 212.7
- Electric generation . . . . . ( 5%). . . . . 13.9

Dependence on foreign oil . . . . . 88%
In-State production (thousand barrels) . . . . . 387.0

## NATURAL GAS

*Consumption increased 7% from 2006*

Consumption (5% of U.S. total) (billion cubic feet). . . . . 1,174
By sector:
- Residential . . . . . (34%). . . . . 397
- Commercial . . . . . (24%). . . . . 284
- Industrial . . . . . ( 7%) . . . . . 80
- Transportation. . . . . ( 1%) . . . . . 15
- Electric generation . . . . . (34%). . . . . 398

In-State production (billion cubic feet) . . . . . 55

## ADDITIONAL STATISTICS

Population (6.4% of U.S. total) (million) . . . . . 19.3
Number of housing units (million) . . . . . 7.9
Gross State Product (billion 2000 dollars) . . . . . $946.3
Motor vehicle registrations (million) . . . . . 11.5
Vehicle miles of travel (billion miles) . . . . . 136.7
Heating degree days (increased 14% from 2006) . . . . . 5,931
Cooling degree days (decreased 1% from 2006) . . . . . 728

## DATA SOURCE


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

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# Overview

*Patterns and Trends* is organized into six sections:

**Section 1: Energy Profiles for the United States and New York** 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. National petroleum statistics have been aggregated to represent the same six fuels included in the New York data, specifically gasoline, distillate fuel, kerosene, aviation fuels, residual oil, and liquefied petroleum gases.

**Section 2: New York 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.

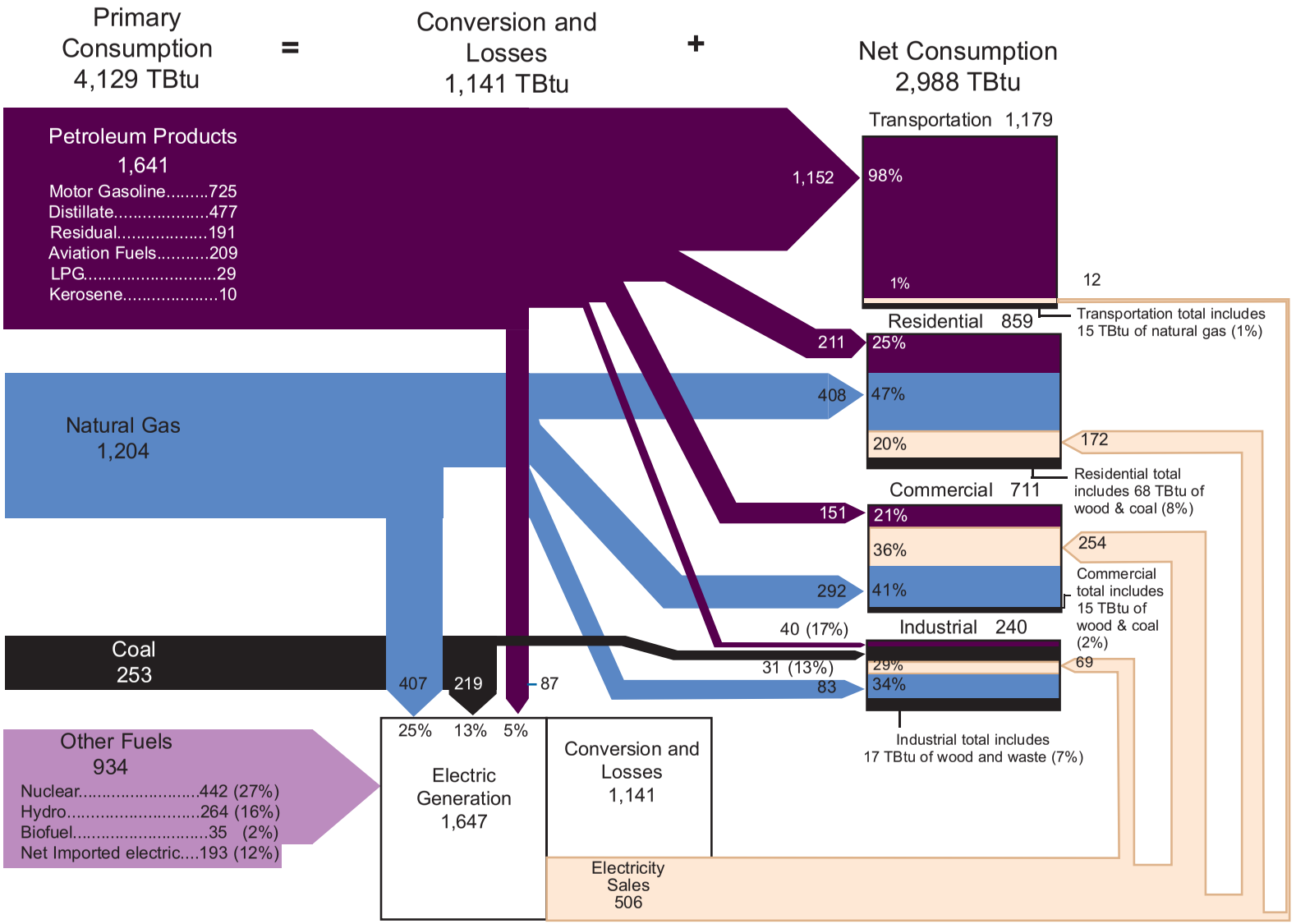
**Section 3: New York Energy Prices** presents retail energy price data. Retail energy prices are provided by fuel type for each sector in nominal dollars per physical unit and per million Btu.

**Section 4: New York Energy Expenditures** presents the estimated net energy expenditures by sector and fuel type in nominal dollars, as well as in 2007 constant (inflation adjusted prices) dollars. Estimated expenditures were derived by multiplying quantities consumed by their respective retail prices.

**Section 5: New York's Sources of Energy** provides information on sources of New York energy supplies.

**Section 6: Appendices** provides data on greenhouse gas emissions from fuel combustion, household end-use energy consumption and expenditures, gasoline consumption by county, occupied housing units by type of space heating, degree-days, conversion factors, and a glossary of energy terms.

# 2007 New York State Energy Flow (TBtu)



# PATTERNS AND TRENDS

## New York State Energy Profiles: 1993-2007

### Table of Contents



**Patterns and Trends - New York State Energy Profiles: 1993-2007** presents a 15-year, historical overview of energy statistics for the State. It is an objective and reliable source of energy-related information for use by the general public, businesses, and government analysts. This report was prepared using the most recent comprehensive data available through the 2007 calendar year. Historical data prior to 1993 is available upon request for most data series.


For more information, contact Christopher Hall, NYSERDA, 17 Columbia Circle, Albany, New York 12203-6399; 518-862-1090 ext. 3383; or visit www.nyserda.org.

# List of Tables and Figures

**Section 1**

# ENERGY PROFILES FOR THE UNITED STATES AND NEW YORK

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. Additional statistics compare recent energy consumption and expenditure trends among all states. New York and national data are comparable and exclude petroleum products not used as a form of energy including: propane used in the chemical industry, asphalt, road oil, lubricants, and petrochemical feedstocks.

Selected New York State data is compiled from State sources and may differ from statistics reported for New York in federal energy publications. For example, aviation fuel estimates developed using sales data at major New York City airports, and extrapolated to derive statewide consumption figures, are larger than comparable estimates appearing in federal reports.

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

# Key Observations about 2007 New York State Energy Data

- ✓ New York is the second most energy-efficient state in the continental United States on a per-capita basis, behind Rhode Island, accounting for 4.1% of the nation's total primary energy consumption. New York accounts for 6.4% of the nation's population.

- ✓ New York is the fourth largest energy consuming state.

- ✓ Net energy demand in New York differs from national demand in several respects (as shown in Tables 1-1 and 1-2):

  - Residential net energy use accounts for 29% of total energy demand in New York, compared to 18% nationally.

  - Commercial net energy use accounts for 24% of total energy demand in New York, compared to 13% nationally.

  - Industrial net energy use accounts for 8% of total energy demand in New York, compared to 25% nationally.

  - Transportation net energy use accounts for 39% of total energy demand in New York, compared to 44% nationally.

- ✓ In 2007, New York's reliance on foreign oil as a proportion of total petroleum was 88% compared to 65% for the United States.

# United States
# Primary Consumption of Energy by Fuel Type and Sector, 2007

**Figure 1-1**

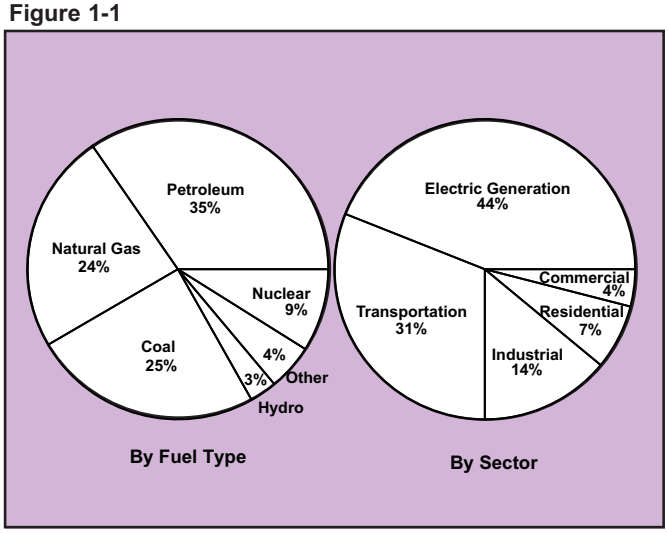



**Table 1-1 (in trillion Btu)**

| | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation TBtu | Net Consumption TBtu | Electric Generation[1] TBtu | Primary Consumption TBtu |
|---|---|---|---|---|---|---|---|
| Coal | 6 | 71 | 1,865 | 0 | 1,942 | 20,835 | 22,777 |
| Natural Gas | 4,861 | 3,092 | 6,825 | 27 | 14,805 | 7,011 | 21,817 |
| Petroleum Products: | 1,286 | 632 | 2,023 | 27,524 | 31,464 | 660 | 32,124 |
| Distillate | 755 | 392 | 1,277 | 6,083 | 8,507 | 76 | 8,583 |
| Residual | 0 | 101 | 220 | 838 | 1,160 | 584 | 1,744 |
| Kerosene | 74 | 19 | 18 | 0 | 111 | 0 | 111 |
| LPG | 457 | 80 | 507 | 27 | 1,070 | 0 | 1,070 |
| Gasoline | 0 | 40 | 0 | 17,062 | 17,102 | 0 | 17,102 |
| Jet Fuel | 0 | 0 | 0 | 3,514 | 3,514 | 0 | 3,514 |
| Renewables[2] | 556 | 104 | 2,028 | 629 | 3,317 | 745 | 4,062 |
| Electric Sales | 4,749 | 4,581 | 3,432 | 18 | 12,780 | | |
| Net Consumption | 11,458 | 8,480 | 16,173 | 28,197 | 64,309 | | |
| | | | | | Hydro Electricity | 2,463 | 2,463 |
| | | | | | Nuclear Electricity | 8,415 | 8,415 |
| | | | | | Wind Electricity | 319 | 319 |
| | | | | | Primary Consumption | 40,449 | 91,977 |

[1] Includes utility generators and non-utility generators.
[2] Hydro and wind excluded.

## New York State Primary Consumption of Energy by Fuel Type and Sector, 2007

**Figure 1-2**

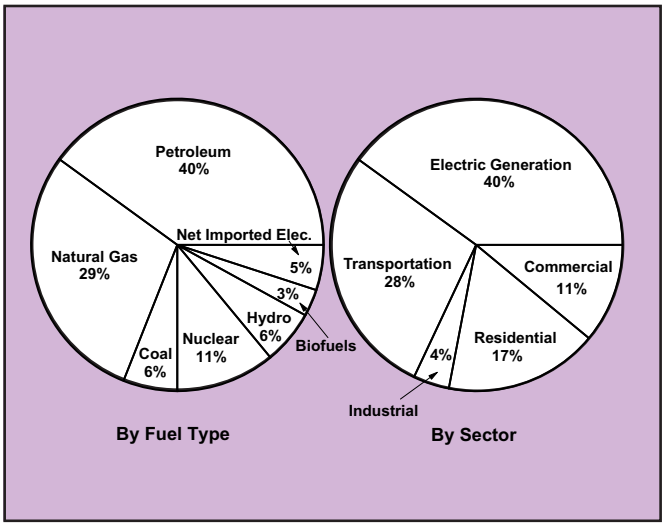



**Table 1-2 (in trillion Btu)**

| | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation[3] TBtu | Net Consumption[3] TBtu | Electric Generation[1] TBtu | Primary Consumption[3] TBtu |
|---|---|---|---|---|---|---|---|
| Coal | 0.3 | 2.8 | 30.7 | 0.0 | 33.8 | 218.7 | 252.5 |
| Natural Gas | 407.7 | 291.5 | 82.7 | 14.9 | 796.8 | 406.6 | 1,203.4 |
| Petroleum Products: | 211.4 | 151.1 | 39.9 | 1,152.2 | 1,554.6 | 86.5 | 1,641.1 |
| Distillate | 185.6 | 90.0 | 22.4 | 171.7 | 469.7 | 7.3 | 477.0 |
| Residual | 0.0 | 56.3 | 9.5 | 45.7 | 111.5 | 79.2 | 190.7 |
| Kerosene | 7.0 | 1.4 | 1.2 | 0.0 | 9.6 | 0.0 | 9.6 |
| LPG | 18.8 | 3.3 | 6.8 | 0.5 | 29.4 | 0.0 | 29.4 |
| Gasoline | 0.0 | 0.0 | 0.0 | 724.9 | 724.9 | 0.0 | 724.9 |
| Jet Fuel | 0.0 | 0.0 | 0.0 | 209.4 | 209.4 | 0.0 | 209.4 |
| Biofuels[2] | 67.7 | 12.1 | 17.4 | 80.3 | 177.5 | 26.8 | 204.3 |
| Electric Sales | 171.5 | 253.6 | 68.9 | 11.5 | 505.6 | | |
| Net Consumption | 858.5 | 711.2 | 239.6 | 1,178.6 | 2,987.9 | | |
| | | | | | Hydro Electricity | 264.1 | 264.1 |
| | | | | | Nuclear Electricity | 442.4 | 442.4 |
| | | | | | Net Imported Electricity | 192.9 | 192.9 |
| | | | | | Wind Electricity | 8.5 | 8.5 |
| | | | | | Primary Consumption | 1,646.5 | 4,128.9 |

[1] Includes utility and non-utility generators.
[2] Hydro and wind excluded.
[3] Ethanol values are excluded from the total because values are included in motor gasoline.

# United States and New York State
# Selected Energy Prices
# in Nominal Dollars
# 1993-2007

**Table 1-3a - United States**

| Year | Motor Gasoline ¢/gal | Resident. Distillate ¢/gal | Resident. Elec. ¢/kWh | Resident. Nat. Gas $/Mcf | Comm. Elec. ¢/kWh | Comm. Nat. Gas $/Mcf | Indus. Elec. ¢/KWh | Indus. Nat. Gas $/Mcf |
|---|---|---|---|---|---|---|---|---|
| 1993 | 117.3 | 91.1 | 8.3 | 6.16 | 7.7 | 5.22 | 4.9 | 3.07 |
| 1994 | 117.4 | 88.4 | 8.4 | 6.41 | 7.7 | 5.44 | 4.8 | 3.05 |
| 1995 | 114.7 | 86.7 | 8.4 | 6.06 | 7.7 | 5.05 | 4.7 | 2.71 |
| 1996 | 123.1 | 98.9 | 8.4 | 6.34 | 7.6 | 5.40 | 4.6 | 3.42 |
| 1997 | 123.4 | 98.4 | 8.4 | 6.94 | 7.6 | 5.80 | 4.5 | 3.59 |
| 1998 | 105.9 | 85.2 | 8.3 | 6.82 | 7.4 | 5.48 | 4.5 | 3.14 |
| 1999 | 116.5 | 87.6 | 8.2 | 6.69 | 7.3 | 5.33 | 4.4 | 3.12 |
| 2000 | 151.0 | 131.1 | 8.2 | 7.76 | 7.4 | 6.59 | 4.6 | 4.45 |
| 2001 | 146.1 | 125.0 | 8.6 | 9.63 | 7.9 | 8.43 | 5.1 | 5.24 |
| 2002 | 135.8 | 112.9 | 8.4 | 7.89 | 7.9 | 6.63 | 4.9 | 4.02 |
| 2003 | 159.1 | 135.5 | 8.7 | 9.63 | 8.0 | 8.40 | 5.1 | 5.89 |
| 2004 | 188.0 | 154.8 | 9.0 | 10.75 | 8.2 | 9.43 | 5.3 | 6.53 |
| 2005 | 229.5 | 205.2 | 9.5 | 12.70 | 8.7 | 11.34 | 5.7 | 8.56 |
| 2006 | 258.9 | 236.2 | 10.4 | 13.75 | 9.4 | 11.99 | 6.2 | 7.86 |
| 2007 | 280.1 | 259.2 | 10.6 | 13.01 | 9.7 | 11.31 | 6.4 | 7.59 |

**Table 1-3b - New York State**

| Year | Motor Gasoline ¢/gal | Resident. Distillate ¢/gal | Resident. Elec. ¢/kWh | Resident. Nat. Gas $/Mcf | Comm. Elec. ¢/kWh | Comm. Nat. Gas $/Mcf | Indus. Elec. ¢/KWh | Indus. Nat. Gas $/Mcf |
|---|---|---|---|---|---|---|---|---|
| 1993 | 113.1 | 104.1 | 13.2 | 8.13 | 11.2 | 6.16 | 6.7 | 5.16 |
| 1994 | 114.1 | 100.5 | 13.6 | 8.76 | 11.3 | 6.51 | 6.8 | 5.23 |
| 1995 | 118.9 | 99.3 | 13.9 | 8.39 | 11.5 | 6.07 | 5.8 | 4.67 |
| 1996 | 123.4 | 110.6 | 14.0 | 8.90 | 11.6 | 6.87 | 5.6 | 5.04 |
| 1997 | 124.6 | 110.8 | 14.1 | 9.73 | 11.7 | 6.49 | 5.2 | 5.05 |
| 1998 | 106.3 | 98.6 | 13.6 | 9.62 | 11.0 | 6.11 | 4.9 | 4.03 |
| 1999 | 118.8 | 100.8 | 13.3 | 9.12 | 10.3 | 5.15 | 4.8 | 3.90 |
| 2000 | 159.6 | 150.0 | 14.0 | 9.80 | 12.1 | 7.73 | 5.4 | 6.10 |
| 2001 | 143.0 | 141.8 | 14.0 | 11.70 | 12.2 | 9.57 | 5.6 | 7.69 |
| 2002 | 134.3 | 126.7 | 13.5 | 10.32 | 11.8 | 6.73 | 5.2 | 5.79 |
| 2003 | 156.9 | 149.6 | 14.3 | 11.46 | 12.9 | 8.50 | 7.1 | 7.26 |
| 2004 | 188.2 | 169.7 | 14.5 | 12.59 | 13.0 | 10.18 | 7.0 | 8.10 |
| 2005 | 224.0 | 219.1 | 15.7 | 14.91 | 14.4 | 11.81 | 8.2 | 10.77 |
| 2006 | 255.6 | 255.6 | 16.9 | 15.38 | 15.5 | 11.94 | 9.4 | 10.59 |
| 2007 | 293.0 | 278.7 | 17.1 | 15.49 | 15.9 | 11.72 | 8.7 | 11.33 |

# United States and New York State Sources of Petroleum Products, 1993-2007

Figure 1-4

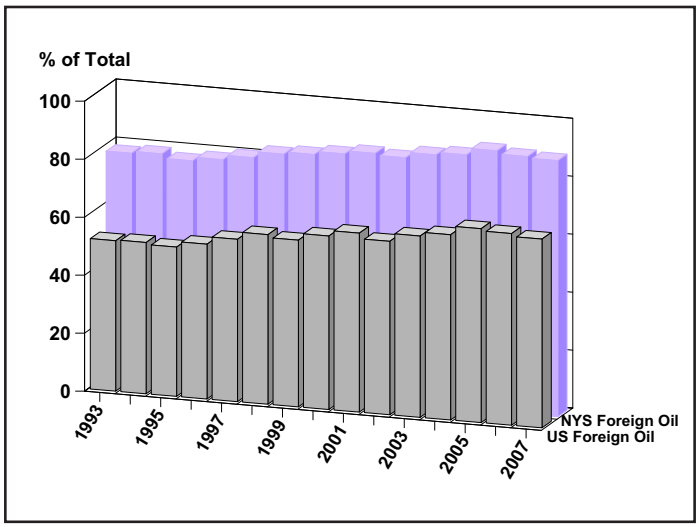



**Table 1-4a - United States**

| Year | Total Domestic[1] % | Total Foreign % | OPEC[2] % | Non-OPEC[3] % |
|---|---|---|---|---|
| 1993 | 48.1 | 51.9 | 27.8 | 24.1 |
| 1994 | 47.8 | 52.2 | 26.3 | 25.9 |
| 1995 | 48.5 | 51.5 | 25.5 | 26.0 |
| 1996 | 46.6 | 53.4 | 24.7 | 28.7 |
| 1997 | 44.0 | 56.0 | 25.9 | 30.1 |
| 1998 | 41.5 | 58.5 | 28.0 | 30.5 |
| 1999 | 42.5 | 57.5 | 27.5 | 30.0 |
| 2000 | 40.2 | 59.8 | 28.8 | 31.0 |
| 2001 | 38.3 | 61.7 | 30.5 | 31.2 |
| 2002 | 40.2 | 59.8 | 25.4 | 34.4 |
| 2003 | 37.4 | 62.6 | 28.1 | 34.5 |
| 2004 | 36.1 | 63.9 | 29.9 | 34.0 |
| 2005 | 33.1 | 66.9 | 29.1 | 37.8 |
| 2006 | 33.9 | 66.1 | 29.3 | 36.8 |
| 2007 | 34.9 | 65.1 | 32.9 | 32.2 |

**Table 1-4b - New York State**

| Year | Total Domestic[1] % | Total Foreign % | OPEC[2] % | Non-OPEC[3] % |
|---|---|---|---|---|
| 1993 | 21.8 | 78.2 | 46.4 | 31.8 |
| 1994 | 21.1 | 78.9 | 45.0 | 33.9 |
| 1995 | 22.6 | 77.4 | 43.9 | 33.5 |
| 1996 | 21.3 | 78.7 | 40.9 | 37.8 |
| 1997 | 19.7 | 80.3 | 41.7 | 38.6 |
| 1998 | 17.6 | 82.4 | 43.4 | 39.0 |
| 1999 | 16.8 | 83.2 | 42.5 | 40.7 |
| 2000 | 15.7 | 84.3 | 43.4 | 40.9 |
| 2001 | 14.6 | 85.4 | 44.0 | 41.4 |
| 2002 | 15.2 | 84.8 | 37.9 | 46.9 |
| 2003 | 13.3 | 86.7 | 39.9 | 46.8 |
| 2004 | 12.4 | 87.6 | 42.8 | 44.8 |
| 2005 | 10.1 | 89.9 | 44.9 | 45.0 |
| 2006 | 11.2 | 88.8 | 43.9 | 44.9 |
| 2007 | 11.7 | 88.3 | 47.9 | 40.4 |

[1] Domestic: oil produced in the United States or from its outer continental shelf.
[2] OPEC: largest contributors are Saudi Arabia, Venezuela, Nigeria, Iraq, and Algeria.
[3] Non-OPEC: largest contributors are Canada, Mexico, United Kingdom, Angola, and Russia.

# United States and New York State
# Factors Influencing Energy Demand and Expenditures
# 1993-2007

**Table 1-5a - United States**

| Year | Population thousands | Housing Units thousands | Non-Mfg.[1] Employment thousands | Mfg.[1] Employment thousands | GDP[2] B/00$ | Licensed Drivers millions | Vehicle Registrations millions | Vehicle Miles Traveled billions |
|---|---|---|---|---|---|---|---|---|
| 1993 | 257,783 | 105,519 | 94,070 | 16,774 | 7,240.8 | 173 | 194 | 2,296 |
| 1994 | 260,327 | 106,788 | 97,271 | 17,020 | 7,538.5 | 175 | 198 | 2,358 |
| 1995 | 262,803 | 108,201 | 100,057 | 17,241 | 7,784.2 | 177 | 202 | 2,423 |
| 1996 | 265,229 | 109,593 | 102,471 | 17,237 | 8,106.7 | 180 | 206 | 2,484 |
| 1997 | 267,784 | 111,027 | 105,357 | 17,419 | 8,621.0 | 183 | 208 | 2,552 |
| 1998 | 270,248 | 112,499 | 108,370 | 17,560 | 9,004.7 | 185 | 211 | 2,628 |
| 1999 | 272,691 | 114,394 | 111,671 | 17,322 | 9,404.3 | 187 | 216 | 2,690 |
| 2000 | 282,194 | 116,290 | 114,522 | 17,263 | 9,749.1 | 191 | 221 | 2,747 |
| 2001 | 285,112 | 117,858 | 115,385 | 16,441 | 9,836.6 | 191 | 230 | 2,796 |
| 2002 | 287,888 | 119,368 | 115,082 | 15,259 | 9,981.9 | 195 | 230 | 2,856 |
| 2003 | 290,448 | 120,962 | 115,489 | 14,510 | 10,225.7 | 196 | 231 | 2,890 |
| 2004 | 293,192 | 122,672 | 117,120 | 14,315 | 10,580.2 | 199 | 237 | 2,965 |
| 2005 | 295,896 | 124,529 | 119,477 | 14,226 | 10,899.7 | 201 | 242 | 2,989 |
| 2006 | 298,755 | 126,316 | 121,931 | 14,155 | 11,240.1 | 203 | 244 | 3,014 |
| 2007 | 301,621 | 127,901 | 123,739 | 13,884 | 11,467.5 | 206 | 247 | 3,029 |

**Table 1-5b - New York State**

| Year | Population thousands | Housing Units thousands | Non-Mfg.[1] Employment thousands | Mfg.[1] Employment thousands | GSP[3] MM/00$ | Licensed Drivers thousands | Vehicle Registrations thousands | Vehicle Miles Traveled billions |
|---|---|---|---|---|---|---|---|---|
| 1993 | 18,375 | 7,324 | 6,974.1 | 823.6 | 616,896 | 10,327 | 9,110 | 112.24 |
| 1994 | 18,459 | 7,346 | 7,066.0 | 813.5 | 627,133 | 10,377 | 9,149 | 112.98 |
| 1995 | 18,524 | 7,374 | 7,094.3 | 804.2 | 640,084 | 10,474 | 9,177 | 115.17 |
| 1996 | 18,588 | 7,397 | 7,199.4 | 795.4 | 665,717 | 10,483 | 9,235 | 118.41 |
| 1997 | 18,657 | 7,423 | 7,351.3 | 800.8 | 670,980 | 10,529 | 10,027 | 120.79 |
| 1998 | 18,756 | 7,455 | 7,536.4 | 780.7 | 698,883 | 10,554 | 10,173 | 123.37 |
| 1999 | 18,883 | 7,572 | 7,772.2 | 769.6 | 736,540 | 10,627 | 10,437 | 126.49 |
| 2000 | 18,997 | 7,688 | 7,959.3 | 738.6 | 777,157 | 10,871 | 10,661 | 128.70 |
| 2001 | 19,077 | 7,720 | 7,789.0 | 674.3 | 794,392 | 11,015 | 10,707 | 130.83 |
| 2002 | 19,133 | 7,754 | 7,814.1 | 635.5 | 791,689 | 11,022 | 11,369 | 133.06 |
| 2003 | 19,208 | 7,789 | 7,813.2 | 600.3 | 808,396 | 11,357 | 10,802 | 135.47 |
| 2004 | 19,258 | 7,825 | 7,906.6 | 592.5 | 829,900 | 11,247 | 11,099 | 137.90 |
| 2005 | 19,263 | 7,866 | 7,993.7 | 574.4 | 861,473 | 11,081 | 11,863 | 137.52 |
| 2006 | 19,282 | 7,907 | 8,117.0 | 561.1 | 906,554 | 11,146 | 11,284 | 141.35 |
| 2007 | 19,298 | 7,940 | 8,235.9 | 545.2 | 946,317 | 11,369 | 11,495 | 136.74 |

[1] Includes non-farm jobs only.
[2] Gross Domestic Product in billions of 2000 dollars.
[3] Gross State Product in millions of 2000 dollars.

# Energy Consumption & Expenditure Indicators, State Comparisons, 2006

**Table 1-6**

| States | Primary Energy Consumption TBtu | Ranking | Primary Energy Consumption per Capita MMBtu | Ranking | Primary Energy Consumption per unit GSP/GDP Btu | Ranking | Energy Expenditure per Capita dollars | Ranking |
|---|---|---|---|---|---|---|---|---|
| Alabama | 2,140.5 | 16 | 466.32 | 7 | 15,672.6 | 9 | $4,450.29 | 11 |
| Alaska | 753.50 | 37 | 1,112.26 | 1 | 25,704.4 | 2 | $9,080.23 | 1 |
| Arizona | 1,530.9 | 24 | 248.29 | 45 | 7,424.1 | 39 | $3,072.70 | 51 |
| Arkansas | 1,144.5 | 30 | 407.42 | 13 | 14,607.0 | 11 | $4,224.61 | 17 |
| California | 8,240.4 | 2 | 232.29 | 48 | 5,543.7 | 47 | $3,199.74 | 49 |
| Colorado | 1,428.1 | 27 | 299.63 | 39 | 7,187.8 | 40 | $3,409.58 | 42 |
| Connecticut | 848.9 | 33 | 242.84 | 46 | 4,812.2 | 49 | $3,926.82 | 26 |
| Delaware | 300.6 | 47 | 352.51 | 20 | 5,940.6 | 45 | $4,227.40 | 16 |
| Dist. of Columbia | 175.6 | 50 | 299.94 | 37 | 2,428.1 | 51 | $3,737.58 | 33 |
| Florida | 4,609.5 | 3 | 255.27 | 44 | 7,557.1 | 38 | $3,265.05 | 47 |
| Georgia | 3,146.4 | 9 | 336.80 | 26 | 9,502.7 | 26 | $3,697.47 | 36 |
| Hawaii | 332.2 | 45 | 259.81 | 42 | 6,785.8 | 41 | $4,437.47 | 13 |
| Idaho | 514.6 | 40 | 315.53 | 22 | 11,357.8 | 16 | $3,455.34 | 40 |
| Illinois | 3,946.1 | 5 | 308.84 | 39 | 7,782.7 | 35 | $3,390.57 | 43 |
| Indiana | 2,862.2 | 11 | 454.13 | 9 | 13,311.0 | 14 | $4,340.11 | 14 |
| Iowa | 1,207.4 | 29 | 406.18 | 14 | 11,353.5 | 17 | $4,497.16 | 9 |
| Kansas | 1,050.9 | 32 | 381.34 | 16 | 11,103.4 | 19 | $3,889.74 | 27 |
| Kentucky | 1,970.5 | 18 | 468.67 | 6 | 15,699.1 | 8 | $4,446.11 | 12 |
| Louisiana | 3,802.5 | 8 | 896.12 | 3 | 26,936.2 | 1 | $7,844.22 | 3 |
| Maine | 457.8 | 42 | 348.16 | 23 | 11,430.7 | 15 | $4,586.55 | 7 |
| Maryland | 1,452.4 | 26 | 259.26 | 43 | 6,604.2 | 43 | $3,504.38 | 38 |
| Massachusetts | 1,479.1 | 25 | 229.87 | 49 | 4,918.0 | 48 | $3,807.43 | 30 |
| Michigan | 2,998.0 | 10 | 296.76 | 40 | 8,872.8 | 29 | $3,456.07 | 39 |
| Minnesota | 1,822.0 | 20 | 353.47 | 19 | 8,538.9 | 30 | $3,869.91 | 28 |
| Mississippi | 1,215.7 | 28 | 419.34 | 12 | 17,359.2 | 6 | $4,487.44 | 10 |
| Missouri | 1,913.0 | 19 | 327.70 | 28 | 9,833.3 | 22 | $3,688.72 | 37 |
| Montana | 429.1 | 43 | 453.21 | 10 | 16,256.9 | 7 | $4,959.47 | 6 |
| Nebraska | 659.3 | 39 | 373.80 | 18 | 10,231.2 | 21 | $4,044.47 | 20 |
| Nevada | 766.6 | 36 | 307.57 | 33 | 7,715.7 | 36 | $4,012.35 | 22 |
| New Hampshire | 313.1 | 46 | 238.68 | 47 | 6,321.8 | 44 | $3,810.73 | 29 |
| New Jersey | 2,604.8 | 13 | 300.51 | 36 | 6,651.7 | 42 | $4,153.40 | 18 |
| New Mexico | 683.3 | 38 | 351.80 | 21 | 10,929.3 | 20 | $3,730.47 | 34 |
| **New York** | **3,996.3** | **4** | **207.26** | **50** | **4,440.4** | **50** | **$3,082.09** | **50** |
| North Carolina | 2,659.3 | 12 | 299.83 | 38 | 8,229.0 | 31 | $3,424.40 | 41 |
| North Dakota | 410.6 | 44 | 644.12 | 4 | 18,746.3 | 4 | $5,565.21 | 5 |
| Ohio | 3,892.9 | 7 | 339.59 | 25 | 9,799.8 | 23 | $3,928.73 | 25 |
| Oklahoma | 1,603.0 | 23 | 448.07 | 11 | 15,158.7 | 10 | $4,536.75 | 8 |
| Oregon | 1,111.8 | 31 | 301.21 | 35 | 7,983.0 | 34 | $3,319.68 | 45 |
| Pennsylvania | 3,933.0 | 6 | 317.11 | 31 | 9,077.3 | 28 | $3,761.27 | 31 |
| Rhode Island | 216.3 | 49 | 203.74 | 51 | 5,582.5 | 46 | $3,283.31 | 46 |
| South Carolina | 1,707.7 | 22 | 394.38 | 15 | 13,332.0 | 13 | $4,010.15 | 23 |
| South Dakota | 271.9 | 48 | 344.85 | 24 | 9,701.7 | 24 | $4,017.04 | 21 |
| Tennessee | 2,313.2 | 15 | 380.78 | 17 | 11,161.0 | 18 | $3,978.90 | 24 |
| Texas | 11,744.4 | 1 | 501.73 | 5 | 13,531.7 | 12 | $5,644.80 | 4 |
| Utah | 785.9 | 35 | 304.67 | 34 | 9,524.7 | 25 | $3,229.77 | 48 |
| Vermont | 163.7 | 51 | 263.70 | 41 | 7,611.5 | 37 | $4,054.91 | 19 |
| Virginia | 2,544.9 | 14 | 333.09 | 27 | 7,984.6 | 33 | $3,740.02 | 32 |
| Washington | 2,053.7 | 17 | 322.15 | 30 | 8,105.4 | 32 | $3,350.89 | 44 |
| West Virginia | 829.2 | 34 | 458.45 | 8 | 18,425.4 | 5 | $4,314.76 | 15 |
| Wisconsin | 1,818.5 | 21 | 326.33 | 29 | 9,247.8 | 27 | $3,717.63 | 35 |
| Wyoming | 480.9 | 41 | 937.87 | 2 | 23,863.6 | 3 | $8,430.70 | 2 |
| United States | 99,512.10 | | 333.12 | | 8,813.9 | | $3,875.79 | |
| **NYS as a % of U.S.** | **4.0%** | | **62%** | | **50%** | | **80%** | |

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

# Energy Consumption & Expenditure Indicators, State Comparisons for the Residential and Commercial Sectors, 2006

**Table 1-7**

| States | Residential Primary Energy Consumption[1] per housing unit MMBtu | Ranking | Residential Energy Expenditure per housing unit dollars | Ranking | Commercial Primary Energy Consumption[1] per non-manufacturing Employee MMBtu | Ranking | Commercial Energy Expenditure per non-manufacturing Employee dollars | Ranking |
|---|---|---|---|---|---|---|---|---|
| Alabama | 190.15 | 6 | $1,772.38 | 19 | 164.18 | 9 | $1,408.21 | 15 |
| Alaska | 220.31 | 1 | $2,563.33 | 3 | 223.92 | 1 | $1,997.02 | 2 |
| Arizona | 152.74 | 45 | $1,430.81 | 46 | 141.07 | 36 | $1,122.05 | 41 |
| Arkansas | 176.78 | 19 | $1,637.49 | 33 | 160.00 | 15 | $1,185.29 | 35 |
| California | 117.82 | 49 | $1,488.23 | 42 | 116.69 | 48 | $1,363.83 | 18 |
| Colorado | 152.54 | 46 | $1,422.98 | 47 | 134.54 | 43 | $1,027.52 | 48 |
| Connecticut | 188.10 | 8 | $3,079.23 | 1 | 136.02 | 40 | $1,799.77 | 6 |
| Delaware | 167.44 | 32 | $2,118.71 | 10 | 142.04 | 35 | $1,489.20 | 13 |
| Dist. of Columbia | 117.36 | 50 | $1,398.76 | 48 | 171.13 | 4 | $1,893.68 | 3 |
| Florida | 156.24 | 40 | $1,646.60 | 29 | 140.29 | 38 | $1,339.63 | 20 |
| Georgia | 187.04 | 11 | $1,849.82 | 15 | 151.06 | 26 | $1,196.39 | 33 |
| Hawaii | 73.79 | 51 | $1,570.89 | 38 | 70.67 | 51 | $1,325.57 | 21 |
| Idaho | 191.68 | 4 | $1,475.16 | 43 | 140.54 | 37 | $883.17 | 51 |
| Illinois | 180.27 | 17 | $1,672.15 | 27 | 144.49 | 32 | $1,207.00 | 31 |
| Indiana | 183.02 | 13 | $1,694.21 | 23 | 144.17 | 33 | $1,135.87 | 38 |
| Iowa | 166.53 | 35 | $1,691.12 | 26 | 146.63 | 28 | $1,185.86 | 34 |
| Kansas | 176.32 | 23 | $1,618.96 | 35 | 163.99 | 11 | $1,120.96 | 29 |
| Kentucky | 182.42 | 15 | $1,437.27 | 45 | 156.60 | 19 | $1,111.51 | 42 |
| Louisiana | 190.66 | 5 | $1,743.24 | 21 | 155.16 | 23 | $1,348.86 | 19 |
| Maine | 156.12 | 42 | $2,416.68 | 5 | 128.40 | 44 | $1,594.04 | 10 |
| Maryland | 173.91 | 27 | $1,911.06 | 13 | 164.16 | 10 | $1,706.80 | 7 |
| Massachusetts | 158.23 | 38 | $2,588.17 | 2 | 124.85 | 46 | $1,805.05 | 5 |
| Michigan | 167.39 | 33 | $1,786.74 | 18 | 163.19 | 12 | $1,425.33 | 14 |
| Minnesota | 171.55 | 28 | $1,658.41 | 28 | 143.86 | 34 | $1,138.14 | 37 |
| Mississippi | 185.48 | 12 | $1,833.90 | 17 | 168.72 | 6 | $1,550.74 | 11 |
| Missouri | 187.10 | 10 | $1,611.08 | 36 | 158.63 | 16 | $1,077.73 | 43 |
| Montana | 176.33 | 22 | $1,692.44 | 24 | 167.11 | 7 | $1,320.68 | 22 |
| Nebraska | 187.93 | 9 | $1,548.34 | 39 | 153.44 | 24 | $1,038.33 | 46 |
| Nevada | 165.39 | 36 | $1,840.92 | 16 | 106.50 | 50 | $1,066.45 | 45 |
| New Hampshire | 155.49 | 43 | $2,363.43 | 7 | 124.13 | 47 | $1,664.24 | 8 |
| New Jersey | 164.22 | 37 | $2,202.87 | 8 | 160.16 | 14 | $1,815.71 | 4 |
| New Mexico | 125.44 | 48 | $1,330.03 | 51 | 151.71 | 25 | $1,211.29 | 30 |
| **New York** | **143.34** | **47** | **$2,199.84** | **9** | **155.42** | **22** | **$2,103.01** | **1** |
| North Carolina | 168.69 | 31 | $1,645.78 | 30 | 160.50 | 13 | $1,227.91 | 28 |
| North Dakota | 193.98 | 3 | $1,638.60 | 32 | 174.11 | 3 | $1,151.16 | 36 |
| Ohio | 175.84 | 25 | $1,864.20 | 14 | 144.54 | 31 | $1,303.09 | 25 |
| Oklahoma | 188.17 | 7 | $1,691.33 | 25 | 170.87 | 5 | $1,308.74 | 23 |
| Oregon | 170.25 | 30 | $1,390.30 | 49 | 139.90 | 39 | $1,019.79 | 49 |
| Pennsylvania | 167.36 | 34 | $2,036.93 | 12 | 135.36 | 41 | $1,305.04 | 24 |
| Rhode Island | 156.15 | 41 | $2,433.59 | 4 | 125.03 | 45 | $1,643.29 | 9 |
| South Carolina | 176.50 | 21 | $1,640.98 | 31 | 155.55 | 21 | $1,201.34 | 32 |
| South Dakota | 176.56 | 20 | $1,541.74 | 40 | 156.45 | 20 | $1,071.09 | 44 |
| Tennessee | 194.83 | 2 | $1,622.82 | 34 | 157.24 | 17 | $1,302.27 | 26 |
| Texas | 171.18 | 29 | $2,078.19 | 11 | 150.68 | 27 | $1,405.08 | 16 |
| Utah | 175.16 | 26 | $1,512.03 | 41 | 135.03 | 42 | $912.54 | 50 |
| Vermont | 154.10 | 44 | $2,394.13 | 6 | 115.00 | 49 | $1,387.03 | 17 |
| Virginia | 182.85 | 14 | $1,764.84 | 20 | 167.04 | 8 | $1,125.53 | 40 |
| Washington | 180.77 | 16 | $1,385.20 | 50 | 145.45 | 30 | $1,035.32 | 47 |
| West Virginia | 179.55 | 18 | $1,438.62 | 44 | 157.00 | 18 | $1,132.82 | 39 |
| Wisconsin | 157.61 | 39 | $1,738.99 | 22 | 146.37 | 29 | $1,259.24 | 27 |
| Wyoming | 176.02 | 24 | $1,597.99 | 37 | 220.18 | 2 | $1,545.76 | 12 |
| United States | 164.56 | | $1,798.23 | | 145.33 | | $1,367.13 | |
| **NYS as a % of U.S.** | **87%** | | **122%** | | **107%** | | **154%** | |

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

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

# Energy Consumption & Expenditure Indicators, State Comparisons for the Industrial and Transportation Sectors, 2006

**Table 1-8**

| States | Industrial Primary Energy Consumption[1] per GSP Btu | Ranking | Industrial Energy Expenditure per GSP ratio | Ranking | Transportation Primary Consumption[1] per vehicle registration MMBtu | Ranking | Transportation Expenditure per vehicle registration dollars | Ranking |
|---|---|---|---|---|---|---|---|---|
| Alabama | 7,070.06 | 7 | 0.0370 | 11 | 107.5 | 31 | $2,003.30 | 36 |
| Alaska | 12,222.83 | 3 | 0.0132 | 38 | 393.9 | 1 | $6,582.79 | 1 |
| Arizona | 1,138.17 | 43 | 0.0087 | 45 | 131.9 | 15 | $2,552.64 | 12 |
| Arkansas | 5,993.39 | 12 | 0.0398 | 8 | 145.3 | 10 | $2,745.44 | 10 |
| California | 1,278.41 | 41 | 0.0098 | 43 | 100.8 | 38 | $1,899.25 | 40 |
| Colorado | 1,954.37 | 37 | 0.0143 | 33 | 240.0 | 2 | $4,560.07 | 2 |
| Connecticut | 676.28 | 47 | 0.0080 | 47 | 84.6 | 50 | $1,714.90 | 50 |
| Delaware | 2,067.15 | 35 | 0.0149 | 32 | 92.0 | 47 | $1,768.35 | 48 |
| Dist. of Columbia | 49.78 | 51 | 0.0009 | 51 | 97.2 | 42 | $1,964.35 | 38 |
| Florida | 949.74 | 45 | 0.0078 | 48 | 99.5 | 39 | $1,828.14 | 45 |
| Georgia | 2,776.86 | 25 | 0.0181 | 25 | 115.1 | 25 | $2,057.80 | 31 |
| Hawaii | 1,452.35 | 39 | 0.0153 | 30 | 180.1 | 7 | $3,314.30 | 5 |
| Idaho | 4,065.51 | 16 | 0.0235 | 18 | 103.4 | 36 | $2,023.27 | 33 |
| Illinois | 2,355.05 | 29 | 0.0160 | 29 | 106.9 | 32 | $2,041.50 | 32 |
| Indiana | 6,287.18 | 10 | 0.0352 | 13 | 132.9 | 14 | $2,500.02 | 14 |
| Iowa | 4,634.87 | 15 | 0.0360 | 12 | 92.1 | 46 | $1,733.86 | 49 |
| Kansas | 3,929.34 | 17 | 0.0252 | 16 | 114.6 | 26 | $2,071.70 | 30 |
| Kentucky | 7,200.62 | 6 | 0.0411 | 6 | 133.3 | 13 | $2,545.50 | 13 |
| Louisiana | 17,141.40 | 1 | 0.1088 | 1 | 199.5 | 3 | $3,261.51 | 7 |
| Maine | 3,675.41 | 19 | 0.0216 | 21 | 122.6 | 20 | $2,435.82 | 15 |
| Maryland | 840.31 | 46 | 0.0074 | 49 | 103.7 | 35 | $2,098.28 | 28 |
| Massachusetts | 671.98 | 48 | 0.0088 | 44 | 89.3 | 48 | $1,769.25 | 47 |
| Michigan | 2,483.09 | 28 | 0.0186 | 24 | 98.3 | 41 | $1,878.85 | 42 |
| Minnesota | 2,623.06 | 27 | 0.0166 | 28 | 111.3 | 29 | $2,096.72 | 29 |
| Mississippi | 6,362.81 | 9 | 0.0377 | 9 | 189.0 | 5 | $3,305.60 | 6 |
| Missouri | 2,229.33 | 31 | 0.0169 | 27 | 120.4 | 22 | $2,292.46 | 21 |
| Montana | 6,152.68 | 11 | 0.0411 | 7 | 113.8 | 28 | $2,187.40 | 24 |
| Nebraska | 3,216.95 | 22 | 0.0256 | 15 | 101.9 | 37 | $1,965.69 | 37 |
| Nevada | 2,063.29 | 36 | 0.0169 | 26 | 186.2 | 6 | $3,691.98 | 3 |
| New Hampshire | 951.00 | 44 | 0.0109 | 41 | 98.6 | 40 | $2,009.60 | 34 |
| New Jersey | 1,155.77 | 42 | 0.0110 | 40 | 164.7 | 8 | $2,819.16 | 8 |
| New Mexico | 3,646.83 | 20 | 0.0138 | 34 | 144.1 | 11 | $2,711.44 | 11 |
| **New York** | **513.00** | **50** | **0.0048** | **50** | **97.0** | **43** | **$1,841.85** | **43** |
| North Carolina | 2,101.73 | 34 | 0.0152 | 31 | 117.9 | 23 | $2,311.00 | 19 |
| North Dakota | 9,254.44 | 4 | 0.0513 | 5 | 128.2 | 17 | $2,166.90 | 26 |
| Ohio | 3,297.98 | 21 | 0.0243 | 17 | 94.6 | 44 | $1,839.61 | 44 |
| Oklahoma | 5,748.57 | 13 | 0.0370 | 10 | 141.5 | 12 | $2,425.46 | 16 |
| Oregon | 2,104.53 | 33 | 0.0136 | 36 | 113.8 | 27 | $2,222.46 | 23 |
| Pennsylvania | 3,002.22 | 24 | 0.0209 | 23 | 104.3 | 34 | $2,005.59 | 35 |
| Rhode Island | 671.04 | 49 | 0.0085 | 46 | 80.7 | 51 | $1,663.34 | 51 |
| South Carolina | 5,104.22 | 14 | 0.0298 | 14 | 129.7 | 16 | $2,407.17 | 17 |
| South Dakota | 2,329.98 | 30 | 0.0212 | 22 | 104.7 | 33 | $1,950.16 | 39 |
| Tennessee | 3,690.59 | 18 | 0.0219 | 20 | 127.8 | 18 | $2,390.67 | 18 |
| Texas | 6,827.95 | 8 | 0.0575 | 3 | 163.3 | 9 | $2,864.37 | 9 |
| Utah | 2,673.55 | 26 | 0.0137 | 35 | 117.0 | 24 | $2,171.96 | 25 |
| Vermont | 1,408.84 | 40 | 0.0134 | 37 | 92.7 | 45 | $1,891.37 | 41 |
| Virginia | 1,793.07 | 38 | 0.0116 | 39 | 121.8 | 21 | $2,308.63 | 20 |
| Washington | 2,212.14 | 32 | 0.0105 | 42 | 110.9 | 30 | $2,160.67 | 27 |
| West Virginia | 8,492.77 | 5 | 0.0552 | 4 | 125.1 | 19 | $2,270.21 | 22 |
| Wisconsin | 3,216.00 | 23 | 0.0222 | 19 | 88.9 | 49 | $1,803.35 | 46 |
| Wyoming | 12,758.04 | 2 | 0.0677 | 2 | 190.5 | 5 | $3,354.04 | 4 |
| United States | 2,851.36 | | 0.0201 | | 118.01 | | $2,203.45 | |
| **NYS as a % of U.S.** | **18%** | | **24%** | | **82%** | | **84%** | |

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

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

# United States and New York State
# Selected Comparisons,
# 2007

**Figure 1-9a Primary Consumption by Fuel Type, 2007**

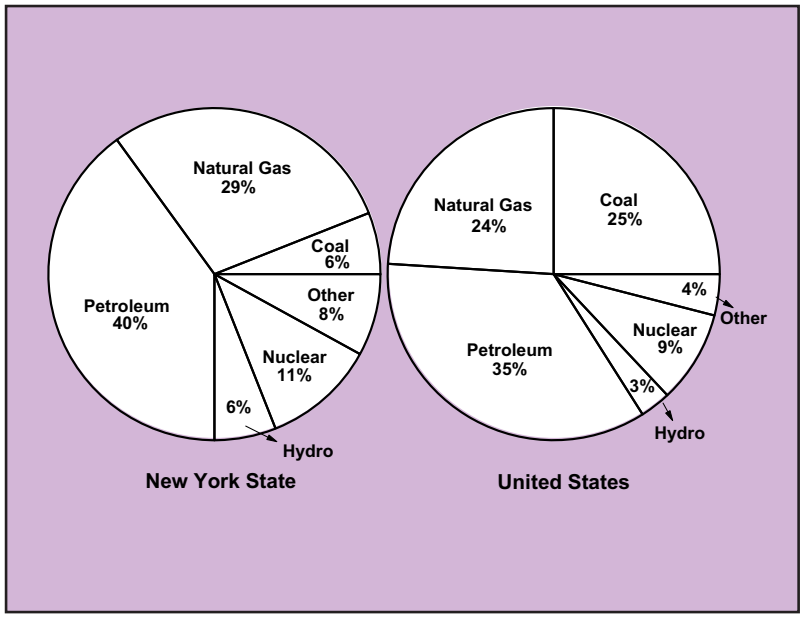
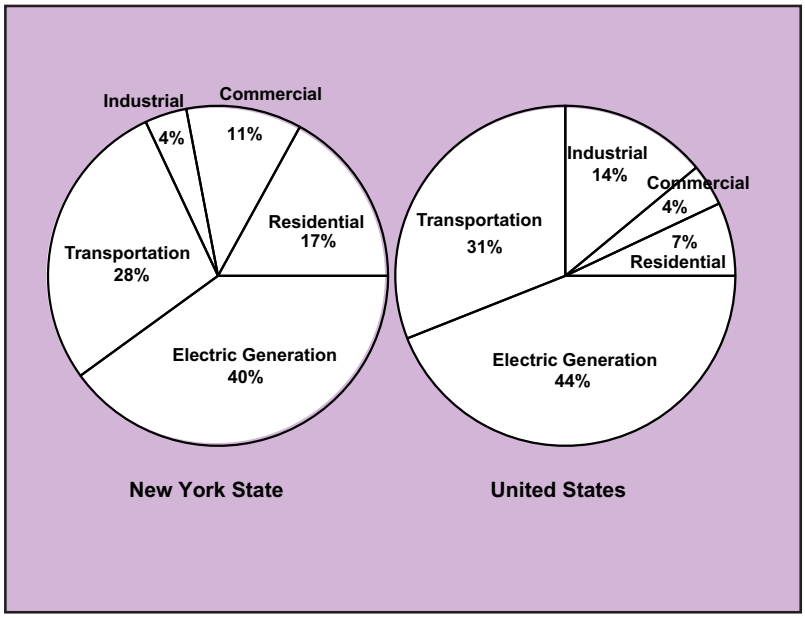



**Figure 1-9b Primary Consumption by Sector, 2007**



# United States and New York State
# Selected Comparisons,
# 2007

**Figure 1-10a Primary Consumption for Electric Generation by Fuel Type, 2007**

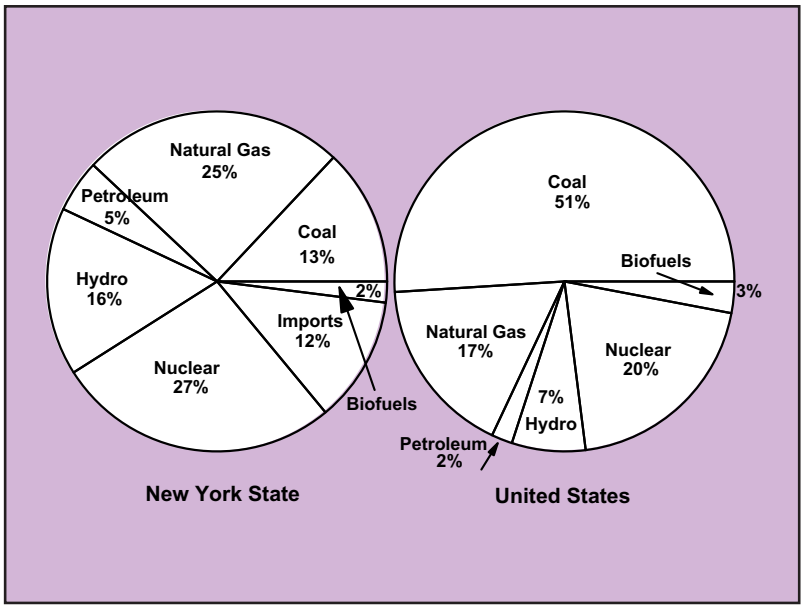
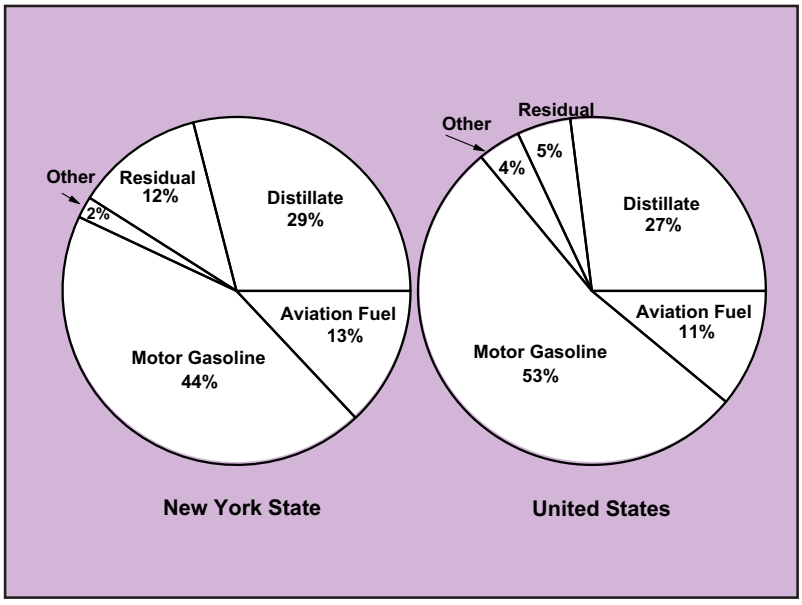



**Figure 1-10b Primary Consumption of Petroleum Products, 2007** [1]




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

# United States and New York State
# Selected Comparisons,
# 2007

**Figure 1-11a Petroleum Consumption by Sector, 2007** [1]

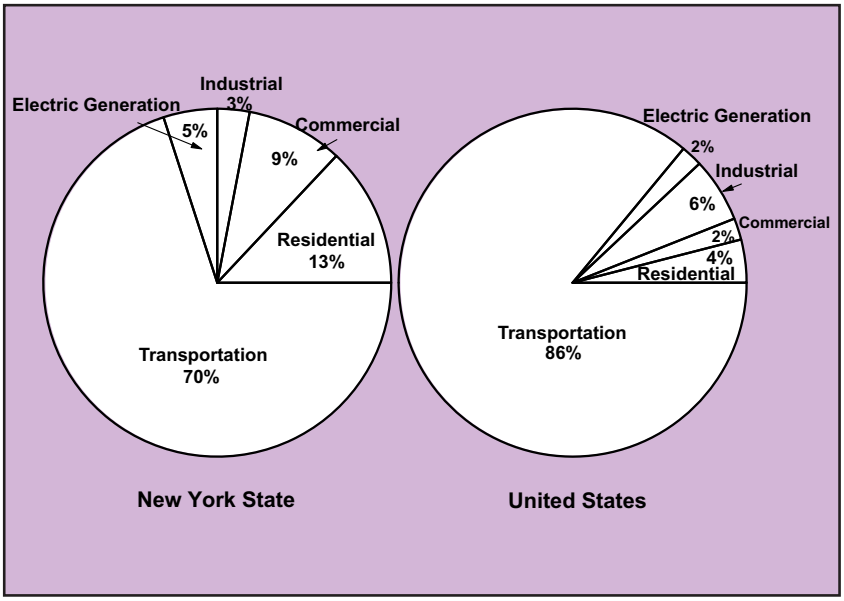
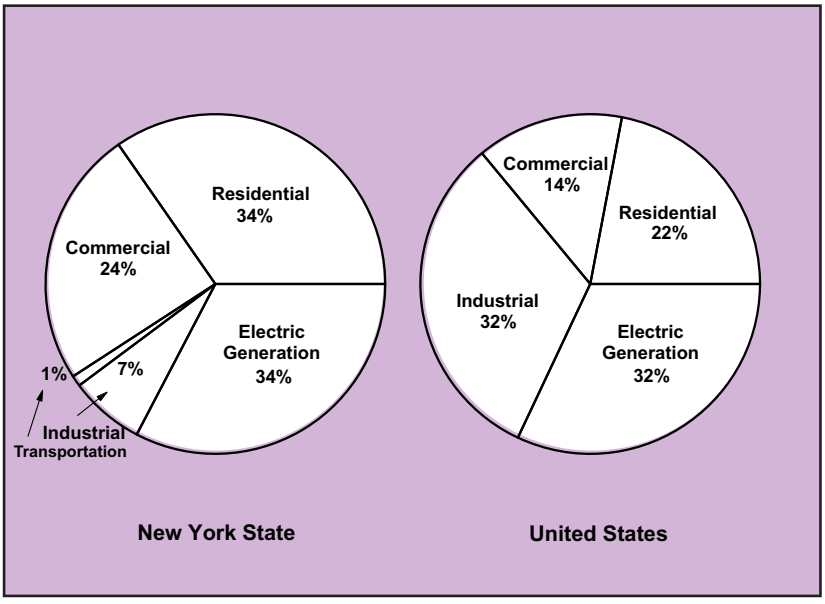



**Figure 1-11b Natural Gas Consumption by Sector, 2007**




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

# United States and New York State
# Selected Comparisons,
# 2007

**Figure 1-12a Coal Consumption by Sector, 2007**

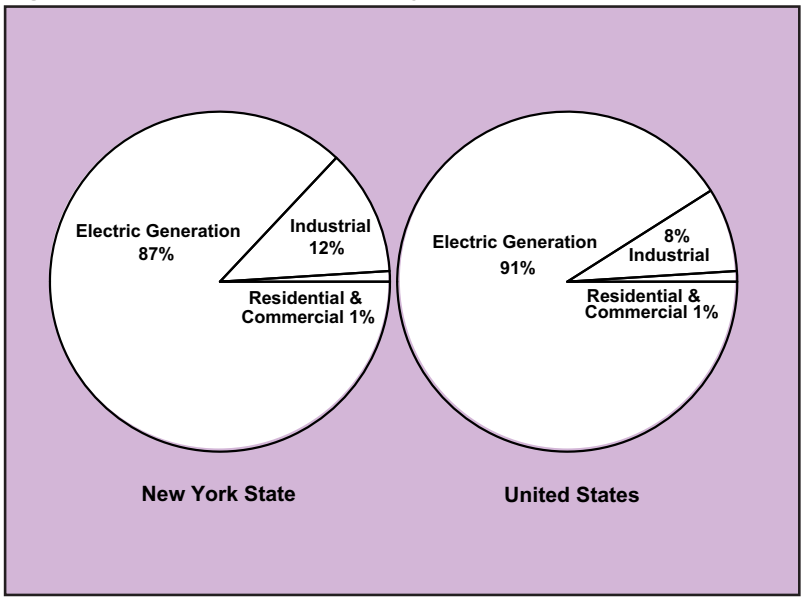
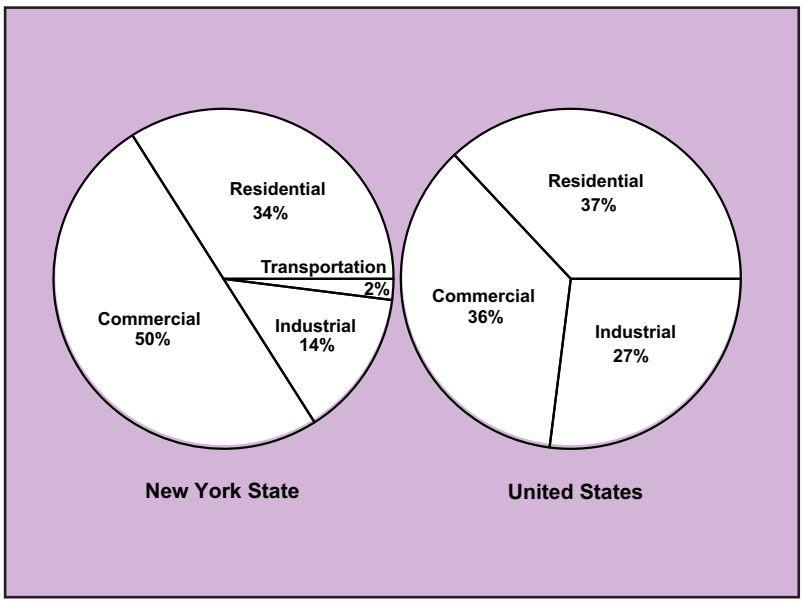



**Figure 1-12b Electricity Sales by Sector, 2007**



# United States and New York State
# Selected Energy Indicators,
# 1993-2007

**Figure 1-13a Primary Consumption per Dollar of Gross State Product/Gross Domestic Product**

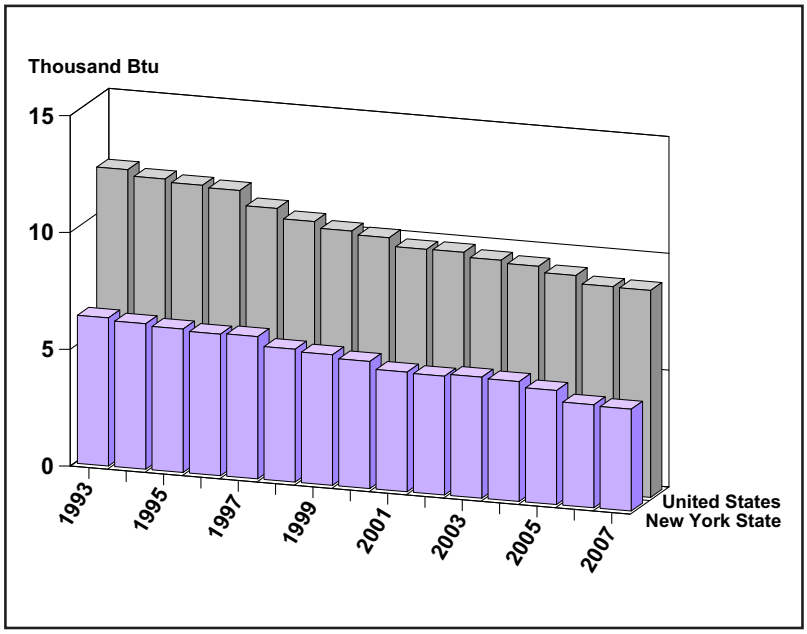
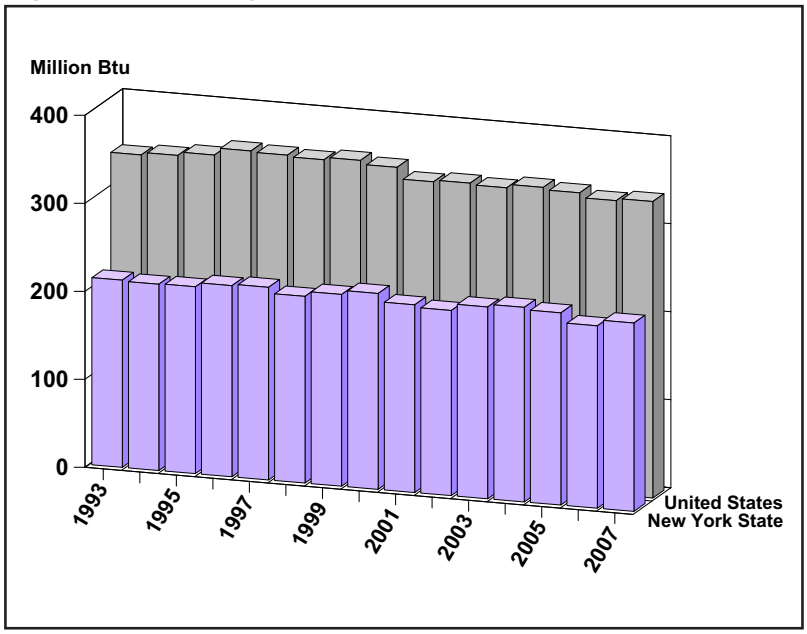



**Figure 1-13b Primary Consumption per Capita**



# United States and New York State
# Selected Energy Indicators,
# 1993-2007

**Figure 1-14a Residential Consumption per Housing Unit**

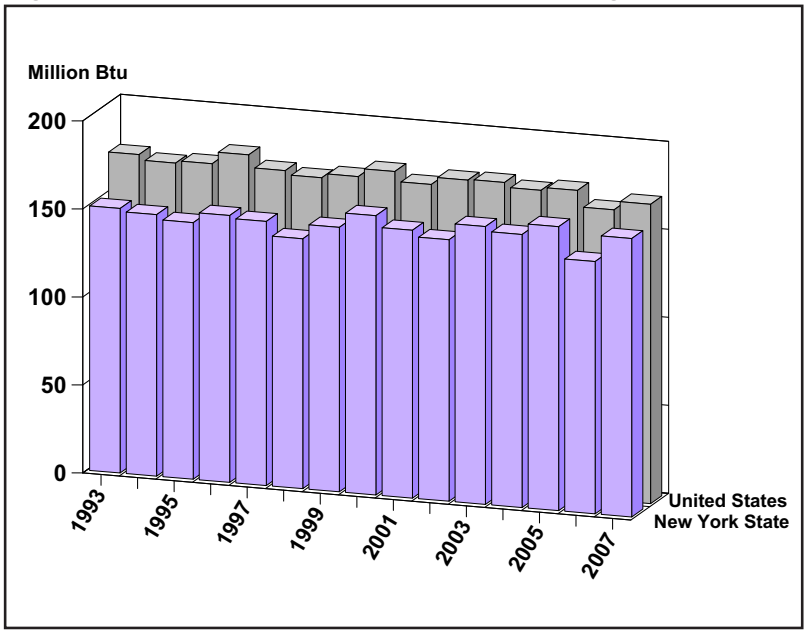
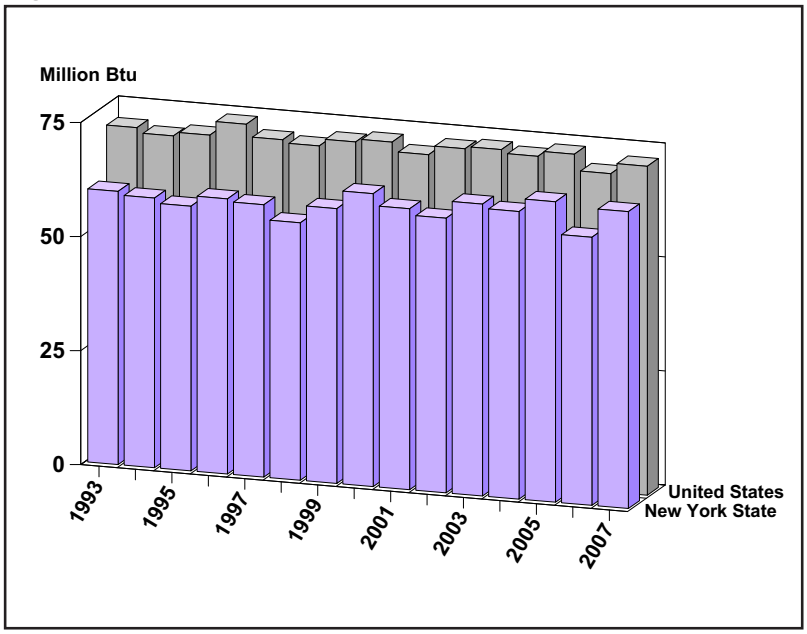



**Figure 1-14b Residential Consumption per Capita**



# United States and New York State
# Selected Energy Indicators,
# 1993-2007

**Figure 1-15a Commercial Consumption per Non-Manufacturing Employment**

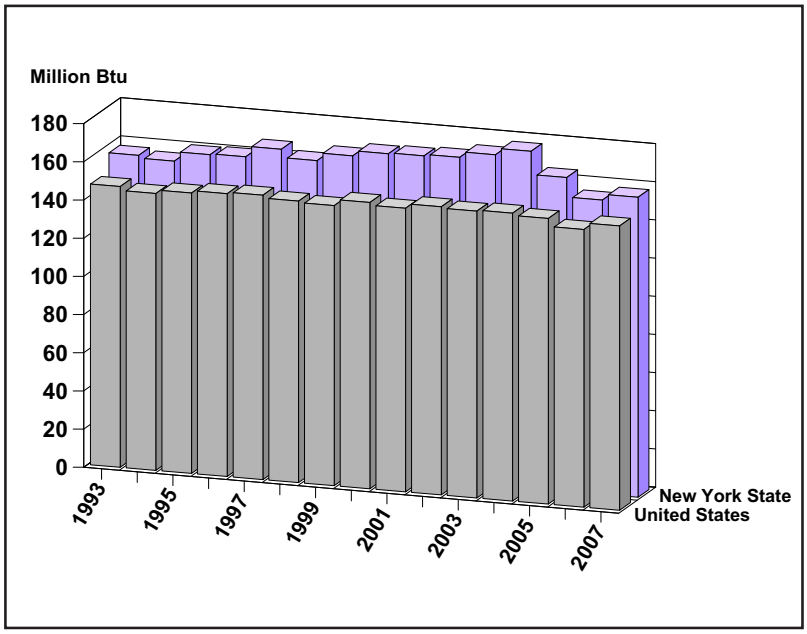
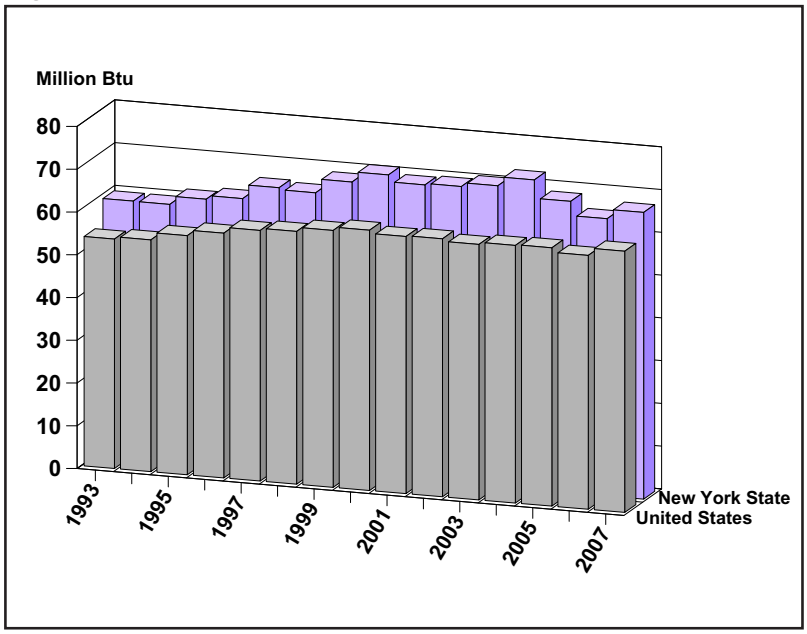



**Figure 1-15b Commercial Consumption per Capita**



# United States and New York State
# Selected Energy Indicators,
# 1993-2007

**Figure 1-16a Industrial Consumption per Manufacturing Employee**

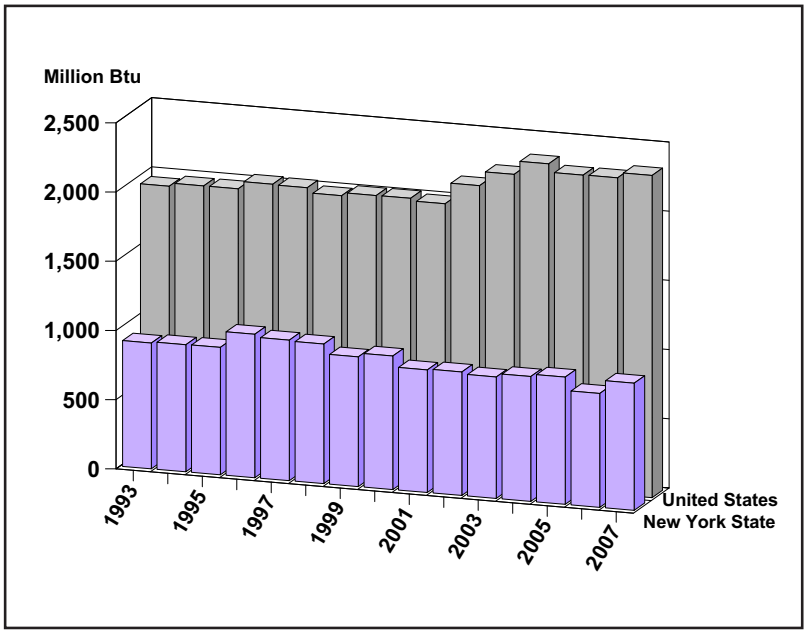
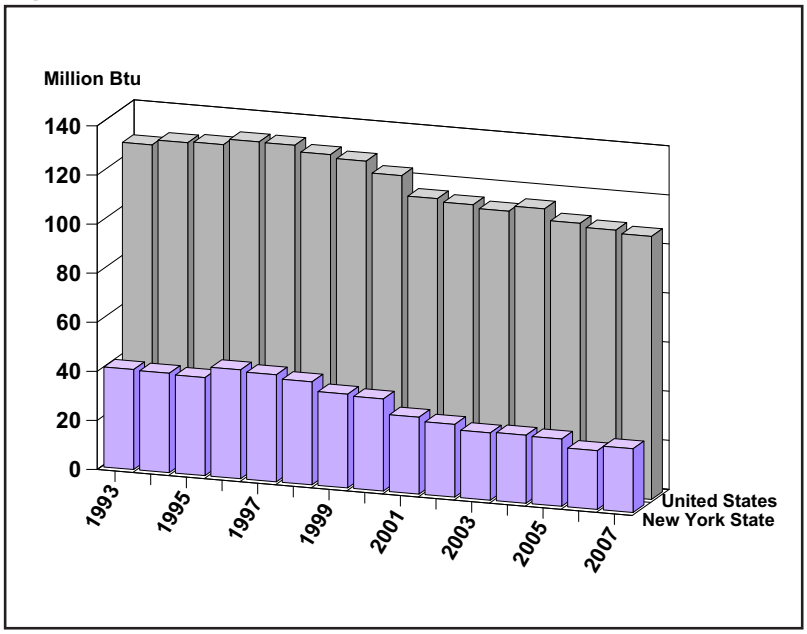



**Figure 1-16b Industrial Consumption per Capita**



# United States and New York State
# Selected Energy Indicators,
# 1993-2007

**Figure 1-17a Transportation Consumption per Vehicle Mile**

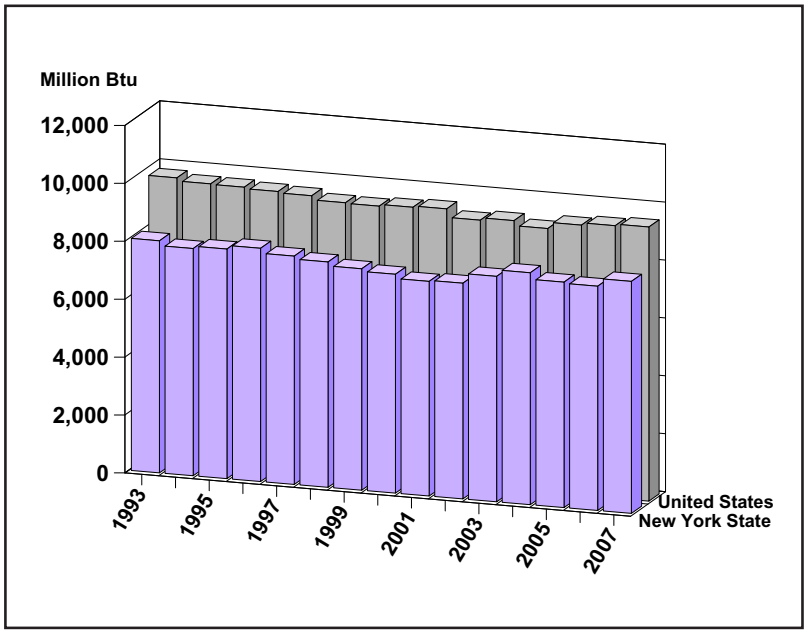
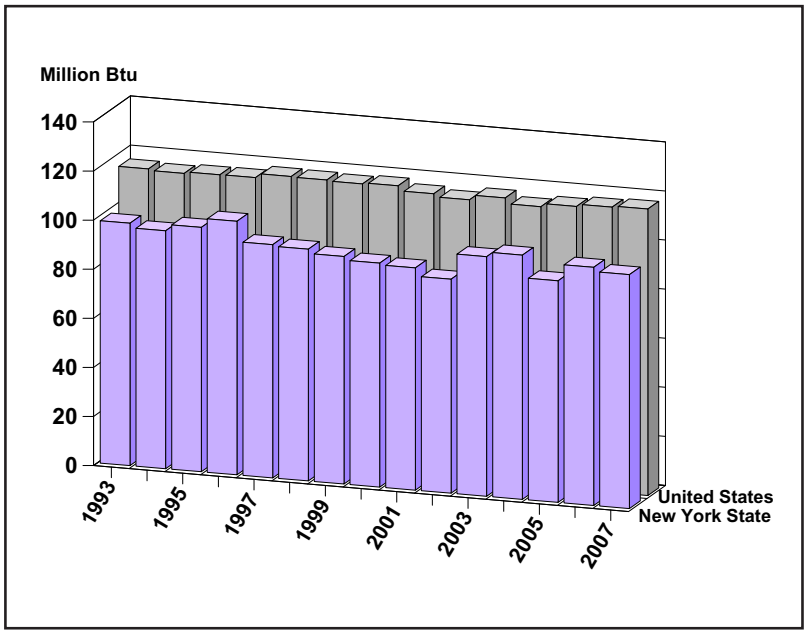



**Figure 1-17b Transportation Consumption per Registered Motor Vehicle**



**Section 2**

# NEW YORK ENERGY CONSUMPTION

This section presents data on primary and net energy consumption in New York, by sector and fuel type, for the 15-year period from 1993 through 2007.

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

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

Electricity generation is net of generation station use. Electricity from hydro and nuclear power, as well as biofuels, wind, and net electricity imports, has been converted to primary energy by applying a statewide average annual heat rate (Btu per kWh generated) for fossil-fueled power plants.

Electricity sales figures are combined with end-use consumption of coal, petroleum products, natural gas, biofuels, and wind 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 multi-family buildings and institutional facilities is included in the commercial sector.

# Key Observations about 2007 New York State Energy Consumption Data

✓ Total primary energy consumption was 4,129 TBtu, a 3.3% increase from 2006.

✓ Cumulative heating degree-days increased 14% from 2006 to 2007.

✓ Primary consumption of natural gas and petroleum increased 7% and 4% respectively, while use of hydropower decreased 10%. Nuclear power and coal were virtually unchanged from 2006 to 2007.

✓ Total consumption of petroleum products was 1,641 TBtu, or 298 million barrels, representing 40% of total primary energy consumption.

✓ In 2007, motor gasoline and kerosene consumption declined from 2006 levels, while distillate oil, residual oil, and propane consumption increased.

✓ Consumption of residual and distillate fuels were 19% and 8% higher, respectively, in 2007 versus 2006.

✓ Sales of natural gas totaled 1,174 billion cubic feet, 7% above the 1,096 billion cubic feet sold in 2006.

✓ Natural gas and nuclear power accounted for 27% and 25% of New York's electricity requirements in 2007.

✓ Energy used for electricity generation accounted for 40% of primary energy use.

✓ Sales of electricity to ultimate customers increased by 4.2% between 2006 and 2007.

✓ Total residential net energy consumption was 859 TBtu, 11% higher than 2006 levels. The residential sector accounted for 29% of total net energy consumption.

✓ Total net energy consumption in the commercial sector was 711 TBtu, or 24% of total net energy consumption. The sector's total energy use rose 3% above the 2006 level, while sales of electricity in the sector declined by 2%.

✓ Industrial net energy consumption was 240 TBtu, or 8% of total net consumption.

✓ Transportation energy consumption was 1,179 TBtu, or almost unchanged from 2006. The sector accounted for 39% of total net energy consumption in 2007.

# New York State Primary Consumption of Energy by Fuel Type, 1993-2007

**Figure 2-1**

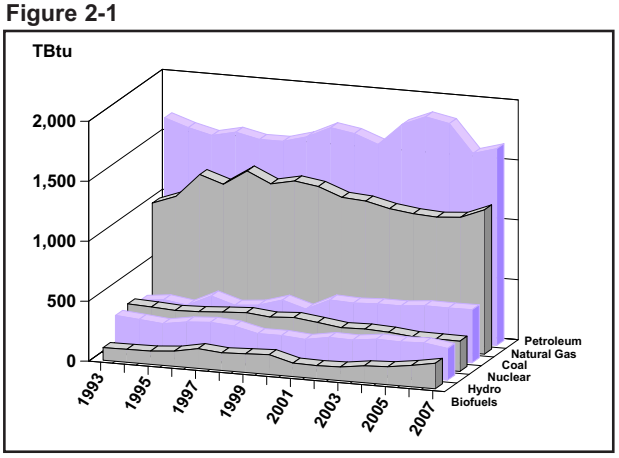



**Table 2-1a (in physical units)**

| Year | Coal MTons | Natural Gas Bcf | Petroleum Products Mbbl | Hydro GWh | Nuclear GWh | Net Imported Electricity GWh |
|---|---|---|---|---|---|---|
| 1993 | 12,651 | 994 | 297,647 | 29,304 | 26,889 | 21,692 |
| 1994 | 12,230 | 1,065 | 287,262 | 27,656 | 29,231 | 20,737 |
| 1995 | 11,785 | 1,260 | 280,623 | 25,895 | 26,336 | 13,952 |
| 1996 | 12,074 | 1,200 | 287,810 | 28,830 | 35,226 | 11,770 |
| 1997 | 12,522 | 1,325 | 280,835 | 30,498 | 29,570 | 7,091 |
| 1998 | 12,953 | 1,233 | 280,961 | 29,203 | 31,314 | 5,469 |
| 1999 | 12,187 | 1,275 | 290,502 | 24,648 | 37,019 | 9,066 |
| 2000 | 12,611 | 1,244 | 306,903 | 24,819 | 31,508 | 17,657 |
| 2001 | 11,784 | 1,171 | 300,796 | 23,014 | 40,395 | 12,012 |
| 2002 | 10,907 | 1,200 | 289,027 | 26,213 | 39,617 | 17,074 |
| 2003 | 11,313 | 1,102 | 319,367 | 25,798 | 40,679 | 17,857 |
| 2004 | 11,335 | 1,099 | 333,299 | 28,153 | 40,640 | 17,461 |
| 2005 | 10,739 | 1,080 | 326,234 | 27,583 | 42,443 | 17,811 |
| 2006 | 10,911 | 1,096 | 288,306 | 28,422 | 42,224 | 18,746 |
| 2007 | 10,845 | 1,174 | 297,931 | 25,557 | 42,451 | 20,391 |

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

| Year | Coal TBtu | Natural Gas TBtu | Petroleum Products TBtu | Hydro TBtu | Nuclear TBtu | Net Imported Electricity TBtu | Biofuels[1] TBtu | Total[2] TBtu |
|---|---|---|---|---|---|---|---|---|
| 1993 | 326.2 | 1,021.9 | 1,661.0 | 302.1 | 282.4 | 209.8 | 105.7 | 3,908.8 |
| 1994 | 316.8 | 1,094.6 | 1,595.6 | 285.3 | 305.5 | 202.4 | 108.0 | 3,907.5 |
| 1995 | 305.3 | 1,294.4 | 1,547.4 | 267.0 | 276.7 | 132.2 | 111.1 | 3,931.9 |
| 1996 | 311.8 | 1,229.8 | 1,591.4 | 298.1 | 370.0 | 111.3 | 127.0 | 4,037.5 |
| 1997 | 325.2 | 1,357.4 | 1,548.1 | 311.5 | 310.3 | 68.2 | 165.1 | 4,083.9 |
| 1998 | 337.4 | 1,266.6 | 1,550.0 | 297.8 | 328.5 | 52.8 | 147.5 | 3,979.2 |
| 1999 | 318.0 | 1,308.3 | 1,603.8 | 252.0 | 386.8 | 90.3 | 156.4 | 4,114.5 |
| 2000 | 330.9 | 1,279.1 | 1,697.1 | 253.2 | 328.6 | 175.5 | 165.5 | 4,228.5 |
| 2001 | 307.0 | 1,205.1 | 1,665.1 | 237.8 | 422.0 | 119.3 | 112.5 | 4,068.4 |
| 2002 | 280.6 | 1,191.2 | 1,591.2 | 270.9 | 413.6 | 169.8 | 108.7 | 4,025.6 |
| 2003 | 286.1 | 1,145.7 | 1,773.6 | 266.6 | 423.9 | 178.4 | 114.0 | 4,186.4 |
| 2004 | 276.5 | 1,120.1 | 1,856.0 | 290.9 | 423.8 | 174.6 | 140.8 | 4,258.4 |
| 2005 | 256.9 | 1,108.2 | 1,816.3 | 285.0 | 442.3 | 175.4 | 150.1 | 4,207.2 |
| 2006 | 254.6 | 1,124.1 | 1,584.1 | 293.7 | 440.0 | 181.7 | 178.3 | 3,996.3 |
| 2007 | 252.5 | 1,203.5 | 1,641.0 | 264.1 | 442.4 | 192.9 | 212.7 | 4,128.9 |

[1] Includes primarily wood, waste, wind and ethanol; ethanol is excluded from the total because values are already embedded in motor gasoline.
[2] Excludes non-fuel uses.

# New York State Primary Consumption of Refined Petroleum Products, 1993-2007

Figure 2-2

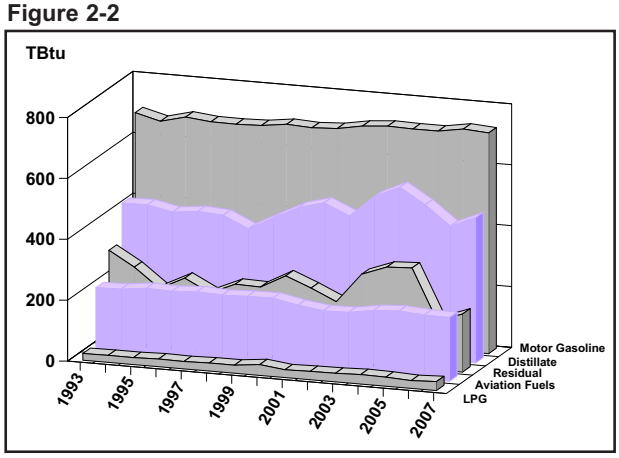



**Table 2-2a (in thousand barrels)**

| Year | Distillate Mbbl | Residual Mbbl | Kerosene Mbbl | LPG[1] Mbbl | Motor Gasoline Mbbl | Aviation Fuels[2] Mbbl | Total Petroleum Products Mbbl |
|---|---|---|---|---|---|---|---|
| 1993 | 72,900 | 47,823 | 2,422 | 6,139 | 131,710 | 36,653 | 297,647 |
| 1994 | 73,218 | 40,125 | 2,289 | 6,352 | 128,228 | 37,050 | 287,262 |
| 1995 | 70,349 | 30,127 | 2,363 | 6,332 | 132,627 | 38,825 | 280,623 |
| 1996 | 71,914 | 36,628 | 2,883 | 7,073 | 130,979 | 38,333 | 287,810 |
| 1997 | 71,033 | 29,992 | 2,906 | 6,687 | 130,923 | 39,294 | 280,835 |
| 1998 | 64,515 | 35,732 | 3,358 | 7,306 | 131,469 | 38,581 | 280,961 |
| 1999 | 71,969 | 35,352 | 3,086 | 7,316 | 133,621 | 39,158 | 290,502 |
| 2000 | 79,038 | 42,349 | 3,443 | 9,849 | 132,831 | 39,393 | 306,903 |
| 2001 | 82,878 | 37,090 | 3,444 | 7,111 | 133,724 | 36,549 | 300,796 |
| 2002 | 76,684 | 31,110 | 2,373 | 7,612 | 136,664 | 34,584 | 289,027 |
| 2003 | 88,919 | 46,578 | 3,195 | 7,771 | 138,010 | 34,894 | 319,367 |
| 2004 | 95,300 | 51,469 | 3,182 | 8,640 | 137,391 | 37,317 | 333,299 |
| 2005 | 86,630 | 52,151 | 3,632 | 8,260 | 137,355 | 38,206 | 326,234 |
| 2006 | 75,872 | 25,526 | 2,579 | 7,152 | 140,020 | 37,157 | 288,306 |
| 2007 | 81,883 | 30,335 | 1,701 | 8,153 | 138,928 | 36,930 | 297,931 |

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

| Year | Distillate TBtu | Residual TBtu | Kerosene TBtu | LPG[1] TBtu | Motor Gasoline TBtu | Aviation Fuels[2] TBtu | Total Petroleum Products TBtu |
|---|---|---|---|---|---|---|---|
| 1993 | 424.6 | 300.7 | 13.8 | 22.2 | 691.9 | 207.8 | 1,661.0 |
| 1994 | 426.6 | 252.3 | 13.0 | 23.0 | 670.6 | 210.1 | 1,595.6 |
| 1995 | 409.8 | 189.4 | 13.4 | 23.0 | 691.7 | 220.1 | 1,547.4 |
| 1996 | 418.9 | 230.2 | 16.4 | 25.4 | 683.2 | 217.3 | 1,591.4 |
| 1997 | 413.7 | 188.6 | 16.4 | 24.1 | 682.5 | 222.8 | 1,548.1 |
| 1998 | 375.9 | 224.6 | 19.1 | 26.4 | 685.2 | 218.8 | 1,550.0 |
| 1999 | 419.2 | 222.3 | 17.5 | 26.5 | 696.3 | 222.0 | 1,603.8 |
| 2000 | 460.3 | 266.3 | 19.6 | 35.5 | 692.0 | 223.4 | 1,697.1 |
| 2001 | 482.7 | 233.2 | 19.6 | 25.7 | 696.7 | 207.2 | 1,665.1 |
| 2002 | 446.7 | 195.7 | 13.5 | 27.5 | 711.7 | 196.1 | 1,591.2 |
| 2003 | 517.9 | 292.9 | 18.1 | 28.3 | 718.6 | 197.8 | 1,773.6 |
| 2004 | 555.2 | 323.5 | 18.0 | 31.2 | 716.5 | 211.6 | 1,856.0 |
| 2005 | 504.7 | 327.8 | 20.6 | 29.9 | 716.7 | 216.6 | 1,816.3 |
| 2006 | 442.0 | 160.5 | 14.6 | 25.8 | 730.6 | 210.7 | 1,584.1 |
| 2007 | 477.0 | 190.7 | 9.6 | 29.4 | 724.9 | 209.4 | 1,641.0 |

[1] Excludes non-fuel use.
[2] Kerosene-type jet fuel and aviation gasoline.

# New York State Primary Consumption of Energy by Sector, 1993-2007

Figure 2-3

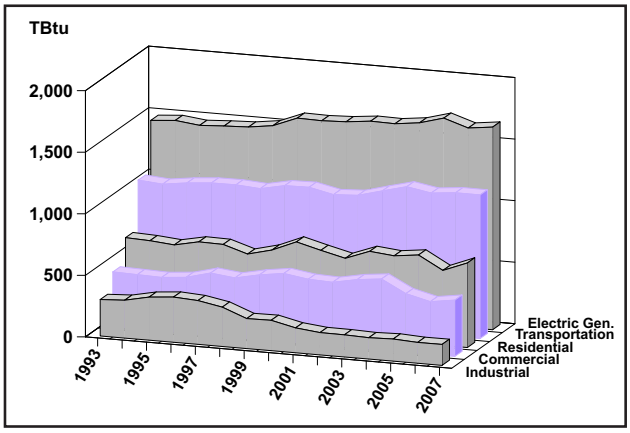



**Table 2-3 (in trillion Btu)**

| Year | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation TBtu | Electric Generation TBtu | Total TBtu |
|---|---|---|---|---|---|---|
| 1993 | 653.7 | 448.0 | 296.4 | 1,048.7 | 1,462.0 | 3,908.8 |
| 1994 | 646.0 | 442.9 | 307.7 | 1,033.0 | 1,477.9 | 3,907.5 |
| 1995 | 629.4 | 437.4 | 350.1 | 1,059.7 | 1,455.2 | 3,931.9 |
| 1996 | 671.0 | 455.1 | 363.5 | 1,076.9 | 1,467.0 | 4,037.5 |
| 1997 | 667.0 | 506.9 | 355.8 | 1,078.4 | 1,475.8 | 4,083.9 |
| 1998 | 605.8 | 484.6 | 320.0 | 1,065.0 | 1,503.8 | 3,979.2 |
| 1999 | 655.6 | 526.0 | 244.1 | 1,106.4 | 1,582.3 | 4,114.5 |
| 2000 | 738.6 | 554.6 | 246.7 | 1,110.0 | 1,578.7 | 4,228.5 |
| 2001 | 687.0 | 524.7 | 202.4 | 1,067.4 | 1,586.9 | 4,068.4 |
| 2002 | 639.5 | 517.5 | 181.6 | 1,078.6 | 1,608.5 | 4,025.6 |
| 2003 | 713.3 | 556.1 | 180.3 | 1,131.8 | 1,604.8 | 4,186.4 |
| 2004 | 694.1 | 578.2 | 174.0 | 1,183.0 | 1,629.1 | 4,258.4 |
| 2005 | 718.3 | 475.9 | 179.8 | 1,148.7 | 1,684.5 | 4,207.2 |
| 2006 | 609.3 | 427.7 | 169.8 | 1,168.2 | 1,621.4 | 3,996.3 |
| 2007 | 687.1 | 457.5 | 170.7 | 1,167.1 | 1,646.5 | 4,128.9 |

# New York State
# Primary Consumption of Energy for Electric Generation, 1993-2007

Figure 2-4

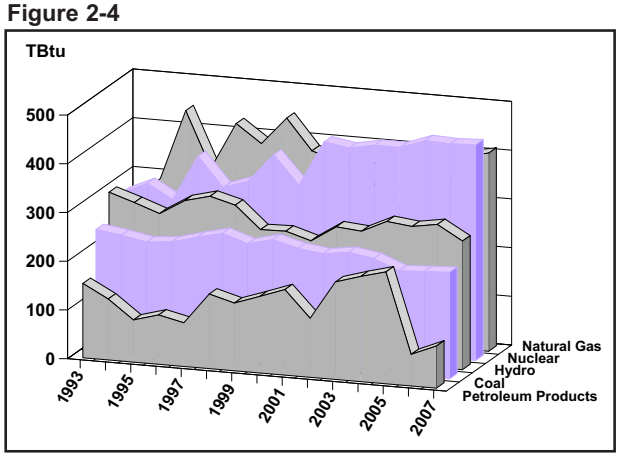



**Table 2-4a (in physical units)**

| Year | Coal MTons | Natural Gas Bcf | Distillate[1] Mbbl | Residual Mbbl | Total Petroleum Mbbl | Hydro GWh | Nuclear GWh | Net Imported Electricity GWh |
|---|---|---|---|---|---|---|---|---|
| 1993 | 9,472 | 241 | 903 | 23,444 | 24,347 | 29,304 | 26,889 | 21,692 |
| 1994 | 9,152 | 289 | 2,300 | 17,786 | 20,086 | 27,656 | 29,231 | 20,737 |
| 1995 | 8,774 | 431 | 1,627 | 12,264 | 13,891 | 25,895 | 26,336 | 13,952 |
| 1996 | 8,992 | 320 | 1,268 | 14,940 | 16,208 | 28,830 | 35,226 | 11,770 |
| 1997 | 9,464 | 413 | 1,568 | 12,813 | 14,381 | 30,498 | 29,570 | 7,091 |
| 1998 | 9,928 | 377 | 1,390 | 23,075 | 24,465 | 29,203 | 31,314 | 5,469 |
| 1999 | 9,265 | 433 | 2,207 | 20,053 | 22,260 | 24,648 | 37,019 | 9,066 |
| 2000 | 9,763 | 373 | 2,352 | 22,789 | 25,141 | 24,819 | 31,508 | 17,657 |
| 2001 | 9,258 | 357 | 3,010 | 25,146 | 28,156 | 23,014 | 40,395 | 12,012 |
| 2002 | 9,154 | 366 | 2,229 | 17,244 | 19,473 | 26,213 | 39,617 | 17,074 |
| 2003 | 9,646 | 261 | 2,410 | 29,627 | 32,037 | 25,798 | 40,679 | 17,857 |
| 2004 | 9,702 | 259 | 1,740 | 32,722 | 34,462 | 28,153 | 40,640 | 17,461 |
| 2005 | 9,069 | 304 | 1,574 | 35,064 | 36,638 | 27,583 | 42,443 | 17,811 |
| 2006 | 9,417 | 388 | 622 | 9,754 | 10,376 | 28,422 | 42,224 | 18,746 |
| 2007 | 9,544 | 398 | 1,247 | 12,608 | 13,855 | 25,557 | 42,451 | 20,391 |

**Table 2-4b (in trillion Btu)**

| Year | Coal TBtu | Natural Gas TBtu | Distillate[1] TBtu | Residual TBtu | Total Petroleum TBtu | Hydro[3] TBtu | Nuclear[3] TBtu | Net Imported Electricity[3] TBtu | Biofuels[3,4] TBtu | Wind[3] TBtu | Total[2] TBtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 244.4 | 247.6 | 5.3 | 147.4 | 152.7 | 302.1 | 282.4 | 209.8 | 23.0 | 0 | 1,462.0 |
| 1994 | 237.1 | 297.0 | 13.4 | 111.8 | 125.2 | 285.3 | 305.5 | 202.4 | 25.4 | 0 | 1,477.9 |
| 1995 | 227.4 | 440.4 | 9.5 | 77.1 | 86.6 | 267.0 | 276.7 | 132.2 | 24.9 | 0 | 1,455.2 |
| 1996 | 232.3 | 326.9 | 7.4 | 93.9 | 101.3 | 298.1 | 370.0 | 111.3 | 27.1 | 0 | 1,467.0 |
| 1997 | 246.2 | 422.9 | 9.1 | 80.6 | 89.7 | 311.5 | 310.3 | 68.2 | 27.0 | 0 | 1,475.8 |
| 1998 | 258.6 | 386.3 | 8.1 | 145.1 | 153.2 | 297.8 | 328.5 | 52.8 | 26.6 | 0 | 1,503.8 |
| 1999 | 241.8 | 443.0 | 12.9 | 126.1 | 139.0 | 252.0 | 386.8 | 90.3 | 29.4 | 0 | 1,582.3 |
| 2000 | 254.8 | 380.1 | 13.7 | 143.3 | 157.0 | 253.2 | 328.6 | 175.5 | 29.4 | 0.1 | 1,578.7 |
| 2001 | 241.1 | 364.1 | 17.5 | 158.1 | 175.6 | 237.8 | 422.0 | 119.3 | 26.8 | 0.2 | 1,586.9 |
| 2002 | 234.3 | 372.5 | 13.0 | 108.4 | 121.4 | 270.9 | 413.6 | 169.8 | 25.2 | 0.8 | 1,608.5 |
| 2003 | 242.1 | 267.1 | 14.0 | 186.3 | 200.3 | 266.6 | 423.9 | 178.4 | 26.1 | 0.4 | 1,604.8 |
| 2004 | 233.6 | 264.1 | 10.1 | 205.7 | 215.8 | 290.9 | 423.8 | 174.6 | 25.0 | 1.2 | 1,629.1 |
| 2005 | 213.0 | 310.6 | 9.2 | 220.4 | 229.6 | 285.0 | 442.3 | 175.4 | 27.5 | 1.0 | 1,684.5 |
| 2006 | 215.8 | 396.4 | 3.6 | 61.3 | 64.9 | 293.7 | 440.0 | 181.7 | 23.8 | 5.0 | 1,621.4 |
| 2007 | 218.7 | 406.6 | 7.3 | 79.2 | 86.5 | 264.1 | 442.4 | 192.9 | 26.8 | 8.5 | 1,646.5 |

[1] Includes small quantities of kerosene-type jet fuel.
[2] Excludes utility consumption of fuels used in the production of steam distributed for space heating.
[3] Converts to TBtu by applying a statewide average annual heat rate for fossil-fueled power plants.
[4] Includes primarily, in general order of prominence, waste, methane gas, and wood.

# New York State Electric Generation by Fuel Type, 1993-2007

**Figure 2-5**

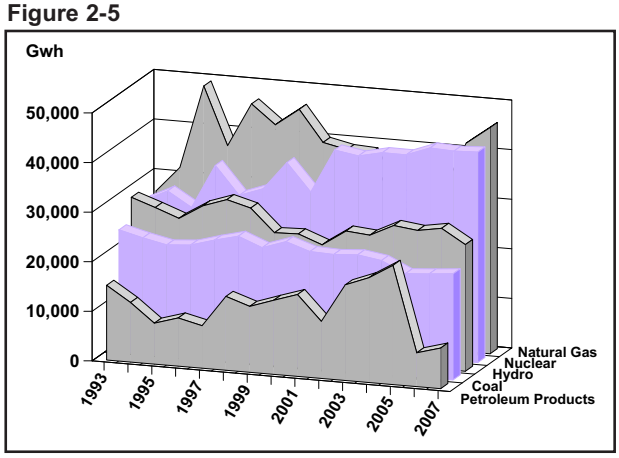



**Table 2-5 (in gigawatt hours)**

| Year | Coal GWh | Natural Gas GWh | Petroleum Products Gwh | Hydro[1] GWh | Nuclear Gwh | Net Imported Electricity Gwh | Biofuels[2] GWh | Wind GWh | Total[3] GWh |
|---|---|---|---|---|---|---|---|---|---|
| 1993 | 24,502 | 27,075 | 15,073 | 29,304 | 26,889 | 21,692 | 2,374 | 0 | 146,909 |
| 1994 | 23,291 | 32,230 | 12,030 | 27,656 | 29,231 | 20,737 | 2,602 | 0 | 147,777 |
| 1995 | 22,289 | 49,057 | 8,268 | 25,895 | 26,336 | 13,952 | 2,632 | 0 | 148,429 |
| 1996 | 22,672 | 37,449 | 9,717 | 28,830 | 35,226 | 11,770 | 2,863 | 0 | 148,527 |
| 1997 | 24,059 | 46,281 | 8,588 | 30,498 | 29,570 | 7,091 | 2,809 | 0 | 148,896 |
| 1998 | 25,265 | 42,472 | 14,901 | 29,203 | 31,314 | 5,469 | 2,754 | 0 | 151,377 |
| 1999 | 23,366 | 45,999 | 13,304 | 24,648 | 37,019 | 9,066 | 2,950 | 0 | 156,352 |
| 2000 | 25,010 | 39,729 | 14,945 | 24,819 | 31,508 | 17,657 | 2,958 | 10 | 156,636 |
| 2001 | 23,432 | 38,697 | 16,512 | 23,014 | 40,395 | 12,012 | 2,704 | 21 | 156,787 |
| 2002 | 23,239 | 38,451 | 11,534 | 26,213 | 39,617 | 17,074 | 2,535 | 82 | 158,745 |
| 2003 | 23,581 | 28,156 | 19,292 | 25,798 | 40,679 | 17,857 | 2,609 | 41 | 158,014 |
| 2004 | 22,854 | 27,325 | 21,158 | 28,153 | 40,640 | 17,461 | 2,504 | 116 | 160,211 |
| 2005 | 20,598 | 31,831 | 24,044 | 27,583 | 42,443 | 17,811 | 2,795 | 103 | 167,208 |
| 2006 | 20,969 | 42,071 | 6,830 | 28,422 | 42,224 | 18,746 | 2,457 | 518 | 162,237 |
| 2007 | 21,406 | 45,634 | 8,195 | 25,557 | 42,451 | 20,391 | 2,834 | 873 | 167,341 |

[1] Hydro totals after 2000 do not “net out” electricity used at pumped storage facilities.
[2] Includes primarily waste, methane gas, and wood.

# New York State
# Fossil Fuel[1] for Electric Generation Trends, 1993-2007

**Figure 2-6a Fossil Fuel Used per kWh Required**

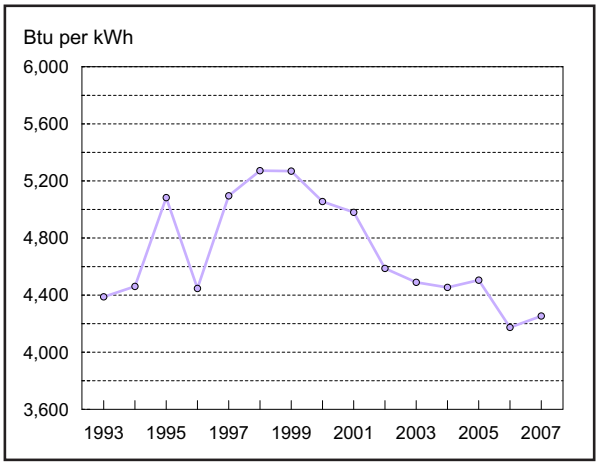



**Figure 2-6b $CO_2$ Tons Emitted Per GWh Required**

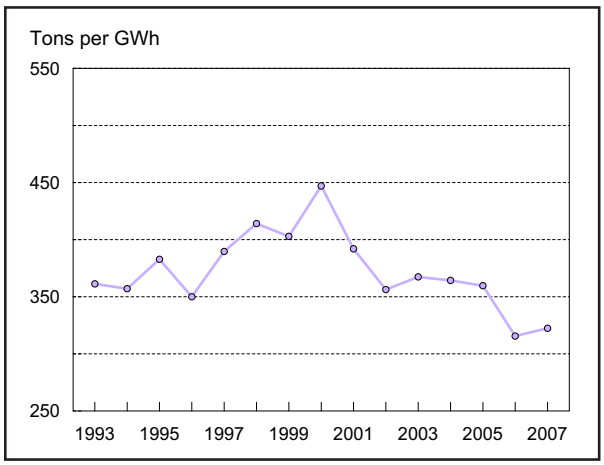



**Table 2-6 Fossil Fuel Use for Electricity Trends**

| Year | Total Fossil Fuel Use | Fossil Fuel per kWh Required | $CO_2$ Emitted per GWh Required |
|---|---|---|---|
| | TBtu | Btu | Tons of $CO_2$ Equivalent |
| **1993** | 644.7 | 4,388 | 361.3 |
| **1994** | 659.3 | 4,461 | 357.1 |
| **1995** | 754.4 | 5,083 | 382.8 |
| **1996** | 660.5 | 4,447 | 350.0 |
| **1997** | 758.8 | 5,096 | 389.7 |
| **1998** | 798.1 | 5,272 | 414.1 |
| **1999** | 823.8 | 5,269 | 402.9 |
| **2000** | 791.9 | 5,056 | 447.1 |
| **2001** | 780.8 | 4,980 | 392.0 |
| **2002** | 728.2 | 4,587 | 356.3 |
| **2003** | 709.5 | 4,490 | 367.4 |
| **2004** | 713.5 | 4,454 | 364.3 |
| **2005** | 753.2 | 4,505 | 359.7 |
| **2006** | 677.1 | 4,174 | 315.6 |
| **2007** | 711.9 | 4,254 | 322.4 |

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

# New York State Sales of Electricity to Ultimate Consumers, 1993-2007

Figure 2-7

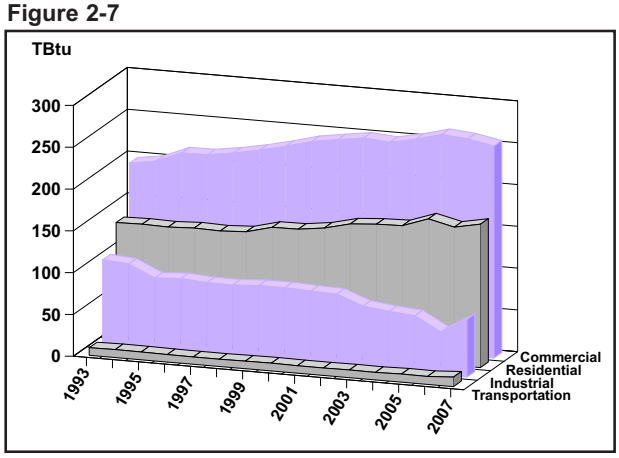



**Table 2-7a (in gigawatt hours)**

| Year | Residential GWh | Commercial GWh | Industrial GWh | Transportation GWh | Total GWh |
|---|---|---|---|---|---|
| 1993 | 39,897 | 57,410 | 30,187 | 2,676 | 130,170 |
| 1994 | 40,105 | 58,802 | 29,467 | 2,803 | 131,177 |
| 1995 | 39,887 | 62,509 | 25,317 | 2,757 | 130,470 |
| 1996 | 40,285 | 62,663 | 25,947 | 2,632 | 131,527 |
| 1997 | 40,059 | 64,033 | 25,285 | 2,567 | 131,944 |
| 1998 | 40,563 | 65,834 | 25,218 | 2,580 | 134,195 |
| 1999 | 42,919 | 67,969 | 25,835 | 2,654 | 139,377 |
| 2000 | 43,018 | 70,417 | 25,838 | 2,753 | 142,026 |
| 2001 | 44,236 | 71,850 | 25,450 | 2,646 | 144,182 |
| 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 | 148,177 |

**Table 2-7b (in trillion Btu)**

| Year | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation TBtu | Total TBtu |
|---|---|---|---|---|---|
| 1993 | 136.1 | 195.9 | 103.0 | 9.1 | 444.1 |
| 1994 | 136.8 | 200.6 | 100.5 | 9.6 | 447.6 |
| 1995 | 136.1 | 213.3 | 86.4 | 9.4 | 445.2 |
| 1996 | 137.5 | 213.8 | 88.5 | 9.0 | 448.8 |
| 1997 | 136.7 | 218.5 | 86.3 | 8.8 | 450.3 |
| 1998 | 138.4 | 224.6 | 86.0 | 8.8 | 457.8 |
| 1999 | 146.4 | 231.9 | 88.2 | 9.1 | 475.6 |
| 2000 | 146.8 | 240.3 | 88.2 | 9.4 | 484.7 |
| 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 | 491.6 |
| 2004 | 161.7 | 253.8 | 70.5 | 9.0 | 495.0 |
| 2005 | 172.5 | 262.1 | 68.0 | 9.7 | 512.3 |
| 2006 | 165.3 | 259.4 | 51.1 | 9.5 | 485.3 |
| 2007 | 171.5 | 253.6 | 68.9 | 11.5 | 505.6 |

# New York State Net Consumption of Energy by Sector, 1993-2007

**Figure 2-8**

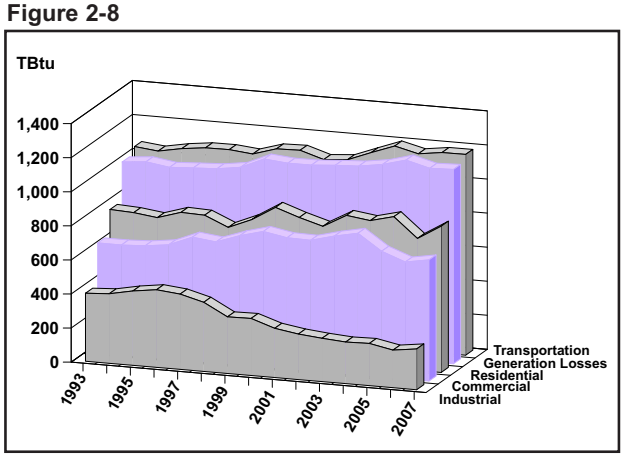



**Table 2-8 (in trillion Btu)**

| Year | Residential TBtu | Commercial TBtu | Industrial TBtu | Transportation TBtu | Net Consumption TBtu | Electric Generation Losses[1] TBtu | Primary Consumption TBtu |
|---|---|---|---|---|---|---|---|
| 1993 | 789.8 | 643.9 | 399.4 | 1,057.8 | 2,890.9 | 1,017.9 | 3,908.8 |
| 1994 | 782.8 | 643.5 | 408.2 | 1,042.6 | 2,877.1 | 1,030.4 | 3,907.5 |
| 1995 | 765.5 | 650.7 | 436.5 | 1,069.1 | 2,921.8 | 1,010.0 | 3,931.5 |
| 1996 | 808.5 | 668.9 | 456.0 | 1,085.9 | 3,019.3 | 1,018.2 | 4,037.5 |
| 1997 | 803.7 | 725.4 | 442.1 | 1,087.2 | 3,058.4 | 1,025.5 | 4,083.9 |
| 1998 | 744.2 | 709.2 | 406.0 | 1,073.8 | 2,933.2 | 1,046.0 | 3,979.2 |
| 1999 | 802.0 | 757.9 | 332.3 | 1,115.5 | 3,007.7 | 1,106.7 | 4,114.5 |
| 2000 | 885.4 | 794.9 | 334.9 | 1,119.4 | 3,134.6 | 1,094.0 | 4,228.5 |
| 2001 | 837.9 | 769.9 | 289.2 | 1,076.4 | 2,973.4 | 1,095.0 | 4,068.4 |
| 2002 | 798.0 | 767.3 | 267.4 | 1,087.6 | 2,920.3 | 1,105.4 | 4,025.6 |
| 2003 | 874.1 | 803.5 | 254.5 | 1,141.0 | 3,073.1 | 1,113.2 | 4,186.4 |
| 2004 | 855.8 | 832.0 | 244.5 | 1,192.0 | 3,124.3 | 1,134.1 | 4,258.4 |
| 2005 | 890.8 | 738.0 | 247.8 | 1,158.4 | 3,035.0 | 1,172.2 | 4,207.2 |
| 2006 | 774.6 | 687.1 | 220.8 | 1,177.8 | 2,860.3 | 1,136.1 | 3,996.3 |
| 2007 | 858.5 | 711.2 | 239.6 | 1,178.6 | 2,987.9 | 1,141.0 | 4,128.9 |

[1] Conversion and transmission losses.

# New York State
# Net Residential Consumption of Energy by Fuel Type, 1993-2007

Figure 2-9

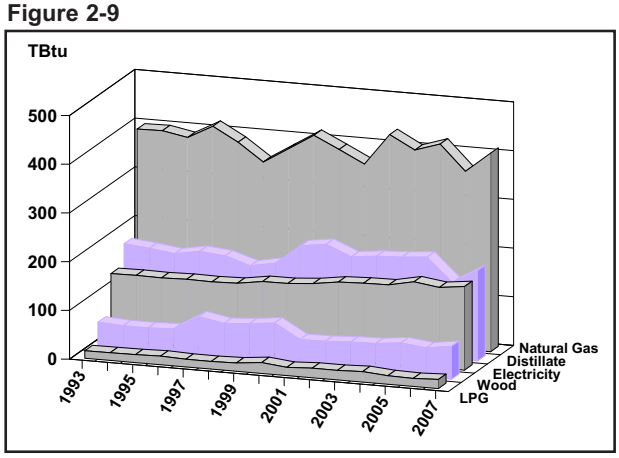



**Table 2-9a (in physical units)**

| Year | Coal MTons | Natural Gas Bcf | Distillate Mbbl | Kerosene Mbbl | LPG Mbbl | Total Petroleum Mbbl | Wood MCords | Electricity GWh |
|---|---|---|---|---|---|---|---|---|
| 1993 | 42 | 384 | 30,618 | 1,565 | 4,293 | 36,476 | 2,758 | 39,897 |
| 1994 | 28 | 385 | 29,769 | 1,396 | 4,350 | 35,515 | 2,618 | 40,105 |
| 1995 | 29 | 375 | 28,624 | 1,240 | 4,516 | 34,380 | 2,618 | 39,887 |
| 1996 | 34 | 403 | 30,240 | 1,450 | 4,937 | 36,627 | 2,719 | 40,285 |
| 1997 | 28 | 376 | 29,367 | 1,744 | 4,379 | 35,490 | 4,202 | 40,059 |
| 1998 | 16 | 340 | 26,637 | 1,866 | 4,323 | 32,826 | 3,734 | 40,563 |
| 1999 | 22 | 371 | 28,347 | 2,327 | 4,691 | 35,365 | 3,931 | 42,919 |
| 2000 | 11 | 400 | 35,229 | 2,344 | 6,211 | 43,784 | 4,225 | 43,018 |
| 2001 | 13 | 376 | 36,502 | 2,390 | 4,698 | 43,590 | 2,755 | 44,236 |
| 2002 | 5 | 370 | 32,893 | 1,642 | 5,441 | 39,976 | 2,796 | 46,457 |
| 2003 | 11 | 410 | 33,847 | 1,639 | 5,390 | 40,876 | 2,943 | 47,116 |
| 2004 | 16 | 393 | 34,262 | 2,065 | 5,961 | 42,288 | 3,017 | 47,379 |
| 2005 | 13 | 406 | 35,054 | 2,203 | 4,903 | 42,160 | 3,311 | 50,533 |
| 2006 | 11 | 356 | 26,797 | 1,803 | 4,586 | 33,186 | 3,017 | 48,427 |
| 2007 | 10 | 397 | 31,860 | 1,242 | 5,228 | 38,330 | 3,385 | 50,241 |

**Table 2-9b (in trillion Btu)**

| Year | Coal TBtu | Natural Gas TBtu | Distillate TBtu | Kerosene TBtu | LPG TBtu | Total Petroleum TBtu | Wood TBtu | Electricity TBtu | Total TBtu |
|---|---|---|---|---|---|---|---|---|---|
| 1993 | 1.0 | 394.8 | 178.3 | 8.9 | 15.5 | 202.7 | 55.2 | 136.1 | 789.8 |
| 1994 | 0.7 | 395.8 | 173.4 | 7.9 | 15.8 | 197.1 | 52.4 | 136.8 | 782.8 |
| 1995 | 0.7 | 386.2 | 166.7 | 7.0 | 16.4 | 190.1 | 52.4 | 136.1 | 765.5 |
| 1996 | 0.8 | 413.7 | 176.1 | 8.2 | 17.8 | 202.2 | 54.4 | 137.5 | 808.5 |
| 1997 | 0.7 | 385.5 | 171.1 | 9.9 | 15.8 | 196.8 | 84.0 | 136.7 | 803.7 |
| 1998 | 0.4 | 349.3 | 155.2 | 10.6 | 15.6 | 181.4 | 74.7 | 138.4 | 744.2 |
| 1999 | 0.6 | 381.1 | 165.1 | 13.2 | 17.0 | 195.3 | 78.6 | 146.4 | 802.0 |
| 2000 | 0.3 | 412.9 | 205.2 | 13.3 | 22.4 | 240.9 | 84.5 | 146.8 | 885.4 |
| 2001 | 0.3 | 388.4 | 212.6 | 13.6 | 17.0 | 243.2 | 55.1 | 150.9 | 837.9 |
| 2002 | 0.1 | 362.9 | 191.6 | 9.3 | 19.7 | 220.6 | 55.9 | 158.5 | 798.0 |
| 2003 | 0.3 | 428.0 | 197.2 | 9.3 | 19.6 | 226.1 | 58.9 | 160.8 | 874.1 |
| 2004 | 0.4 | 400.5 | 199.6 | 11.7 | 21.6 | 232.9 | 60.3 | 161.7 | 855.8 |
| 2005 | 0.3 | 417.4 | 204.2 | 12.5 | 17.7 | 234.4 | 66.2 | 172.5 | 890.8 |
| 2006 | 0.3 | 365.9 | 156.1 | 10.2 | 16.5 | 182.8 | 60.3 | 165.3 | 774.6 |
| 2007 | 0.3 | 407.7 | 185.6 | 7.0 | 18.8 | 211.4 | 67.7 | 171.5 | 858.5 |

# New York State
# Net Commercial Consumption of Energy by Fuel Type, 1993-2007

Figure 2-10

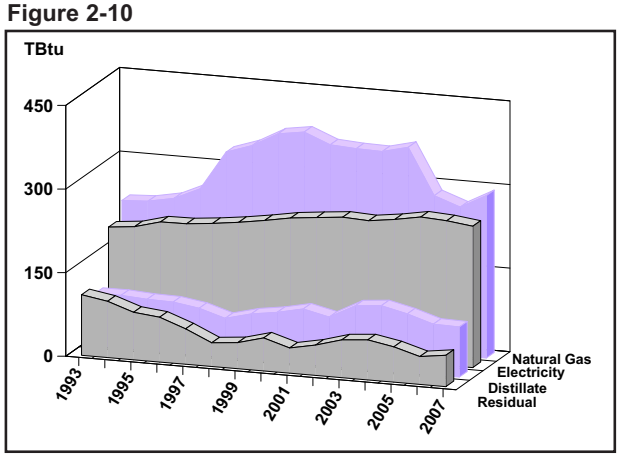



**Table 2-10a (in physical units)**

| Year | Coal MTons | Natural Gas Bcf | Distillate Mbbl | Residual Mbbl | Kerosene Mbbl | LPG Mbbl | Total Petroleum Mbbl | Electricity GWh |
|---|---|---|---|---|---|---|---|---|
| 1993 | 190 | 221 | 16,130 | 17,303 | 616 | 758 | 34,807 | 57,410 |
| 1994 | 157 | 223 | 16,232 | 16,057 | 538 | 768 | 33,595 | 58,802 |
| 1995 | 191 | 231 | 15,711 | 13,555 | 714 | 797 | 30,777 | 62,509 |
| 1996 | 249 | 253 | 15,531 | 12,791 | 751 | 871 | 29,944 | 62,663 |
| 1997 | 226 | 321 | 14,337 | 10,105 | 801 | 773 | 26,016 | 64,033 |
| 1998 | 131 | 335 | 11,914 | 6,765 | 981 | 763 | 20,423 | 65,834 |
| 1999 | 158 | 360 | 13,946 | 7,439 | 682 | 828 | 22,895 | 67,969 |
| 2000 | 90 | 366 | 15,128 | 9,429 | 948 | 1,096 | 26,601 | 70,417 |
| 2001 | 102 | 347 | 16,865 | 7,193 | 874 | 829 | 25,761 | 71,850 |
| 2002 | 40 | 362 | 15,032 | 8,678 | 493 | 960 | 25,163 | 73,198 |
| 2003 | 73 | 339 | 19,198 | 10,784 | 665 | 951 | 31,598 | 72,495 |
| 2004 | 145 | 359 | 19,907 | 11,441 | 745 | 1,052 | 33,145 | 74,378 |
| 2005 | 147 | 276 | 18,086 | 10,066 | 759 | 865 | 29,776 | 76,822 |
| 2006 | 129 | 260 | 15,602 | 7,941 | 354 | 809 | 24,706 | 76,029 |
| 2007 | 112 | 284 | 15,459 | 8,965 | 244 | 922 | 25,591 | 74,326 |

**Table 2-10b (in trillion Btu)**

| Year | Coal TBtu | Natural Gas TBtu | Distillate TBtu | Residual TBtu | Kerosene TBtu | LPG TBtu | Total Petroleum TBtu | Wood Waste TBtu | Electricity TBtu | Total TBtu |
|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 4.6 | 226.8 | 94.0 | 108.8 | 3.5 | 2.7 | 209.0 | 7.6 | 195.9 | 643.9 |
| 1994 | 3.9 | 229.3 | 94.6 | 101.0 | 3.1 | 2.8 | 201.5 | 8.2 | 200.6 | 643.5 |
| 1995 | 4.8 | 238.3 | 91.5 | 85.2 | 4.1 | 2.9 | 183.7 | 10.6 | 213.3 | 650.7 |
| 1996 | 6.2 | 259.6 | 90.5 | 80.4 | 4.3 | 3.1 | 178.3 | 11.0 | 213.8 | 668.9 |
| 1997 | 5.6 | 329.3 | 83.5 | 63.5 | 4.5 | 2.8 | 154.3 | 17.7 | 218.5 | 725.4 |
| 1998 | 3.3 | 345.1 | 69.4 | 42.5 | 5.6 | 2.8 | 120.3 | 15.9 | 224.6 | 709.2 |
| 1999 | 4.0 | 370.3 | 81.2 | 46.8 | 3.9 | 3.0 | 134.9 | 16.8 | 231.9 | 757.9 |
| 2000 | 2.3 | 377.4 | 88.1 | 59.3 | 5.4 | 4.0 | 156.8 | 18.1 | 240.3 | 794.9 |
| 2001 | 2.5 | 358.6 | 98.2 | 45.2 | 5.0 | 3.0 | 151.4 | 12.2 | 245.2 | 769.9 |
| 2002 | 1.0 | 355.6 | 87.6 | 54.6 | 2.8 | 3.5 | 148.5 | 12.4 | 249.8 | 767.3 |
| 2003 | 1.8 | 354.6 | 111.8 | 67.8 | 3.8 | 3.5 | 186.9 | 12.8 | 247.4 | 803.5 |
| 2004 | 3.6 | 366.1 | 116.0 | 71.9 | 4.2 | 3.8 | 195.9 | 12.6 | 253.8 | 832.0 |
| 2005 | 3.7 | 283.4 | 105.4 | 63.3 | 4.3 | 3.1 | 176.1 | 12.7 | 262.1 | 738.0 |
| 2006 | 3.2 | 266.9 | 90.9 | 49.9 | 2.0 | 2.9 | 145.7 | 11.9 | 259.4 | 687.1 |
| 2007 | 2.8 | 291.5 | 90.0 | 56.3 | 1.4 | 3.3 | 151.1 | 12.1 | 253.6 | 711.2 |

# New York State
# Net Industrial Consumption of Energy by Fuel Type, 1993-2007

Figure 2-11

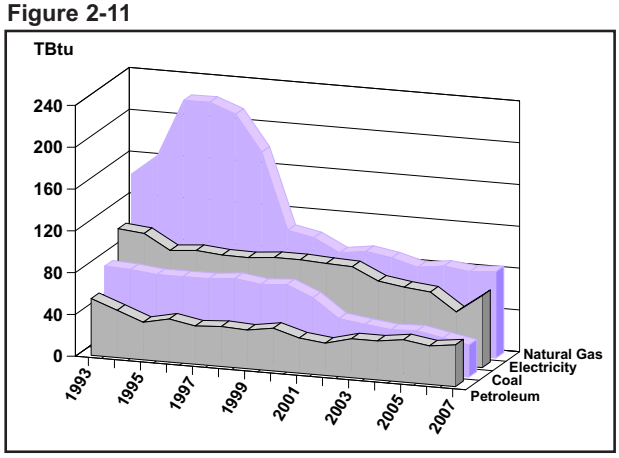



**Table 2-11a (in physical units)**

| Year | Coal MTons | Natural Gas Bcf | Distillate Mbbl | Residual Mbbl | Kerosene Mbbl | LPG Mbbl | Total Petroleum Mbbl | Electricity GWh |
|---|---|---|---|---|---|---|---|---|
| 1993 | 2,947 | 142 | 4,317 | 3,860 | 241 | 961 | 9,379 | 30,187 |
| 1994 | 2,893 | 162 | 3,411 | 3,160 | 355 | 948 | 7,874 | 29,467 |
| 1995 | 2,791 | 215 | 3,071 | 1,990 | 409 | 881 | 6,351 | 25,317 |
| 1996 | 2,799 | 216 | 3,053 | 2,456 | 682 | 1,142 | 7,333 | 25,947 |
| 1997 | 2,804 | 207 | 2,922 | 1,965 | 361 | 1,445 | 6,693 | 25,285 |
| 1998 | 2,878 | 173 | 3,016 | 1,868 | 511 | 1,687 | 7,082 | 25,218 |
| 1999 | 2,742 | 102 | 3,441 | 1,623 | 77 | 1,772 | 6,913 | 25,835 |
| 2000 | 2,747 | 97 | 3,285 | 2,005 | 151 | 2,308 | 7,749 | 25,838 |
| 2001 | 2,411 | 85 | 2,981 | 1,554 | 180 | 1,559 | 6,264 | 25,450 |
| 2002 | 1,708 | 93 | 2,889 | 1,362 | 238 | 1,145 | 5,634 | 25,148 |
| 2003 | 1,583 | 84 | 2,960 | 1,584 | 891 | 1,379 | 6,814 | 21,745 |
| 2004 | 1,472 | 79 | 3,481 | 1,483 | 372 | 1,561 | 6,897 | 20,675 |
| 2005 | 1,510 | 81 | 3,371 | 1,337 | 670 | 2,417 | 7,795 | 19,947 |
| 2006 | 1,354 | 78 | 3,463 | 1,301 | 422 | 1,658 | 6,844 | 14,976 |
| 2007 | 1,179 | 80 | 3,838 | 1,501 | 215 | 1,890 | 7,445 | 20,213 |

**Table 2-11b (in trillion Btu)**

| Year | Coal TBtu | Natural Gas TBtu | Distillate TBtu | Residual TBtu | Kerosene TBtu | LPG TBtu | Total Petroleum TBtu | Wood Waste TBtu | Electricity TBtu | Total[1, 2] TBtu |
|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 76.2 | 146.3 | 25.1 | 24.3 | 1.4 | 3.5 | 54.3 | 19.6 | 103.0 | 399.4 |
| 1994 | 75.1 | 166.1 | 19.9 | 19.9 | 2.0 | 3.4 | 45.2 | 21.3 | 100.5 | 408.2 |
| 1995 | 72.4 | 220.9 | 17.9 | 12.5 | 2.3 | 3.2 | 35.9 | 20.9 | 86.4 | 436.5 |
| 1996 | 72.5 | 221.2 | 17.8 | 15.4 | 3.9 | 4.1 | 41.2 | 32.6 | 88.5 | 456.0 |
| 1997 | 72.7 | 212.0 | 17.0 | 12.4 | 2.0 | 5.2 | 36.6 | 34.5 | 86.3 | 442.1 |
| 1998 | 75.1 | 177.7 | 17.6 | 11.7 | 2.9 | 6.1 | 38.3 | 28.9 | 86.0 | 406.0 |
| 1999 | 71.6 | 105.1 | 20.0 | 10.2 | 0.4 | 6.4 | 37.0 | 30.4 | 88.2 | 332.3 |
| 2000 | 73.5 | 100.2 | 19.1 | 12.6 | 0.9 | 8.3 | 40.9 | 32.1 | 88.2 | 334.9 |
| 2001 | 63.1 | 87.8 | 17.4 | 9.7 | 1.0 | 5.6 | 33.7 | 17.8 | 86.8 | 289.2 |
| 2002 | 45.2 | 91.4 | 16.8 | 8.6 | 1.4 | 4.1 | 30.9 | 14.1 | 85.8 | 267.4 |
| 2003 | 41.9 | 87.3 | 17.2 | 10.0 | 5.0 | 5.0 | 37.2 | 13.9 | 74.2 | 254.5 |
| 2004 | 38.9 | 80.5 | 20.3 | 9.3 | 2.1 | 5.6 | 37.3 | 17.3 | 70.5 | 244.5 |
| 2005 | 39.9 | 83.7 | 19.6 | 8.4 | 3.8 | 8.8 | 40.6 | 15.6 | 68.0 | 247.8 |
| 2006 | 35.3 | 80.6 | 20.2 | 8.2 | 2.4 | 6.0 | 36.8 | 17.1 | 51.1 | 220.8 |
| 2007 | 30.7 | 82.7 | 22.4 | 9.5 | 1.2 | 6.8 | 39.9 | 17.4 | 68.9 | 239.6 |

[1] Excludes non-fuel uses (e.g., feedstock).
[2] Includes fuels used by industry to generate electricity and process steam.

# New York State
# Net Transportation Consumption of Energy by Fuel Type, 1993-2007

Figure 2-12

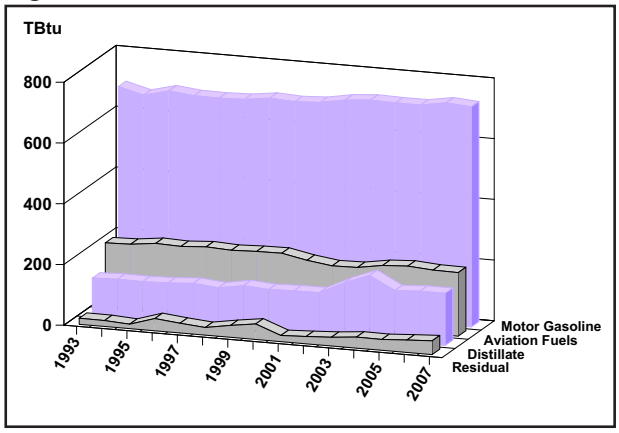



**Table 2-12a (in physical units)**

| Year | Natural Gas Bcf | Distillate Mbbl | Residual Mbbl | Motor Gasoline Mbbl | Aviation Fuels[1] Mbbl | LPG Mbbl | Total Petroleum Mbbl | Ethanol Mbbl | Electricity GWh |
|---|---|---|---|---|---|---|---|---|---|
| 1993 | 6 | 20,932 | 3,216 | 131,710 | 36,653 | 127 | 192,638 | 82 | 2,676 |
| 1994 | 6 | 21,506 | 3,122 | 128,228 | 37,050 | 286 | 190,192 | 203 | 2,803 |
| 1995 | 8 | 21,316 | 2,318 | 132,627 | 38,825 | 138 | 195,224 | 648 | 2,757 |
| 1996 | 8 | 21,822 | 6,441 | 130,979 | 38,333 | 123 | 197,698 | 546 | 2,632 |
| 1997 | 8 | 22,839 | 5,109 | 130,923 | 39,294 | 90 | 198,255 | 526 | 2,567 |
| 1998 | 8 | 21,558 | 4,024 | 131,469 | 38,581 | 533 | 196,165 | 391 | 2,580 |
| 1999 | 9 | 24,028 | 6,237 | 133,621 | 39,158 | 25 | 203,069 | 338 | 2,654 |
| 2000 | 8 | 23,044 | 8,126 | 132,831 | 39,393 | 234 | 203,628 | 374 | 2,753 |
| 2001 | 6 | 23,520 | 3,207 | 133,724 | 36,549 | 25 | 197,025 | 106 | 2,646 |
| 2002 | 9 | 23,641 | 3,826 | 133,664 | 34,584 | 66 | 198,781 | 93 | 2,637 |
| 2003 | 8 | 30,504 | 4,583 | 138,010 | 34,894 | 51 | 208,042 | 540 | 2,689 |
| 2004 | 9 | 35,910 | 5,823 | 137,391 | 37,317 | 66 | 216,507 | 6,904 | 2,650 |
| 2005 | 13 | 28,545 | 5,684 | 137,355 | 38,206 | 75 | 209,865 | 7,646 | 2,846 |
| 2006 | 14 | 29,388 | 6,530 | 140,020 | 37,157 | 99 | 213,194 | 17,002 | 2,806 |
| 2007 | 15 | 29,478 | 7,261 | 138,928 | 36,930 | 113 | 212,710 | 22,669 | 3,397 |

**Table 2-12b (in trillion Btu)**

| Year | Natural Gas TBtu | Distillate TBtu | Residual TBtu | Motor Gasoline TBtu | Aviation Fuels[1] TBtu | LPG TBtu | Total Petroleum TBtu | Ethanol[2] TBtu | Electricity TBtu | Total TBtu |
|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 6.4 | 121.9 | 20.2 | 691.9 | 207.8 | 0.5 | 1,042.3 | 0.3 | 9.1 | 1,052.8 |
| 1994 | 6.4 | 125.3 | 19.6 | 670.6 | 210.1 | 1.0 | 1,026.6 | 0.7 | 9.6 | 1,042.6 |
| 1995 | 8.6 | 124.2 | 14.6 | 691.7 | 220.1 | 0.5 | 1,051.1 | 2.3 | 9.4 | 1,069.1 |
| 1996 | 8.4 | 127.1 | 40.5 | 683.2 | 217.3 | 0.4 | 1,068.5 | 1.9 | 9.0 | 1,085.9 |
| 1997 | 7.7 | 133.0 | 32.1 | 682.5 | 222.8 | 0.3 | 1,070.7 | 1.9 | 8.8 | 1,087.2 |
| 1998 | 8.2 | 125.6 | 25.3 | 685.2 | 218.8 | 1.9 | 1,056.8 | 1.4 | 8.8 | 1,073.8 |
| 1999 | 8.8 | 140.0 | 39.2 | 696.3 | 222.0 | 0.1 | 1,097.6 | 1.2 | 9.1 | 1,115.5 |
| 2000 | 8.5 | 134.2 | 51.1 | 692.0 | 223.4 | 0.8 | 1,101.5 | 1.3 | 9.4 | 1,119.4 |
| 2001 | 6.2 | 137.0 | 20.2 | 696.7 | 207.2 | 0.1 | 1,061.2 | 0.4 | 9.0 | 1,076.4 |
| 2002 | 8.8 | 137.7 | 24.1 | 711.7 | 196.1 | 0.2 | 1,069.8 | 0.3 | 9.0 | 1,087.6 |
| 2003 | 8.7 | 177.7 | 28.8 | 718.6 | 197.8 | 0.2 | 1,123.1 | 1.9 | 9.2 | 1,141.0 |
| 2004 | 8.9 | 209.2 | 36.6 | 716.5 | 211.6 | 0.2 | 1,174.1 | 24.4 | 9.0 | 1,192.0 |
| 2005 | 13.1 | 166.3 | 35.7 | 716.7 | 216.6 | 0.3 | 1,135.6 | 27.1 | 9.7 | 1,158.4 |
| 2006 | 14.3 | 171.2 | 41.1 | 730.6 | 210.7 | 0.4 | 1,154.0 | 60.2 | 9.5 | 1,177.8 |
| 2007 | 14.9 | 171.7 | 45.7 | 724.9 | 209.4 | 0.5 | 1,152.2 | 80.3 | 11.5 | 1,178.6 |

[1] Consists of aviation gasoline and kerosene-type jet fuel.
[2] Values excluded from the total because ethanol is included in motor gasoline.

**Section 3**

# NEW YORK ENERGY PRICES

This section presents data on retail energy prices for the 15-year period, 1993 through 2007. Energy prices are provided by fuel type in nominal dollars per physical unit and per million Btu for the residential, commercial, industrial, and transportation sectors.

This section includes a column in the price tables displaying gross domestic product (GDP) price deflators for converting nominal (current year) dollars into constant 2007 (real) dollars. To convert energy prices from nominal to constant 2007 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 from U.S. DOE's *State Energy Price and Expenditure Report*.

# Key Observations about 2007 New York State Energy Price Data

✓ Residential sector statewide average nominal fuel prices:

- Home heating oil rose 9% from an average $2.56 per gallon in 2006 to $2.79 per gallon in 2007;
- Natural gas increased 1% from an average $15.38 per thousand cubic feet in 2006 to $15.49 in 2007;
- Electricity increased 1% from 16.9¢ to 17.1¢ per kilowatt hour from 2006 to 2007.

✓ Commercial sector statewide average nominal fuel prices:

- Distillate fuel prices averaged $2.44 per gallon in 2007, a 13% increase over 2006 prices;
- Residual oil prices averaged $62.25 per barrel in 2007, a 13% increase over 2006 prices;
- Electricity prices averaged 15.9¢ per kilowatt hour, a 3% increase over 2006 prices;
- Natural gas prices averaged $11.72 per thousand cubic feet, a 2% decrease compared to 2006 prices.

✓ Industrial sector statewide average nominal fuel prices:

- Residual oil prices averaged $62.25 per barrel, a 13% increase over 2006 prices;
- Natural gas prices averaged $11.33 per thousand cubic feet, a 7% increase over 2006 prices;
- Electricity prices averaged 8.7¢ per kilowatt hour, a 7% decrease as compared to 2006 prices.

✓ The average retail price for all grades of gasoline was $2.93 per gallon, up 37¢ per gallon from the $2.56 per gallon average price in 2006.

# New York State Residential Energy Prices in Nominal Dollars, 1993-2007

Figure 3-1

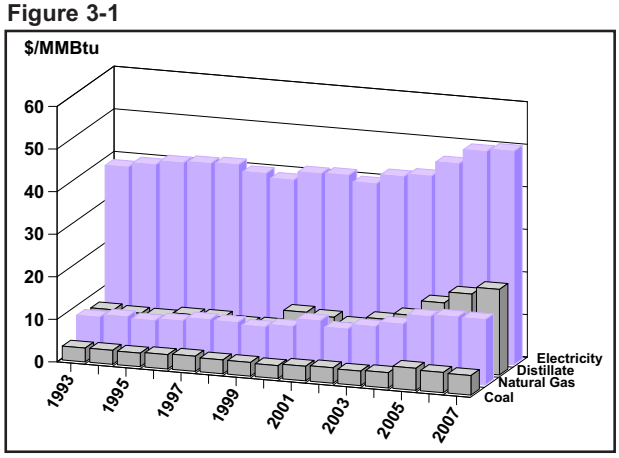



**Table 3-1a (in physical units)**

| Year | Coal $/Ton | Distillate[1] ¢/gal | Kerosene ¢/gal | Propane ¢/gal | Natural Gas $/Mcf | Electricity ¢/kWh | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|
| 1993 | 74.73 | 104.16 | 75.06 | 114.62 | 8.14 | 13.17 | 0.695 |
| 1994 | 76.04 | 100.41 | 75.87 | 126.01 | 8.75 | 13.55 | 0.715 |
| 1995 | 73.52 | 99.30 | 72.63 | 123.10 | 8.39 | 13.90 | 0.736 |
| 1996 | 77.78 | 110.54 | 81.41 | 128.43 | 8.90 | 14.04 | 0.757 |
| 1997 | 80.30 | 110.81 | 84.51 | 129.32 | 9.73 | 14.12 | 0.774 |
| 1998 | 70.27 | 98.61 | 59.94 | 119.18 | 9.62 | 13.62 | 0.787 |
| 1999 | 76.65 | 100.83 | 73.58 | 121.05 | 9.12 | 13.27 | 0.804 |
| 2000 | 75.56 | 149.92 | 127.44 | 152.35 | 9.80 | 13.97 | 0.830 |
| 2001 | 85.19 | 141.74 | 117.99 | 159.88 | 11.70 | 14.04 | 0.854 |
| 2002 | 83.35 | 126.62 | 106.92 | 140.39 | 10.32 | 13.55 | 0.868 |
| 2003 | 76.07 | 149.51 | 134.60 | 160.37 | 11.46 | 14.31 | 0.887 |
| 2004 | 80.37 | 169.62 | 162.14 | 178.14 | 12.59 | 14.54 | 0.911 |
| 2005 | 115.73 | 219.13 | 214.92 | 199.27 | 14.91 | 15.72 | 0.942 |
| 2006 | 105.03 | 255.61 | 260.15 | 224.99 | 15.38 | 16.89 | 0.972 |
| 2007 | 101.42 | 278.69 | 306.55 | 240.46 | 15.49 | 17.10 | 1.000 |

**Table 3-1b (in $/million Btu)**

| Year | Coal $/MMBtu | Distillate[1] $/MMBtu | Kerosene $/MMBtu | Propane $/MMBtu | Natural Gas $/MMBtu | Electricity $/MMBtu | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|
| 1993 | 3.25 | 7.51 | 5.56 | 13.35 | 7.91 | 38.61 | 0.695 |
| 1994 | 3.29 | 7.24 | 5.62 | 14.56 | 8.51 | 39.72 | 0.715 |
| 1995 | 3.18 | 7.16 | 5.38 | 14.27 | 8.17 | 40.73 | 0.736 |
| 1996 | 3.38 | 7.97 | 6.03 | 14.93 | 8.67 | 41.14 | 0.757 |
| 1997 | 3.57 | 7.99 | 6.26 | 15.02 | 9.47 | 41.38 | 0.774 |
| 1998 | 3.25 | 7.11 | 4.44 | 13.85 | 9.31 | 39.91 | 0.787 |
| 1999 | 3.21 | 7.27 | 5.45 | 14.06 | 8.87 | 38.90 | 0.804 |
| 2000 | 3.02 | 10.81 | 9.44 | 17.74 | 9.55 | 40.95 | 0.830 |
| 2001 | 3.42 | 10.22 | 8.74 | 18.58 | 11.37 | 41.14 | 0.854 |
| 2002 | 3.63 | 9.13 | 7.92 | 16.32 | 10.03 | 39.71 | 0.868 |
| 2003 | 3.42 | 10.78 | 9.97 | 18.56 | 11.09 | 41.94 | 0.887 |
| 2004 | 3.60 | 12.23 | 12.01 | 20.68 | 12.26 | 42.62 | 0.911 |
| 2005 | 5.18 | 15.80 | 15.92 | 23.12 | 14.49 | 46.08 | 0.942 |
| 2006 | 4.76 | 18.43 | 19.27 | 26.22 | 14.95 | 49.51 | 0.972 |
| 2007 | 4.60 | 20.09 | 22.71 | 28.02 | 15.05 | 50.13 | 1.000 |

[1] Home heating oil.
[2] To convert prices to 2007 dollars, divide the selected price by the deflator factor in the same row.

# New York State Commercial Energy Prices in Nominal Dollars, 1993-2007

Figure 3-2

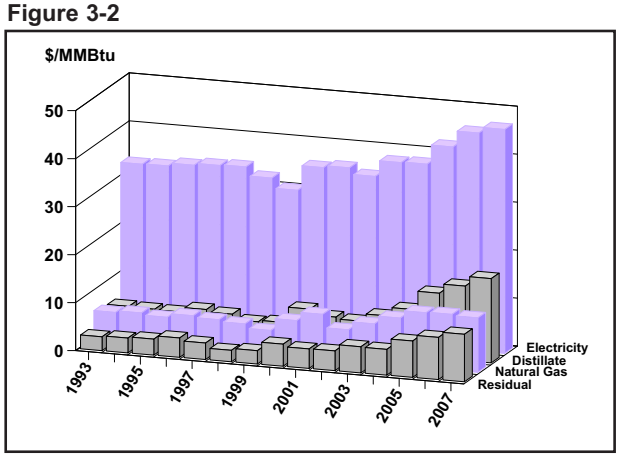



Table 3-2a (in physical units)

| Year | Coal $/Ton | Distillate[1] ¢/gal | Residual $/bbl | Kerosene ¢/gal | Propane ¢/gal | Natural Gas $/Mcf | Electricity ¢/kWh | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|---|
| 1993 | 38.39 | 73.37 | 18.11 | 75.06 | 83.28 | 6.16 | 11.23 | 0.695 |
| 1994 | 38.60 | 71.43 | 19.36 | 75.87 | 94.08 | 6.51 | 11.27 | 0.715 |
| 1995 | 38.61 | 70.18 | 21.00 | 72.63 | 91.61 | 6.07 | 11.48 | 0.736 |
| 1996 | 36.82 | 83.35 | 25.40 | 81.41 | 102.02 | 6.87 | 11.62 | 0.757 |
| 1997 | 37.12 | 76.28 | 21.63 | 84.51 | 98.06 | 6.49 | 11.68 | 0.774 |
| 1998 | 29.62 | 60.89 | 14.96 | 59.94 | 86.91 | 6.11 | 11.04 | 0.787 |
| 1999 | 32.00 | 65.32 | 17.48 | 73.58 | 88.59 | 5.15 | 10.33 | 0.804 |
| 2000 | 40.03 | 110.40 | 28.92 | 127.44 | 113.45 | 7.73 | 12.10 | 0.830 |
| 2001 | 40.35 | 93.62 | 25.59 | 117.99 | 120.21 | 9.57 | 12.24 | 0.854 |
| 2002 | 44.09 | 88.35 | 25.90 | 106.92 | 107.96 | 6.73 | 11.79 | 0.868 |
| 2003 | 39.15 | 109.84 | 34.20 | 134.60 | 127.36 | 8.50 | 12.93 | 0.887 |
| 2004 | 41.75 | 134.81 | 33.70 | 162.14 | 142.65 | 10.18 | 12.98 | 0.911 |
| 2005 | 46.47 | 188.48 | 47.59 | 214.92 | 160.14 | 11.81 | 14.36 | 0.942 |
| 2006 | 63.55 | 215.39 | 55.26 | 260.15 | 177.37 | 11.94 | 15.51 | 0.972 |
| 2007 | 61.36 | 243.53 | 62.25 | 262.12 | 194.61 | 11.72 | 15.92 | 1.000 |

Table 3-2b (in $/million Btu)

| Year | Coal $/MMBtu | Distillate[1] $/MMBtu | Residual $/MMBtu | Kerosene $/MMBtu | Propane $/MMBtu | Natural Gas $/MMBtu | Electricity $/MMBtu | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|---|
| 1993 | 1.67 | 5.29 | 2.88 | 5.56 | 9.70 | 5.99 | 32.92 | 0.695 |
| 1994 | 1.67 | 5.15 | 3.08 | 5.62 | 10.87 | 6.33 | 33.03 | 0.715 |
| 1995 | 1.67 | 5.06 | 3.34 | 5.38 | 10.62 | 5.91 | 33.64 | 0.736 |
| 1996 | 1.60 | 6.01 | 4.04 | 6.03 | 11.86 | 6.69 | 34.05 | 0.757 |
| 1997 | 1.65 | 5.50 | 3.44 | 6.26 | 11.39 | 6.32 | 34.22 | 0.774 |
| 1998 | 1.37 | 4.39 | 2.38 | 4.44 | 10.10 | 5.91 | 32.36 | 0.787 |
| 1999 | 1.34 | 4.71 | 2.78 | 5.45 | 10.29 | 5.01 | 30.28 | 0.804 |
| 2000 | 1.60 | 7.96 | 4.60 | 9.44 | 13.21 | 7.53 | 35.46 | 0.830 |
| 2001 | 1.62 | 6.75 | 4.07 | 8.74 | 13.97 | 9.30 | 35.88 | 0.854 |
| 2002 | 1.92 | 6.37 | 4.12 | 7.92 | 12.55 | 6.54 | 34.55 | 0.868 |
| 2003 | 1.76 | 7.92 | 5.44 | 9.97 | 14.74 | 8.23 | 37.89 | 0.887 |
| 2004 | 1.87 | 9.72 | 5.36 | 12.01 | 16.56 | 9.91 | 38.04 | 0.911 |
| 2005 | 2.08 | 13.59 | 7.57 | 15.92 | 18.58 | 11.48 | 42.08 | 0.942 |
| 2006 | 2.88 | 15.53 | 8.79 | 19.27 | 20.67 | 11.60 | 45.45 | 0.972 |
| 2007 | 2.78 | 17.56 | 9.90 | 19.42 | 22.68 | 11.39 | 46.65 | 1.000 |

[1] Heating oil
[2] To convert prices to 2007 dollars, divide the selected price by the deflator factor in the same row.

# New York State Industrial Energy Prices in Nominal Dollars, 1993-2007

Figure 3-3

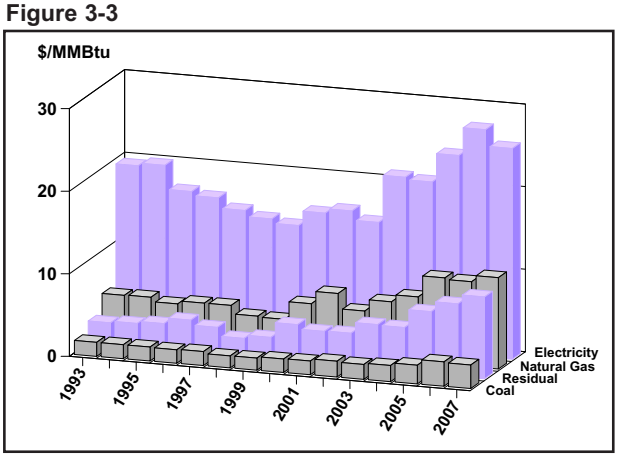



**Table 3-3a (in physical units)**

| Year | Coal $/Ton | Distillate[1] ¢/gal | Residual $/bbl | Kerosene ¢/gal | Propane ¢/gal | Natural Gas $/Mcf | Electricity ¢/kWh | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|---|
| 1993 | 41.58 | 70.32 | 18.11 | 65.34 | 83.28 | 5.16 | 6.67 | 0.695 |
| 1994 | 41.54 | 70.45 | 19.36 | 69.53 | 74.78 | 5.23 | 6.78 | 0.715 |
| 1995 | 41.19 | 67.13 | 21.00 | 60.21 | 73.93 | 4.67 | 5.79 | 0.736 |
| 1996 | 40.10 | 81.55 | 25.40 | 77.22 | 78.20 | 5.04 | 5.62 | 0.757 |
| 1997 | 41.38 | 74.75 | 21.63 | 70.74 | 86.44 | 5.05 | 5.20 | 0.774 |
| 1998 | 36.68 | 57.97 | 14.96 | 54.14 | 80.37 | 4.03 | 4.94 | 0.787 |
| 1999 | 36.69 | 64.77 | 17.48 | 62.51 | 82.05 | 3.90 | 4.76 | 0.804 |
| 2000 | 40.64 | 105.27 | 28.92 | 111.51 | 110.79 | 6.10 | 5.37 | 0.830 |
| 2001 | 41.54 | 91.67 | 25.59 | 90.86 | 109.80 | 7.69 | 5.56 | 0.854 |
| 2002 | 47.99 | 88.48 | 25.90 | 81.41 | 103.92 | 5.79 | 5.18 | 0.868 |
| 2003 | 45.15 | 107.90 | 34.20 | 109.76 | 128.14 | 7.26 | 7.14 | 0.887 |
| 2004 | 48.90 | 127.46 | 33.70 | 137.97 | 144.81 | 8.10 | 7.04 | 0.911 |
| 2005 | 55.00 | 190.14 | 47.59 | 181.85 | 157.90 | 10.77 | 8.23 | 0.942 |
| 2006 | 71.27 | 218.85 | 55.26 | 213.17 | 174.79 | 10.59 | 9.39 | 0.972 |
| 2007 | 69.46 | 247.45 | 62.25 | 214.78 | 191.78 | 11.33 | 8.71 | 1.000 |

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

| Year | Coal $/MMBtu | Distillate[1] $/MMBtu | Residual $/MMBtu | Kerosene $/MMBtu | Propane $/MMBtu | Natural Gas $/MMBtu | Electricity $/MMBtu | GDP[2] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|---|---|
| 1993 | 1.70 | 5.07 | 2.88 | 4.84 | 9.70 | 5.02 | 19.53 | 0.695 |
| 1994 | 1.70 | 5.08 | 3.08 | 5.15 | 8.64 | 5.08 | 19.86 | 0.715 |
| 1995 | 1.69 | 4.84 | 3.34 | 4.46 | 8.57 | 4.55 | 16.97 | 0.736 |
| 1996 | 1.64 | 5.88 | 4.04 | 5.72 | 9.09 | 4.91 | 16.48 | 0.757 |
| 1997 | 1.69 | 5.39 | 3.44 | 5.24 | 10.04 | 4.92 | 15.23 | 0.774 |
| 1998 | 1.45 | 4.18 | 2.38 | 4.01 | 9.34 | 3.90 | 14.49 | 0.787 |
| 1999 | 1.47 | 4.67 | 2.78 | 4.63 | 9.53 | 3.79 | 13.96 | 0.804 |
| 2000 | 1.63 | 7.59 | 4.60 | 8.26 | 12.90 | 5.95 | 15.75 | 0.830 |
| 2001 | 1.66 | 6.61 | 4.07 | 6.73 | 12.76 | 7.47 | 16.28 | 0.854 |
| 2002 | 1.92 | 6.38 | 4.12 | 6.03 | 12.08 | 5.63 | 15.17 | 0.868 |
| 2003 | 1.81 | 7.78 | 5.44 | 8.13 | 14.83 | 7.03 | 20.92 | 0.887 |
| 2004 | 1.96 | 9.19 | 5.36 | 10.22 | 16.81 | 7.89 | 20.63 | 0.911 |
| 2005 | 2.27 | 13.71 | 7.57 | 13.47 | 18.32 | 10.47 | 24.11 | 0.942 |
| 2006 | 2.95 | 15.78 | 8.79 | 15.79 | 20.37 | 10.29 | 27.51 | 0.972 |
| 2007 | 2.85 | 17.84 | 9.90 | 15.91 | 22.35 | 11.01 | 25.52 | 1.000 |

[1] Heating oil
[2] To convert prices to 2007 dollars, divide the selected price by the deflator factor in the same row.

# New York State Transportation Energy Prices in Nominal Dollars, 1993-2007

Figure 3-4

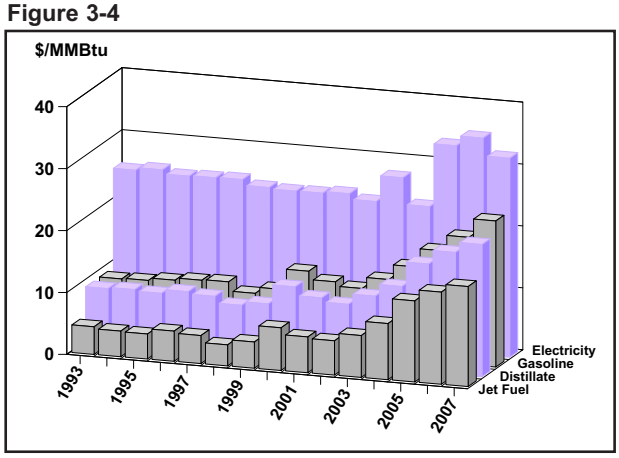



**Table 3-4a (in physical units)**

| Year | Motor Gasoline ¢/gal | Distillate[1] ¢/gal | Jet Fuel[2] ¢/gal | Residual[3] $/bbl | Electricity[4] ¢/kWh | GDP[5] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|
| 1993 | 113.06 | 125.38 | 60.35 | 14.40 | 8.53 | 0.695 |
| 1994 | 114.06 | 128.29 | 55.89 | 15.09 | 8.68 | 0.715 |
| 1995 | 118.83 | 125.10 | 54.54 | 16.72 | 8.46 | 0.736 |
| 1996 | 123.32 | 134.11 | 65.88 | 19.80 | 8.50 | 0.757 |
| 1997 | 124.62 | 128.84 | 61.16 | 17.54 | 8.52 | 0.774 |
| 1998 | 106.23 | 113.73 | 45.90 | 12.20 | 8.21 | 0.787 |
| 1999 | 118.74 | 122.05 | 57.11 | 15.53 | 8.14 | 0.804 |
| 2000 | 159.65 | 165.32 | 93.15 | 25.78 | 8.16 | 0.830 |
| 2001 | 143.03 | 145.90 | 78.17 | 19.93 | 8.25 | 0.854 |
| 2002 | 134.29 | 136.61 | 74.79 | 21.82 | 7.95 | 0.868 |
| 2003 | 156.83 | 159.91 | 91.26 | 28.48 | 9.38 | 0.887 |
| 2004 | 187.00 | 186.82 | 122.31 | 29.61 | 7.92 | 0.911 |
| 2005 | 224.00 | 242.15 | 176.85 | 42.63 | 11.39 | 0.942 |
| 2006 | 255.56 | 273.22 | 201.02 | 49.10 | 11.94 | 0.972 |
| 2007 | 293.04 | 296.04 | 218.02 | 55.31 | 10.96 | 1.000 |

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

| Year | Motor Gasoline $/MMBtu | Distillate[1] $/MMBtu | Jet Fuel[2] $/MMBtu | Residual[3] $/MMBtu | Electricity[4] $/MMBtu | GDP[5] Deflators 2007=1.0 |
|---|---|---|---|---|---|---|
| 1993 | 9.04 | 9.04 | 4.47 | 2.29 | 25.00 | 0.695 |
| 1994 | 9.16 | 9.25 | 4.14 | 2.40 | 25.44 | 0.715 |
| 1995 | 9.57 | 9.02 | 4.04 | 2.66 | 24.79 | 0.736 |
| 1996 | 9.93 | 9.67 | 4.88 | 3.15 | 24.90 | 0.757 |
| 1997 | 10.04 | 9.29 | 4.53 | 2.79 | 24.98 | 0.774 |
| 1998 | 8.56 | 8.20 | 3.40 | 1.94 | 24.07 | 0.787 |
| 1999 | 9.57 | 8.80 | 4.23 | 2.47 | 23.85 | 0.804 |
| 2000 | 12.87 | 11.92 | 6.90 | 4.10 | 23.90 | 0.830 |
| 2001 | 11.53 | 10.52 | 5.79 | 3.17 | 24.18 | 0.854 |
| 2002 | 10.83 | 9.85 | 5.54 | 3.47 | 23.29 | 0.868 |
| 2003 | 12.65 | 11.53 | 6.76 | 4.53 | 27.49 | 0.887 |
| 2004 | 15.06 | 13.47 | 9.06 | 4.71 | 23.21 | 0.911 |
| 2005 | 18.03 | 17.46 | 13.10 | 6.78 | 33.40 | 0.942 |
| 2006 | 20.57 | 19.70 | 14.89 | 7.81 | 35.01 | 0.972 |
| 2007 | 23.59 | 21.35 | 16.15 | 8.80 | 32.14 | 1.000 |

[1] Diesel
[2] Kerosene-based
[3] Bunker fuel
[4] Railroad use
[5] To convert prices to 2007 dollars, divide the selected price by the deflator factor in the same row.

**Section 4**

# NEW YORK
# ENERGY EXPENDITURES

This section presents the estimated costs of net energy consumed by sector and fuel type in nominal and constant 2007 dollars for selected years; 1993, 1998, and 2003 through 2007. Estimated costs were derived by multiplying quantities of fuels consumed, in TBtu, by their respective prices.

# Key Observations about 2007 New York State Energy Expenditures Data

- ✓ Cumulative heating degree-days in 2007 were 14% higher than 2006 levels.
- ✓ In nominal dollars, New York's 2007 energy bill of $64.9 billion was up 10% from 2006, and 114% more than the $30.3 billion spent in 1993.
- ✓ In constant 2007 dollars, New York's energy bill rose 7%, or $4.1 billion from a year ago, and was $21.2 billion, or 49%, greater than in 1993.
- ✓ New Yorkers spent $19.1 billion for household energy, a 12% increase from the 2006 level in nominal dollars and 9% in constant dollars.
- ✓ The total commercial customer energy bill was $17.4 billion, 3% higher than 2006 in nominal dollars and less than 1% higher in constant dollars.
- ✓ Industrial customers paid $3.4 billion for energy, 18% more than 2006 in nominal dollars and 15% more in constant dollars.
- ✓ The annual energy bill for transporting people and goods was $24.9 billion, an increase of 12% from 2006 levels in nominal dollars and an increase of 9% in constant dollars.
- ✓ In nominal dollars, over the past year, statewide expenditures increased 4% for electricity, 14% for petroleum, and 10% for natural gas.

# New York State Energy Expenditure Estimates by Fuel Type and Sector in Nominal Dollars, 1993-2007

Figure 4-1

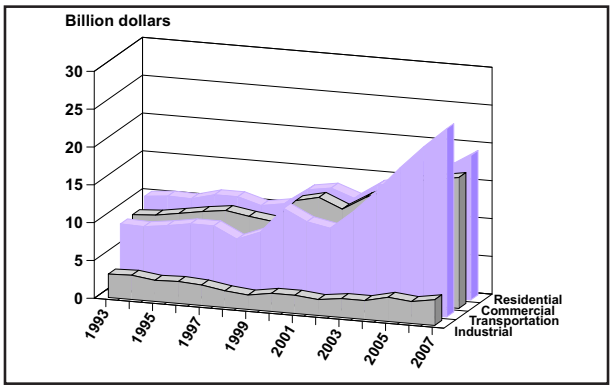



Table 4-1 (in million dollars)

| | 1993 | 1998 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|
| **RESIDENTIAL** | | | | | | | |
| Coal | $3.3 | $1.3 | $1.0 | $1.4 | $1.6 | $1.4 | $1.2 |
| Petroleum | 1,595.4 | 1,366.6 | 2,582.3 | 3,028.3 | 3,834.6 | 3,506.0 | 4,415.9 |
| Distillate | 1,339.0 | 1,103.5 | 2,125.8 | 2,441.1 | 3,226.4 | 2,876.8 | 3,729.2 |
| Kerosene | 49.5 | 47.1 | 92.7 | 140.5 | 199.0 | 196.6 | 159.5 |
| LPG | 206.9 | 216.1 | 363.8 | 446.7 | 409.2 | 432.6 | 527.1 |
| Natural Gas | 3,122.9 | 3,252.0 | 4,746.5 | 4,910.1 | 6,048.1 | 5,470.2 | 6,137.8 |
| Electricity | 5,254.8 | 5,523.5 | 6,744.0 | 6,891.7 | 7,947.2 | 8,182.8 | 8,594.9 |
| **Total** | $9,976.4 | $10,143.4 | $14,073.8 | $14,831.5 | $17,831.4 | $17,160.4 | $19,149.7 |
| **COMMERCIAL** | | | | | | | |
| Coal | $7.7 | $4.5 | $3.2 | $6.7 | $7.7 | $9.2 | $7.8 |
| Petroleum | 856.3 | 456.8 | 1,344.1 | 1,627.2 | 2,036.8 | 1,947.8 | 2,203.5 |
| Distillate | 497.3 | 304.7 | 885.5 | 1,127.5 | 1,432.4 | 1,411.4 | 1,581.2 |
| Residual | 313.3 | 101.2 | 368.8 | 385.4 | 479.2 | 438.6 | 557.8 |
| Kerosene | 19.5 | 24.9 | 37.9 | 50.4 | 68.5 | 38.7 | 26.9 |
| LPG | 26.2 | 26.2 | 51.9 | 63.9 | 56.8 | 59.1 | 37.7 |
| Natural Gas | 1,358.5 | 2,039.5 | 2,918.4 | 3,628.1 | 3,253.4 | 3,096.0 | 3,320.5 |
| Electricity | 6,449.0 | 7,268.1 | 9,374.0 | 9,654.6 | 11,030.8 | 11,791.2 | 11,831.8 |
| **Total** | $8,671.5 | $9,769.0 | $13,639.6 | $14,916.6 | $16,328.8 | $16,844.3 | $17,363.7 |
| **INDUSTRIAL** | | | | | | | |
| Coal | $129.5 | $108.9 | $75.8 | $76.2 | $90.6 | $104.1 | $87.7 |
| Petroleum | 238.0 | 170.0 | 303.0 | 352.0 | 544.7 | 550.4 | 664.9 |
| Distillate | 127.3 | 73.6 | 133.8 | 186.6 | 268.7 | 318.3 | 398.9 |
| Residual | 70.0 | 27.8 | 54.4 | 49.8 | 63.6 | 72.1 | 93.7 |
| Kerosene | 6.8 | 11.6 | 40.7 | 21.5 | 51.2 | 37.8 | 19.4 |
| LPG | 34.0 | 57.0 | 74.2 | 94.1 | 161.2 | 122.2 | 152.9 |
| Natural Gas | 734.4 | 693.0 | 613.7 | 635.1 | 876.3 | 829.4 | 910.2 |
| Electricity | 2,011.6 | 1,246.1 | 1,552.3 | 1,454.4 | 1,639.9 | 1,404.8 | 1,758.7 |
| **Total** | $3,113.5 | $2,218.1 | $2,544.8 | $2,517.8 | $3,151.5 | $2,888.7 | $3,421.5 |
| **TRANSPORTATION** | | | | | | | |
| Petroleum | $8,336.8 | $7,705.8 | $12,610.0 | $15,701.1 | $18,911.1 | $21,867.0 | $24,561.9 |
| Distillate | 1,102.0 | 1,029.9 | 2,018.9 | 2,817.9 | 2,903.6 | 3,372.3 | 3,665.3 |
| Residual | 46.3 | 49.1 | 130.5 | 172.4 | 242.0 | 321.0 | 402.0 |
| Motor Gasoline | 6,254.8 | 5,865.3 | 9,090.3 | 10,790.5 | 12,922.1 | 15,028.4 | 17,098.4 |
| Aviation | 928.0 | 743.8 | 1,337.4 | 1,917.0 | 2,837.8 | 3,137.1 | 3,381.6 |
| LPG | 4.9 | 17.7 | 3.0 | 3.4 | 5.5 | 8.1 | 14.7 |
| Electricity | 227.5 | 211.8 | 252.9 | 208.9 | 322.8 | 333.7 | 370.8 |
| **Total** | $8,564.3 | $7,917.6 | $12,863.0 | $15,910.0 | $19,233.9 | $22,200.7 | $24,932.7 |
| **TOTAL** | | | | | | | |
| Coal | $140.5 | $114.7 | $80.0 | $84.4 | $99.8 | $114.8 | $96.7 |
| Petroleum | 11,026.5 | 9,699.3 | 16,839.5 | 20,708.7 | 25,327.2 | 27,871.1 | 31,846.2 |
| Distillate | 3,065.5 | 2,511.6 | 5,194.0 | 6,573.1 | 7,831.1 | 7,978.8 | 9,374.6 |
| Residual | 429.6 | 178.1 | 553.7 | 607.6 | 784.8 | 831.7 | 1,053.5 |
| Motor Gasoline | 6,254.8 | 5,865.3 | 9,090.3 | 10,790.5 | 12,922.1 | 15,028.4 | 17,098.4 |
| Kerosene | 75.7 | 83.6 | 171.3 | 212.4 | 318.6 | 273.0 | 205.8 |
| Aviation | 929.0 | 743.8 | 1,337.4 | 1,917.0 | 2,837.8 | 3,137.1 | 3,381.6 |
| LPG | 271.9 | 316.9 | 492.8 | 608.1 | 632.7 | 622.1 | 732.3 |
| Natural Gas | 5,215.8 | 5,984.6 | 8,278.6 | 9,173.3 | 10,177.9 | 9,395.6 | 10,368.5 |
| Electricity | 13,942.9 | 14,249.6 | 17,923.1 | 18,209.5 | 20,940.7 | 27,712.5 | 22,556.2 |
| **Total** | $30,325.7 | $30,048.1 | $43,121.2 | $48,175.9 | $56,545.6 | $59,094.0 | $64,867.5 |

# New York State Energy Expenditure Estimates by Fuel Type and Sector in Constant 2007 Dollars, 1993-2007

Figure 4-2

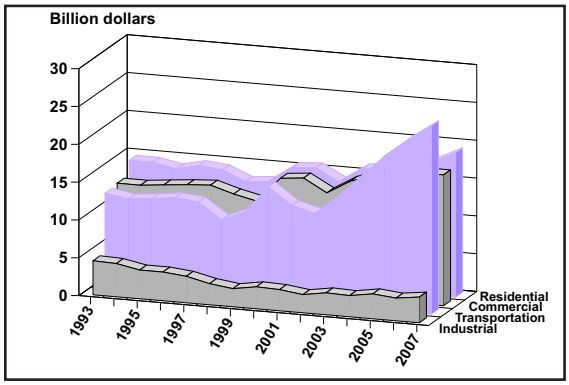



Table 4-2 (in million dollars)

| | 1993 | 1998 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|
| **RESIDENTIAL** | | | | | | | |
| Coal | $4.7 | $1.7 | $1.2 | $1.6 | $1.6 | $1.5 | $1.2 |
| Petroleum | 2,295.3 | 1,737.3 | 2,909.9 | 3,324.0 | 4,071.1 | 3,605.9 | 4,415.9 |
| Distillate | 1,926.5 | 1,402.8 | 2,395.5 | 2,679.5 | 3,425.3 | 2,958.8 | 3,729.2 |
| Kerosene | 71.2 | 59.8 | 104.5 | 154.2 | 211.3 | 202.2 | 159.5 |
| LPG | 297.7 | 274.7 | 409.9 | 490.3 | 434.5 | 445.0 | 527.1 |
| Natural Gas | 4,492.8 | 4,134.2 | 5,348.7 | 5,389.6 | 6,421.1 | 5,626.1 | 6,137.8 |
| Electricity | 7,560.1 | 7,021.9 | 7,599.6 | 7,564.6 | 8,437.3 | 8,416.0 | 8,594.9 |
| **Total** | $14,352.9 | $12,895.1 | $15,859.4 | $16,279.8 | $18,931.2 | $17,649.4 | $19,149.7 |
| **COMMERCIAL** | | | | | | | |
| Coal | $11.1 | $6.7 | $3.6 | $7.4 | $8.2 | $9.5 | $7.8 |
| Petroleum | 1,231.9 | 580.8 | 1,514.6 | 1,786.1 | 2,162.4 | 2,003.3 | 2,203.5 |
| Distillate | 715.4 | 387.3 | 997.8 | 1,237.6 | 1,520.7 | 1,451.6 | 1,581.2 |
| Residual | 450.8 | 128.6 | 415.6 | 423.0 | 508.7 | 451.1 | 557.8 |
| Kerosene | 28.0 | 31.6 | 42.7 | 55.4 | 72.7 | 39.8 | 26.9 |
| LPG | 37.7 | 33.2 | 58.5 | 70.1 | 60.3 | 60.8 | 37.7 |
| Natural Gas | 1,954.5 | 2,592.8 | 3,288.6 | 3,982.3 | 3,454.1 | 3,184.3 | 3,320.5 |
| Electricity | 9,278.2 | 9,239.7 | 10,563.3 | 10,597.3 | 11,711.2 | 12,127.3 | 11,831.8 |
| **Total** | $12,475.6 | $12,419.0 | $15,370.1 | $16,373.1 | $17,335.8 | $17,324.3 | $17,363.7 |
| **INDUSTRIAL** | | | | | | | |
| Coal | $186.4 | $138.4 | $85.5 | $83.7 | $96.2 | $107.1 | $87.7 |
| Petroleum | 342.4 | 216.1 | 341.5 | 386.4 | 578.3 | 566.1 | 664.9 |
| Distillate | 183.1 | 93.5 | 150.8 | 204.8 | 285.3 | 327.4 | 398.9 |
| Residual | 100.7 | 35.4 | 61.3 | 54.7 | 67.5 | 74.1 | 93.7 |
| Kerosene | 9.7 | 14.8 | 45.8 | 23.6 | 54.3 | 38.9 | 19.4 |
| LPG | 48.8 | 72.4 | 83.6 | 103.3 | 171.2 | 125.7 | 152.9 |
| Natural Gas | 1,056.6 | 881.0 | 691.6 | 697.2 | 930.4 | 853.0 | 910.2 |
| Electricity | 2,894.1 | 1,584.2 | 1,749.2 | 1,596.4 | 1,741.0 | 1,444.8 | 1,758.7 |
| **Total** | $4,479.4 | $2,819.8 | $2,867.7 | $2,763.7 | $3,345.9 | $2,971.0 | $3,421.5 |
| **TRANSPORTATION** | | | | | | | |
| Petroleum | $11,994.1 | $9,796.2 | $14,209.9 | $17,234.3 | $20,077.4 | $22,490.1 | $24,561.9 |
| Distillate | 1,585.4 | 1,309.3 | 2,308.8 | 3,093.1 | 3,082.7 | 3,468.4 | 3,665.3 |
| Residual | 66.6 | 62.4 | 147.0 | 189.2 | 257.0 | 330.1 | 402.0 |
| Motor Gasoline | 8,998.7 | 7,456.4 | 10,243.6 | 11,844.1 | 13,719.1 | 15,456.7 | 17,098.4 |
| Aviation | 1,336.5 | 945.5 | 1,507.1 | 2,104.2 | 3,012.8 | 3,226.5 | 3,381.6 |
| LPG | 7.0 | 22.6 | 3.3 | 3.7 | 5.8 | 8.4 | 14.7 |
| Electricity | 327.3 | 269.3 | 285.0 | 229.3 | 342.7 | 343.2 | 370.8 |
| **Total** | $12,321.4 | $10,065.5 | $14,494.9 | $17,463.6 | $20,420.1 | $22,833.3 | $24,932.7 |
| **TOTAL** | | | | | | | |
| Coal | $202.1 | $145.8 | $90.2 | $92.7 | $106.0 | $118.0 | $96.7 |
| Petroleum | 15,863.7 | 12,330.4 | 18,976.0 | 22,730.8 | 26,889.2 | 26,665.4 | 31,846.2 |
| Distillate | 4,410.3 | 3,193.0 | 5,853.0 | 7,214.9 | 8,314.0 | 8,206.2 | 9,374.6 |
| Residual | 618.0 | 226.4 | 623.9 | 666.9 | 833.2 | 855.4 | 1,053.5 |
| Motor Gasoline | 8,998.7 | 7,456.4 | 10,243.6 | 11,844.1 | 13,719.1 | 15,456.7 | 17,098.4 |
| Kerosene | 108.9 | 106.2 | 193.0 | 233.2 | 338.3 | 280.8 | 205.8 |
| Aviation | 1,336.5 | 945.5 | 1,507.1 | 2,104.2 | 3,012.8 | 3,226.5 | 3,381.6 |
| LPG | 391.2 | 402.9 | 555.3 | 667.4 | 671.8 | 639.8 | 732.3 |
| Natural Gas | 7,504.0 | 7,608.0 | 9,328.9 | 10,069.0 | 10,805.6 | 9,663.4 | 10,368.5 |
| Electricity | 20,059.6 | 18,115.1 | 20,197.1 | 19,987.6 | 22,232.2 | 22,331.2 | 22,556.2 |
| **Total** | $43,629.3 | $38,199.4 | $48,592.2 | $52,880.0 | $60,033.0 | $60,778.0 | $64,867.5 |

**Section 5**

# NEW YORK'S SOURCES OF ENERGY

New York is the fourth largest energy user of all the states. However, households, businesses, industries, and electric utilities in New York rely largely on fuels produced elsewhere. Thirteen percent of the total primary energy requirements were met from in-State resources in 2007. Hydroelectric power is produced at various locations throughout New York, including 28 large projects and approximately 340 small (less than 10 MW) projects. Crude oil and natural gas production are found in the western region of the State. Biofuels are derived primarily from wood, wastes, and agricultural products.

New York State level data is not available for domestic or imported shipments of crude oil or refined petroleum products. Consequently, New York's oil dependence is estimated by applying Petroleum Administration for Defense Districts 1 (PADD1) fuel-specific reliance estimates to the New York petroleum-product mix. PADD1 includes all East Coast states.

# Key Observations about New York's Sources of Energy in 2007

- ✓ Thirteen percent (13%) of New York's total primary energy requirement was met from in-state resources, including 6% from hydropower and 5% from biofuels.
- ✓ Hydroelectric power and energy from biofuels account for 49% and 40%, respectively, of New York's in-state primary energy production, while crude oil and natural gas constitute the remaining 11%.
- ✓ In-state crude oil and natural gas production represent 0.1% and 4.7%, respectively, of the State's use of these fuels. New York consumers rely on external sources for 100% of refined petroleum fuel products because there are no petroleum refineries in the State.
- ✓ In-state production of natural gas was virtually unchanged from 2006 to 2007, while biofuels production increased 19%.
- ✓ In 2007, natural gas production in the State was recorded at 54.9 Bcf, and accounted for 1.3% of total statewide primary energy use.
- ✓ New York's reliance on foreign oil as a proportion of total petroleum use was estimated at 88% in 2007, as contrasted to 78% in 1993.
- ✓ The estimated share of New York's oil provided by Organization of Petroleum Exporting Countries (OPEC) increased from 44% in 2006 to 48% in 2007, while the estimated share from non-OPEC sources decreased from 45% to 40%.

# New York State Primary Energy Production by Fuel Type, 1993-2007

Figure 5-1

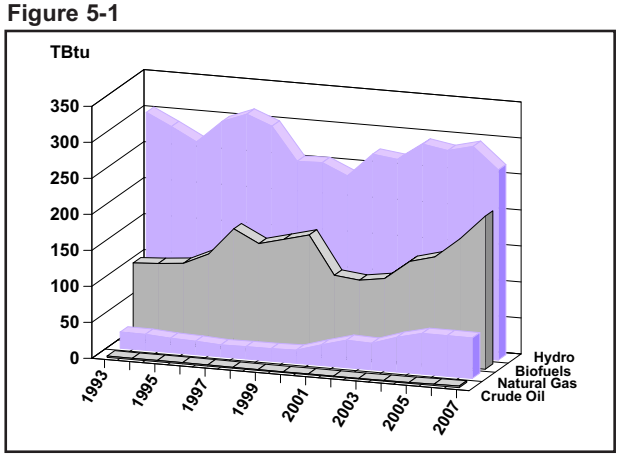



**Table 5-1a (in physical units)**

| Year | Hydro-electricity[1] GWh | Natural Gas Bcf | Crude Oil Mbbl |
|---|---|---|---|
| 1993 | 29,304 | 21.9 | 341 |
| 1994 | 27,656 | 21.6 | 299 |
| 1995 | 25,895 | 19.3 | 304 |
| 1996 | 28,830 | 18.2 | 309 |
| 1997 | 30,498 | 16.2 | 276 |
| 1998 | 29,203 | 16.6 | 217 |
| 1999 | 24,648 | 16.8 | 193 |
| 2000 | 24,819 | 17.8 | 181 |
| 2001 | 23,014 | 28.0 | 183 |
| 2002 | 26,213 | 37.1 | 179 |
| 2003 | 25,798 | 36.0 | 157 |
| 2004 | 28,153 | 46.9 | 184 |
| 2005 | 27,583 | 55.2 | 211 |
| 2006 | 28,422 | 55.2 | 319 |
| 2007 | 25,557 | 54.9 | 387 |

**Table 5-1b (in trillion Btu)**

| Year | Hydro-electricity TBtu | Natural Gas TBtu | Crude Oil TBtu | Biofuels[2] TBtu | Wind TBtu | Total Energy Production TBtu |
|---|---|---|---|---|---|---|
| 1993 | 302.1 | 22.5 | 2.0 | 105.7 | 0.0 | 432.3 |
| 1994 | 285.3 | 22.2 | 1.7 | 108.0 | 0.0 | 417.2 |
| 1995 | 267.0 | 19.8 | 1.8 | 111.1 | 0.0 | 399.7 |
| 1996 | 298.1 | 18.7 | 1.8 | 127.0 | 0.0 | 445.6 |
| 1997 | 311.5 | 16.6 | 1.6 | 165.1 | 0.0 | 494.8 |
| 1998 | 297.8 | 17.1 | 1.3 | 147.5 | 0.0 | 463.7 |
| 1999 | 252.0 | 17.3 | 1.1 | 156.4 | 0.0 | 426.8 |
| 2000 | 253.2 | 18.3 | 1.0 | 165.4 | 0.1 | 438.0 |
| 2001 | 237.8 | 28.7 | 1.1 | 112.3 | 0.2 | 380.1 |
| 2002 | 270.9 | 38.1 | 1.0 | 107.9 | 0.8 | 418.7 |
| 2003 | 266.6 | 36.9 | 0.9 | 113.6 | 0.4 | 418.4 |
| 2004 | 290.9 | 48.1 | 1.1 | 139.6 | 1.2 | 480.9 |
| 2005 | 285.0 | 56.5 | 1.2 | 149.1 | 1.0 | 492.9 |
| 2006 | 293.7 | 56.5 | 1.9 | 173.3 | 5.0 | 530.4 |
| 2007 | 264.1 | 56.3 | 2.2 | 204.2 | 8.5 | 535.3 |

[1] Hydro-electricity totals “net out” electricity used at pumped storage facilities prior to 2001.
[2] Includes primarily wood, waste, and ethanol.

# New York State Estimated Sources of Petroleum Products, 1993-2007

Figure 5-2

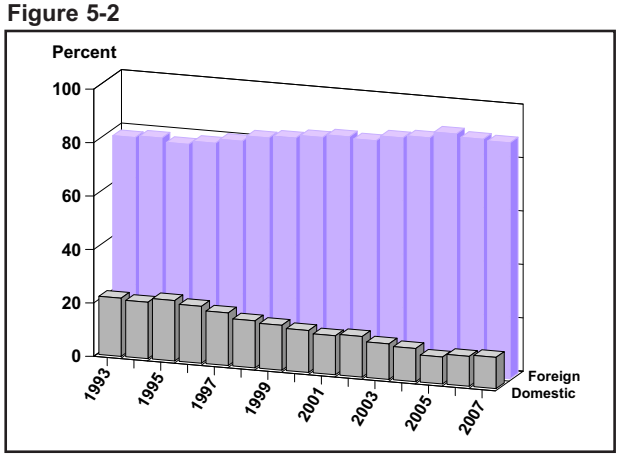



**Table 5-2 - New York State**

| Year | Total Domestic[1] % | Total Foreign % | OPEC[2] % | Non-OPEC[3] % |
|---|---|---|---|---|
| 1993 | 21.8 | 78.2 | 46.4 | 31.8 |
| 1994 | 21.1 | 78.9 | 45.0 | 33.9 |
| 1995 | 22.6 | 77.4 | 43.9 | 33.5 |
| 1996 | 21.3 | 78.7 | 40.9 | 37.8 |
| 1997 | 19.7 | 80.3 | 41.7 | 38.6 |
| 1998 | 17.6 | 82.4 | 43.4 | 39.0 |
| 1999 | 16.8 | 83.2 | 42.5 | 40.7 |
| 2000 | 15.7 | 84.3 | 43.4 | 40.9 |
| 2001 | 14.6 | 85.4 | 44.0 | 41.4 |
| 2002 | 15.2 | 84.8 | 37.9 | 46.9 |
| 2003 | 13.3 | 86.7 | 39.9 | 46.8 |
| 2004 | 12.4 | 87.6 | 42.8 | 44.8 |
| 2005 | 10.1 | 89.9 | 44.9 | 45.0 |
| 2006 | 11.2 | 88.8 | 43.9 | 44.9 |
| 2007 | 11.7 | 88.3 | 47.9 | 40.4 |

[1] Domestic: oil produced in the United States or its outer continental shelf.
[2] OPEC: largest contributors are Saudi Arabia, Venezuela, Nigeria, Iraq, and Algeria.
[3] Non-OPEC: largest contributors are Canada, Mexico, United Kingdom, Angola, and Russia.

## Section 6

# APPENDICES

# Appendix A

## New York State Estimated Greenhouse Gas Emissions[1,3] from Fuel Combustion, 1990, 2000 and 2007

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

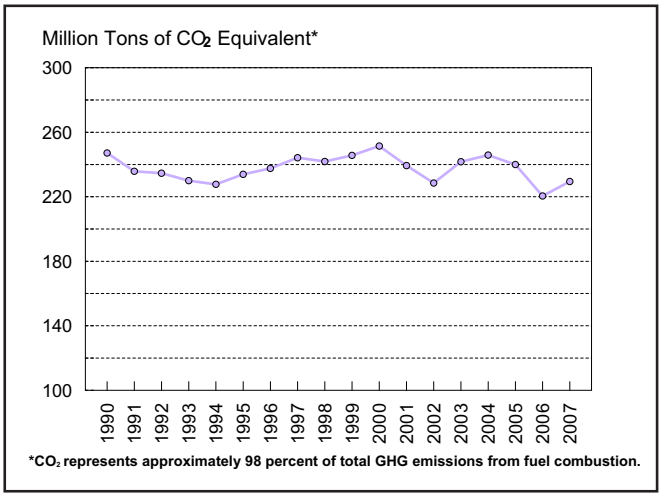



**Table A-1 (in million tons carbon dioxide equivalent)[2]**

| By Sector | 1990 | | | 2000 | | | 2007 | | | Percent Changes 1990-2007 |
|---|---|---|---|---|---|---|---|---|---|---|
| | $CO_2$ | Total GHG MM Tons | Percent | $CO_2$ | Total GHG MM Tons | Percent | $CO_2$ | Total GHG MM Tons | Percent | Total GHG |
| Electric Generation[2] | 70.8 | 71.0 | 29% | 62.2 | 62.4 | 25% | 53.9 | 54.1 | 23% | -23.8% |
| Residential | 37.1 | 37.6 | 15% | 43.3 | 44.2 | 18% | 40.7 | 41.4 | 18% | +10.1% |
| Commercial | 29.3 | 29.4 | 12% | 35.2 | 35.4 | 14% | 29.8 | 29.9 | 13% | +1.7% |
| Industrial | 25.2 | 25.3 | 10% | 28.0 | 28.2 | 11% | 17.4 | 17.5 | 8% | -30.8% |
| Transportation | 80.5 | 83.8 | 34% | 78.1 | 81.3 | 32% | 83.2 | 86.5 | 38% | +3.2% |
| **Total** | **242.8** | **247.2** | **100%** | **246.8** | **251.4** | **100%** | **225.0** | **229.5** | **100%** | **-7.2%** |

**Table A-2 (as a percentage of total carbon dioxide and GHG emissions)[2]**

| By Fuel Type | 1990 | | 2000 | | 2007 | |
|---|---|---|---|---|---|---|
| | $CO_2$ | Total GHG | $CO_2$ | Total GHG | $CO_2$ | Total GHG |
| Coal | 15% | 15% | 14% | 14% | 12% | 12% |
| Natural Gas | 22% | 21% | 30% | 30% | 31% | 31% |
| Petroleum Products | 63% | 64% | 56% | 56% | 57% | 57% |

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

[2] $CO_2$ and total GHG emissions are expressed in millions of tons of carbon dioxide equivalent. One ton equals 2,000 pounds. "MM" equals one million.

[3] According to U.S. EPA's Emission Inventory program protocols and the methodologies prescribed in the eGRID2007 Technical Support Document, the carbon dioxide emissions from the combustion of biogenic fuels (*e.g.* wood, landfill gas, and the biomass component of MSW) are not included in estimates of GHG emissions. For the electric generation sector, the inclusion of carbon dioxide emissions from biogenic fuel combustion would increase the total Electric Sector GHG emissions by approximately 5%.

# Appendix B

## New York State
## Household Consumption and Expenditures by End Use, 2005

**Table B-1 Total Household Energy**

| | Households[1] (MM) | Average per Household using the fuel | |
|---|---|---|---|
| | | Consumption | Expenditure |
| Electricity | 7.1 | 6,882 kWh | $1,086 |
| Natural Gas | 5.3 | 71 Mcf | $910 |
| Fuel Oil | 2.3 | 803 gallons | $1,665 |
| Kerosene | Q | Q | Q |
| LPG[2] | 1.0 | 374 gallons | $795 |
| Wood | 0.6 | 3.9 cords | Q |

**Table B-2 Space-Heating[3]**

| | Households[1] (MM) | Average per Household using the fuel as main heating source | |
|---|---|---|---|
| | | Consumption | Expenditure |
| Electricity | 0.6 | 2,766 kWh | $422 |
| Natural Gas | 3.8 | 69 Mcf | $855 |
| Fuel Oil | 2.1 | 656 gallons | $1,362 |

**Table B-3 Water-Heating**

| | Households[1] (MM) | Average per Household using the fuel as a water heating source | |
|---|---|---|---|
| | | Consumption | Expenditure |
| Electricity | 0.8 | 2,526 kWh | $367 |
| Natural Gas | 3.8 | 20 Mcf | $260 |
| Fuel Oil | 1.7 | 232 gallons | $481 |
| LPG[2] | 0.4 | 286 gallons | $607 |

**Table B-4 Electric Air Conditioning**

| | Households[1] (MM) | Average per Household | |
|---|---|---|---|
| | | Consumption | Expenditure |
| Central Air | 1.1 | 2,001 kWh | $301 |
| Room/Wall | 4.1 | 977 kWh | $169 |

[1] The 7.1 million households represent New York single family, mobile home, and multifamily housing units.
[2] Propane
[3] Some households may use multiple space heating fuels.
Q = Data not reported by the Energy Information Administration.

# Appendix C

## Estimated Annual Gasoline Sales by County, 2005-2007

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

| County | 2005 | 2006 | 2007 |
|---|---|---|---|
| **New York State** | **5,755,012** | **5,784,552** | **5,739,459** |
| **New York City** | **1,103,197** | **1,060,003** | **1,058,683** |
| **Rest of State** | **4,651,815** | **4,724,549** | **4,680,776** |
| Albany | 155,746 | 139,822 | 138,444 |
| Allegany | 17,250 | 17,954 | 17,716 |
| Broome | 105,694 | 105,443 | 111,224 |
| Cattaraugus | 23,044 | 23,698 | 23,565 |
| Cayuga | 37,864 | 33,706 | 33,260 |
| Chautauqua | 45,213 | 47,034 | 46,119 |
| Chemung | 37,708 | 32,310 | 31,880 |
| Chenango | 22,803 | 23,067 | 26,169 |
| Clinton | 39,588 | 43,065 | 41,097 |
| Columbia | 39,616 | 34,896 | 39,876 |
| Cortland | 26,754 | 25,621 | 26,435 |
| Delaware | 24,184 | 24,129 | 23,806 |
| Dutchess | 113,704 | 113,860 | 111,733 |
| Erie | 351,292 | 392,891 | 387,205 |
| Essex | 20,625 | 21,041 | 20,758 |
| Franklin | 16,444 | 16,962 | 16,736 |
| Fulton | 22,931 | 27,737 | 27,361 |
| Genesee | 59,860 | 61,410 | 60,589 |
| Greene | 30,479 | 32,149 | 33,504 |
| Hamilton | 3,193 | 2,743 | 2,706 |
| Herkimer | 28,983 | 28,649 | 28,582 |
| Jefferson | 60,959 | 57,264 | 56,534 |
| Lewis | 13,441 | 13,265 | 13,065 |
| Livingston | 37,992 | 40,474 | 39,938 |
| Madison | 21,151 | 20,852 | 21,459 |
| Monroe | 284,012 | 291,064 | 287,049 |
| Montgomery | 40,212 | 42,704 | 42,083 |
| Nassau | 507,108 | 516,843 | 515,149 |
| Niagara | 65,521 | 67,720 | 66,820 |
| Oneida | 105,867 | 110,923 | 111,465 |
| Onondaga | 236,666 | 222,372 | 220,168 |
| Ontario | 65,120 | 63,650 | 62,716 |
| Orange | 166,283 | 158,217 | 158,585 |
| Orleans | 11,908 | 12,987 | 12,813 |
| Oswego | 60,889 | 56,977 | 57,272 |
| Otsego | 34,633 | 35,640 | 35,069 |
| Putnam | 36,373 | 41,787 | 40,219 |
| Rensselaer | 68,147 | 66,178 | 65,896 |
| Rockland | 52,759 | 49,209 | 46,341 |
| St. Lawrence | 40,688 | 40,424 | 39,891 |
| Saratoga | 101,128 | 94,898 | 95,782 |
| Schenectady | 67,859 | 66,554 | 65,549 |
| Schoharie | 15,265 | 16,470 | 16,853 |
| Schuyler | 9,275 | 9,568 | 9,051 |
| Seneca | 25,494 | 26,724 | 26,369 |
| Steuben | 50,251 | 51,660 | 50,970 |
| Suffolk | 689,875 | 702,170 | 699,457 |
| Sullivan | 35,695 | 37,159 | 35,022 |
| Tioga | 19,498 | 19,276 | 19,907 |
| Tompkins | 36,257 | 35,298 | 36,449 |
| Ulster | 88,392 | 91,591 | 91,502 |
| Warren | 40,143 | 41,007 | 41,275 |
| Washington | 19,941 | 20,389 | 20,118 |
| Wayne | 39,611 | 39,001 | 41,034 |
| Westchester | 259,476 | 264,482 | 264,121 |
| Wyoming | 18,127 | 17,432 | 17,808 |
| Yates | 7,823 | 7,898 | 8,211 |

Individual county data for New York City are not available.

# Appendix D
# Occupied Housing Units by Type of Space Heating Fuel by County, 2000[1]

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

| County | Total Occupied Housing Units | Utility Gas | Bottled Tank or LP Gas | Electricity | Fuel Oil, Kerosene, etc. | Coal or Coke | Wood | Solar Energy | Other | No Fuel Used |
|---|---|---|---|---|---|---|---|---|---|---|
| **New York State** | **7,056,860** | **3,651,779** | **237,949** | **615,685** | **2,336,714** | **9,563** | **82,613** | **2,539** | **73,671** | **46,347** |
| **New York City** | **3,021,588** | **1,601,078** | **80,585** | **246,026** | **996,605** | **2,394** | **465** | **1,757** | **53,822** | **38,856** |
| Bronx | 463,212 | 200,824 | 12,685 | 48,312 | 182,853 | 679 | 78 | 371 | 10,287 | 7,123 |
| Kings | 880,727 | 531,682 | 31,026 | 45,733 | 248,020 | 443 | 175 | 812 | 11,740 | 11,096 |
| New York | 738,644 | 278,978 | 14,530 | 104,981 | 300,758 | 852 | 128 | 289 | 23,937 | 14,191 |
| Queens | 782,664 | 463,057 | 20,406 | 42,258 | 243,152 | 402 | 63 | 265 | 7,189 | 5,872 |
| Richmond | 156,341 | 126,537 | 1,938 | 4,742 | 21,822 | 18 | 21 | 20 | 669 | 574 |
| **Rest of State** | **4,035,272** | **2,050,701** | **157,364** | **369,659** | **1,340,109** | **7,169** | **82,148** | **782** | **19,849** | **7,491** |
| Albany | 120,512 | 80,854 | 2,739 | 15,788 | 19,563 | 47 | 879 | 35 | 379 | 228 |
| Allegany | 18,009 | 10,430 | 1,681 | 1,433 | 2,233 | 113 | 1,977 | 2 | 126 | 14 |
| Broome | 80,749 | 53,678 | 3,833 | 7,265 | 13,582 | 196 | 1,625 | 16 | 440 | 114 |
| Cattaraugus | 32,023 | 17,929 | 3,369 | 3,327 | 4,165 | 80 | 2,842 | - | 288 | 23 |
| Cayuga | 30,558 | 15,263 | 3,504 | 2,686 | 7,329 | 132 | 1,401 | 3 | 201 | 39 |
| Chautauqua | 54,515 | 39,645 | 3,591 | 5,670 | 2,360 | 39 | 2,452 | 2 | 740 | 16 |
| Chemung | 35,049 | 26,366 | 1,263 | 2,792 | 3,107 | 247 | 960 | 15 | 233 | 66 |
| Chenango | 19,926 | 3,041 | 1,952 | 2,206 | 10,405 | 126 | 2,012 | 6 | 138 | 40 |
| Clinton | 29,423 | 592 | 740 | 9,348 | 17,246 | 13 | 1,392 | - | 34 | 58 |
| Columbia | 24,796 | 2,775 | 1,145 | 3,661 | 15,985 | 50 | 1,060 | 22 | 90 | 8 |
| Cortland | 18,210 | 9,224 | 1,319 | 1,874 | 4,411 | 133 | 1,090 | 3 | 138 | 18 |
| Delaware | 19,270 | 1,905 | 1,938 | 1,781 | 11,219 | 48 | 2,287 | 4 | 83 | 5 |
| Dutchess | 99,536 | 21,259 | 3,122 | 11,695 | 61,351 | 199 | 1,283 | 30 | 479 | 118 |
| Erie | 380,873 | 343,172 | 5,944 | 19,377 | 7,841 | 162 | 2,237 | 36 | 1,527 | 577 |
| Essex | 15,028 | 63 | 1,076 | 2,281 | 10,435 | 14 | 1,123 | 4 | 20 | 12 |
| Franklin | 17,931 | 129 | 665 | 2,682 | 12,729 | 5 | 1,608 | 3 | 85 | 25 |
| Fulton | 21,884 | 8,824 | 1,431 | 1,496 | 8,823 | 3 | 1,161 | 14 | 91 | 41 |
| Genesee | 22,770 | 13,098 | 2,140 | 2,238 | 4,379 | 70 | 653 | - | 166 | 26 |
| Greene | 18,256 | 993 | 1,188 | 2,167 | 12,780 | 71 | 1,016 | 4 | 75 | 22 |
| Hamilton | 2,362 | 2 | 437 | 130 | 1,423 | 0 | 359 | - | 9 | 2 |
| Herkimer | 25,734 | 11,024 | 1,172 | 2,479 | 9,476 | 26 | 1,364 | 12 | 110 | 71 |
| Jefferson | 40,068 | 16,471 | 3,252 | 5,963 | 11,548 | 53 | 2,243 | - | 369 | 169 |
| Lewis | 10,040 | 267 | 779 | 695 | 5,827 | 23 | 2,415 | - | 25 | 9 |
| Livingston | 22,150 | 10,400 | 2,862 | 2,814 | 4,572 | 152 | 1,176 | 2 | 149 | 23 |
| Madison | 25,368 | 10,103 | 1,891 | 2,941 | 8,849 | 77 | 1,299 | - | 157 | 51 |
| Monroe | 286,512 | 230,558 | 3,820 | 35,776 | 12,273 | 80 | 1,475 | 92 | 1,721 | 717 |
| Montgomery | 20,038 | 9,181 | 881 | 1,737 | 7,365 | 26 | 713 | - | 87 | 48 |
| Nassau | 447,387 | 171,500 | 4,268 | 21,212 | 247,586 | 241 | 157 | 79 | 1,645 | 699 |
| Niagara | 87,846 | 67,198 | 3,598 | 6,474 | 9,317 | 86 | 793 | - | 269 | 111 |
| Oneida | 90,496 | 52,374 | 3,200 | 8,743 | 22,464 | 47 | 2,501 | 9 | 966 | 192 |
| Onondaga | 181,153 | 137,401 | 4,332 | 24,670 | 10,784 | 206 | 1,655 | 30 | 1,500 | 575 |
| Ontario | 38,370 | 21,897 | 4,251 | 4,444 | 5,881 | 235 | 1,412 | 13 | 221 | 16 |
| Orange | 114,788 | 51,420 | 4,885 | 10,257 | 46,430 | 155 | 930 | 15 | 533 | 163 |
| Orleans | 15,363 | 6,345 | 2,086 | 1,685 | 4,445 | 26 | 689 | 5 | 74 | 28 |
| Oswego | 45,522 | 19,374 | 8,160 | 3,991 | 10,957 | 111 | 2,502 | 11 | 340 | 76 |
| Otsego | 23,291 | 3,393 | 2,581 | 2,264 | 12,652 | 78 | 2,119 | - | 164 | 40 |
| Putnam | 32,703 | 1,062 | 1,029 | 7,249 | 22,653 | 41 | 503 | 5 | 136 | 25 |
| Rensselaer | 59,894 | 25,701 | 2,385 | 7,355 | 22,000 | 66 | 2,009 | 11 | 173 | 194 |
| Rockland | 92,675 | 82,333 | 934 | 5,875 | 2,956 | 0 | 109 | - | 243 | 225 |
| St. Lawrence | 40,506 | 12,693 | 2,407 | 3,583 | 17,922 | 13 | 3,532 | 4 | 209 | 143 |
| Saratoga | 78,165 | 39,998 | 5,690 | 8,492 | 20,942 | 85 | 2,482 | 20 | 338 | 118 |
| Schenectady | 59,684 | 43,228 | 1,146 | 5,866 | 8,755 | 0 | 429 | 29 | 144 | 87 |
| Schoharie | 11,991 | 154 | 1,141 | 1,607 | 7,756 | 29 | 1,205 | 14 | 72 | 13 |
| Schuyler | 7,374 | 1,571 | 1,539 | 713 | 2,624 | 208 | 695 | - | 18 | 6 |
| Seneca | 12,630 | 5,676 | 2,250 | 1,169 | 2,740 | 307 | 350 | 4 | 111 | 23 |
| Steuben | 39,071 | 21,489 | 5,147 | 3,104 | 5,574 | 705 | 2,869 | 2 | 160 | 21 |
| Suffolk | 469,299 | 129,887 | 8,920 | 30,153 | 297,010 | 498 | 826 | 98 | 1,434 | 473 |
| Sullivan | 27,661 | 381 | 3,208 | 3,743 | 18,636 | 78 | 1,349 | 15 | 212 | 39 |
| Tioga | 19,725 | 5,519 | 1,922 | 1,924 | 8,467 | 440 | 1,397 | - | 23 | 33 |
| Tompkins | 36,420 | 19,214 | 3,098 | 6,144 | 5,696 | 343 | 1,696 | 7 | 163 | 59 |
| Ulster | 67,499 | 10,510 | 5,071 | 6,613 | 42,362 | 159 | 2,406 | 25 | 259 | 94 |
| Warren | 25,726 | 10,343 | 1,629 | 2,934 | 9,307 | 45 | 1,343 | 6 | 106 | 13 |
| Washington | 22,458 | 4,183 | 1,586 | 2,286 | 12,108 | 105 | 2,099 | 20 | 49 | 22 |
| Wayne | 34,908 | 18,156 | 3,523 | 3,705 | 7,483 | 106 | 1,783 | 9 | 95 | 48 |
| Westchester | 337,142 | 140,518 | 6,298 | 27,770 | 158,438 | 302 | 263 | 46 | 2,114 | 1,393 |
| Wyoming | 14,906 | 7,329 | 1,690 | 1,951 | 2,555 | 88 | 1,194 | - | 93 | 6 |
| Yates | 9,029 | 2,668 | 1,676 | 1,381 | 2,333 | 181 | 749 | - | 25 | 16 |

[1] To be updated upon release of 2010 census

# Appendix E
# New York State Degree-Days, 1993-2007

**Figure E-1**

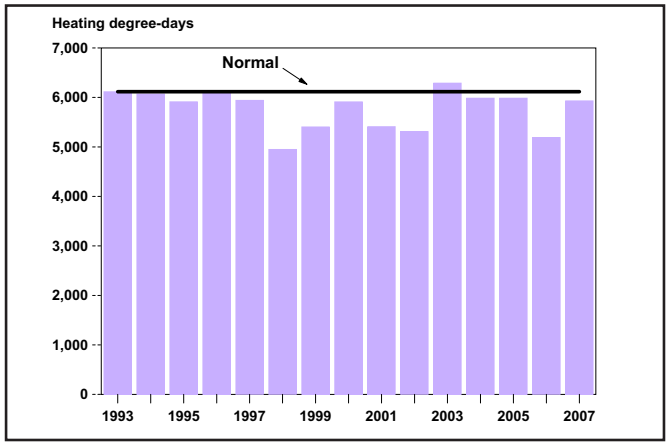



**Table E-1 (monthly heating degree-days)**

| Year | Jan. | Feb. | March | April | May | June | July | August | Sept. | Oct. | Nov. | Dec. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 1,037 | 1,143 | 966 | 501 | 185 | 36 | 2 | 8 | 106 | 427 | 675 | 1,027 | 6,113 |
| 1994 | 1,388 | 1,135 | 915 | 448 | 269 | 15 | 1 | 21 | 101 | 375 | 532 | 869 | 6,069 |
| 1995 | 969 | 1,078 | 760 | 564 | 248 | 19 | 1 | 5 | 111 | 259 | 761 | 1,136 | 5,911 |
| 1996 | 1,196 | 1,008 | 963 | 535 | 258 | 21 | 9 | 9 | 75 | 377 | 786 | 858 | 6,095 |
| 1997 | 1,157 | 846 | 862 | 552 | 316 | 27 | 7 | 19 | 100 | 379 | 728 | 948 | 5,941 |
| 1998 | 925 | 808 | 767 | 458 | 125 | 35 | 5 | 7 | 54 | 328 | 623 | 813 | 4,948 |
| 1999 | 1,115 | 892 | 854 | 463 | 166 | 11 | 0 | 15 | 52 | 391 | 531 | 914 | 5,404 |
| 2000 | 1,185 | 913 | 692 | 539 | 188 | 32 | 17 | 18 | 97 | 360 | 693 | 1,176 | 5,910 |
| 2001 | 1,128 | 942 | 937 | 469 | 170 | 21 | 13 | 3 | 85 | 328 | 513 | 799 | 5,408 |
| 2002 | 932 | 836 | 797 | 420 | 286 | 25 | 1 | 2 | 55 | 341 | 669 | 945 | 5,309 |
| 2003 | 1,327 | 1,123 | 860 | 580 | 280 | 50 | 5 | 4 | 73 | 431 | 581 | 974 | 6,288 |
| 2004 | 1,393 | 1,018 | 796 | 484 | 148 | 46 | 8 | 16 | 56 | 382 | 634 | 1,004 | 5,985 |
| 2005 | 1,225 | 970 | 976 | 447 | 320 | 4 | 1 | 3 | 34 | 338 | 587 | 1,079 | 5,984 |
| 2006 | 908 | 954 | 841 | 433 | 201 | 27 | 1 | 11 | 109 | 401 | 522 | 781 | 5,189 |
| 2007 | 1,009 | 1,171 | 997 | 557 | 166 | 17 | 9 | 8 | 53 | 197 | 712 | 1,015 | 5,931 |
| **Normal** | 1,188 | 1,017 | 867 | 528 | 233 | 45 | 8 | 18 | 113 | 405 | 678 | 1,016 | 6,116 |

**Table E-2 (monthly cooling degree-days)**

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | 0 | 0 | 0 | 0 | 23 | 113 | 295 | 231 | 51 | 0 | 0 | 0 | 713 |
| 1994 | 0 | 0 | 0 | 0 | 7 | 162 | 317 | 153 | 50 | 0 | 0 | 0 | 689 |
| 1995 | 0 | 0 | 0 | 0 | 9 | 127 | 301 | 262 | 49 | 13 | 0 | 0 | 761 |
| 1996 | 0 | 0 | 0 | 0 | 8 | 128 | 179 | 203 | 68 | 0 | 0 | 0 | 586 |
| 1997 | 0 | 0 | 0 | 0 | 3 | 108 | 227 | 177 | 54 | 0 | 0 | 0 | 569 |
| 1998 | 0 | 0 | 0 | 0 | 44 | 93 | 254 | 258 | 100 | 5 | 0 | 0 | 754 |
| 1999 | 0 | 0 | 0 | 0 | 26 | 176 | 362 | 216 | 95 | 0 | 0 | 0 | 875 |
| 2000 | 0 | 0 | 0 | 0 | 20 | 112 | 146 | 171 | 53 | 0 | 0 | 0 | 502 |
| 2001 | 0 | 0 | 0 | 0 | 26 | 142 | 160 | 291 | 58 | 5 | 0 | 0 | 682 |
| 2002 | 0 | 0 | 0 | 0 | 7 | 121 | 302 | 277 | 100 | 0 | 0 | 0 | 807 |
| 2003 | 0 | 0 | 0 | 0 | 7 | 72 | 238 | 271 | 70 | 0 | 0 | 0 | 658 |
| 2004 | 0 | 0 | 0 | 0 | 38 | 92 | 199 | 179 | 86 | 0 | 0 | 0 | 594 |
| 2005 | 0 | 0 | 0 | 0 | 3 | 196 | 290 | 315 | 136 | 4 | 0 | 0 | 944 |
| 2006 | 0 | 0 | 0 | 0 | 20 | 120 | 315 | 233 | 46 | 3 | 0 | 0 | 737 |
| 2007 | 0 | 0 | 0 | 0 | 37 | 145 | 209 | 216 | 91 | 30 | 0 | 0 | 728 |
| **Normal** | 0 | 0 | 0 | 0 | 24 | 107 | 233 | 195 | 56 | 6 | 0 | 0 | 621 |

Note: Normal is a 30-year degree day average value for the period 1971-2000.

# Appendix F
# Abbreviations and Conversion Factors

## ABBREVIATIONS

| | |
|---|---|
| M | thousand or $10^3$ |
| MM | million or $10^6$ |
| B | billion or $10^9$ |
| T | trillion or $10^{12}$ |
| bbl | barrel |
| 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 |
| OPEC | Organization of Petroleum Exporting Countries |
| N/A | Not applicable |
| n.a. | Not available |

## CONVERSION FACTORS

Approximate heat content of various fuels (2007)

| | |
|---|---|
| Coal | |
| Electric generation | 19,911,000 Btu/ton |
| Other end use sectors | 22,371,000 Btu/ton |
| Natural Gas | |
| Electric generation | 1,028 Btu/cf |
| Other end use sectors | 1,028 Btu/cf |
| Wood | 20,000,000 Btu/cord |
| Electricity | 3,412 Btu/kWh |
| Petroleum Products | |
| Distillate fuel oil | 5,825,000 Btu/barrel |
| Ethanol | 3,539,000 Btu/barrel |
| Jet fuel, kerosene-type | 5,670,000 Btu/barrel |
| Kerosene | 5,670,000 Btu/barrel |
| Motor gasoline | 5,219,000 Btu/barrel |
| LPG (propane) | 3,592,000 Btu/barrel |
| Residual fuel oil | 6,287,000 Btu/barrel |

(one barrel equals 42 gallons)

# Appendix G
# Glossary

## 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 volume measure equal to 42 gallons, commonly used in expressing quantities of petroleum or petroleum products.

**Biofuels** - Non-fossil biomass energy sources that are essentially unprocessed and burned or gasified 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. 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, they often are converted into Btu to facilitate comparison. 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.

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

**Commercial sector** - The sector of the economy that engages primarily in providing services and goods. Apartment and office buildings, governmental units, schools, institutions, churches, restaurants, and retail stores are included.

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

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

**Degree-days, cooling** - A measure of temperature as it affects energy demand for space cooling. It is similar to heating degree-days, although the relationship is not as precise. If the average of a day's high and low temperature extremes is below 65°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 above 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.

**Distillate fuel** - A category of fuels comprised of No. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. These products are used primarily for space heating, on-highway and off-road diesel engine fuel (including railroad engine fuel), and electric power generation.

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

**End-use** - Any ultimate consumption of any type of fossil fuel (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 process. Fossil fuels sometimes are used as feedstocks for their chemical properties, rather than their values as fuel (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. One U.S. gallon of water weighs 8.3 pounds.

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

**Gigawatt hour (GWh)** - One million kilowatt hours, or one billion watt hours.

**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 economy involved in 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.

**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.

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

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

**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** - A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase ("gas well" gas) or in solution with crude oil ("oil well" gas) in natural underground reservoirs at reservoir conditions. It comes from the ground with or without accompanying crude oil and is generally much higher in heat content than manufactured gas.

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

**Net Energy Consumption** - “Net” is the end-use consumption including electricity sales but excluding losses incurred during generation and distribution of electricity.

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

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

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

**Petroleum** - A general term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oil, and refined nonhydrocarbon compounds blended into finished petroleum products.

**Primary Energy Consumption** - “Primary” represents total consumption of fuels including fuels used to generate electricity.

**Propane** - A colorless, highly volatile hydrocarbon that is readily recovered as a liquefied gas at natural gas-processing plants and refineries. It is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation and industrial uses, including petro-chemical feedstocks. Propane is the first product refined from crude petroleum.

**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, till gas, and miscellaneous products.

**Residential sector** - Includes 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.

**Therm** - 100,000 Btu.

**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. The American ton is often called the “short ton”. The metric or “long ton” equals 2,204.62 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 H
## Data Sources

***State Energy Data Report*** - U.S. Department of Energy, Energy Information Administration (U.S. DOE/EIA)
***State Energy Price & Expenditure Report*** - U.S. DOE/EIA
***Annual Energy Review*** - U.S. DOE/EIA
***Monthly Energy Review*** - U.S. DOE/EIA
***Electric Power Annual*** - U.S. DOE/EIA
***Electric Power Monthly*** - U.S. DOE/EIA
***Natural Gas Annual*** - U.S. DOE/EIA
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***Petroleum Supply Annual*** - U.S. DOE/EIA
***Sales of Fuel Oil and Kerosene*** - U.S. DOE/EIA
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***Detailed Population Characteristics*** - U.S. Bureau of the Census
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***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
***State Heating Oil & Propane Program*** - N.Y.S. Energy Research and Development Authority
***New York State, Gas and Mineral Resources*** - N.Y.S. Department of Environmental Conservation
***Highway Statistics for New York State*** - N.Y.S. Department of Motor Vehicles
***Motor Fuel Gallonage & Revenue Report*** - N.Y.S. Department of Taxation & Finance
***Aviation Statistics*** - Port Authority of New York & New Jersey
***Load & Capacity Data Report*** - New York Independent System Operator

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