

6 New York State's Sources of Energy

On the national level, New York State is the eighth largest energy user. Nevertheless, households, businesses, industries, and electric utilities in the State rely largely on fuels produced elsewhere. Approximately 12.4% of the total primary energy requirements were met from in-State resources in 2021. Hydroelectric power is produced at various locations throughout the State and for 2021 was the second greatest hydroelectric producer in the U.S, second to Washington. In 2021, New York State produced more hydroelectric power than any other state east of the Rocky Mountains. Wind energy produced in the State ranks 19th in the nation for 2021 and crude oil and natural gas production are found in its western region. The “Other” category described in this section primarily consists of wood, waste, landfill gas, solar, geothermal, and ethanol.

6.1 Key Observations about New York State Sources of Energy in 2021

- In-State resources produced 12.4% of the State's total primary energy requirement, including 6.2% from hydropower and 2.1% from biofuels as measured by USEIA, including ethanol, biodiesel, renewable diesel, waste, wood, and landfill gas, collectively. Wind, solar, and geothermal renewable resources met 2.0% of the State's total primary energy requirement. Petroleum and natural gas production accounted for 0.3% of the total primary energy requirement.
- Hydroelectric power and energy collectively from biofuels including ethanol, waste, wood, and landfill gas account for 50.2% and 30.6%, respectively, of the State's primary energy production. Wind, solar, and geothermal resources accounted for 16.7% of the primary energy production, while crude oil and natural gas constitute the remaining 2.5%.
- In-State crude oil and natural gas production represent less than 0.1% and 0.8%, respectively, of use of these fuels. Consumers rely on external sources for 100% of refined petroleum fuel products because there are no petroleum refineries in the State.
- Production of natural gas remained similar in 2021 compared to 2020. In 2021, natural gas production was 9.7 billion cubic feet and accounted for 0.7% of the State's total primary energy use.
- Energy production from solar resources increased 29.7% from 2020 to 2021 while collective production of biofuels including ethanol, waste, wood, and landfill gas increased 5.4%.

**New York State
Primary Energy Production
by Fuel Type¹
2007–2021**

Figure 6-1.

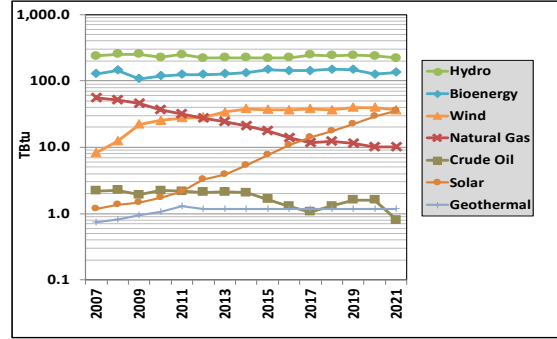


Table 6-1a. (In Physical Units)

Year	Hydro Electricity ² GWh	Natural Gas Bcf	Crude Oil Mbbl	Ethanol Mbbl	Distributed Solar GWh	Utility Solar GWh	Total Solar GWh
2007	25,557	55	379	100	16	n.a.	n.a.
2008	27,501	50	387	2,064	24	n.a.	n.a.
2009	27,945	45	333	1,189	33	n.a.	n.a.
2010	25,103	36	381	2,482	56	n.a.	n.a.
2011	28,355	31	375	3,063	93	7	99
2012	25,303	26	362	3,095	202	53	255
2013	26,397	23	366	3,762	259	52	311
2014	26,823	20	356	3,490	401	51	452
2015	26,704	17	286	3,465	643	52	696
2016	27,150	14	225	3,801	931	54	984
2017	30,350	11	184	3,687	1,233	47	1,281
2018	29,856	12	221	3,308	1,550	49	1,599
2019	30,724	11	277	3,519	1,920	52	1,972
2020	30,156	10	238	1,753	2,356	48	2,404
2021	28,214	10	266	1,375	2,769	50	2,819

Table 6-1b. (In Trillion Btu)

Year	Hydro Electricity ² TBtu	Natural Gas TBtu	Crude Oil TBtu	Biofuels ^{3,4,5} TBtu	Wind TBtu	Solar ⁴ TBtu	Geothermal ⁴	Total Production TBtu
2007	236.9	56.2	2.2	128.6	8.2	1.2	0.7	434.0
2008	251.2	51.4	2.2	143.9	12.3	1.3	0.8	463.3
2009	252.9	45.8	1.9	107.6	22.1	1.5	1.0	432.7
2010	225.4	36.6	2.2	118.5	25.3	1.7	1.1	410.8
2011	250.7	31.9	2.2	124.9	27.5	2.1	1.3	440.6
2012	220.1	27.2	2.1	124.3	28.4	3.2	1.2	406.6
2013	224.7	24.2	2.1	128.3	33.7	3.9	1.2	418.2
2014	224.3	20.8	2.1	132.0	37.7	5.3	1.2	423.4
2015	221.2	17.9	1.6	147.6	37.0	7.7	1.2	434.3
2016	223.5	13.9	1.3	141.9	36.4	10.7	1.2	428.9
2017	246.5	11.8	1.1	143.3	38.1	13.9	1.2	455.8
2018	240.8	12.2	1.3	149.0	36.3	17.7	1.2	458.5
2019	242.6	11.3	1.6	148.1	39.6	22.5	1.2	467.0
2020	236.8	10.0	1.6	126.1	39.6	28.8	1.2	444.1
2021	220.0	10.0	0.8	134.1	36.7	35.5	1.2	438.4

¹ Includes energy produced from resources indigenous to New York State.

² Includes both conventional and pumped storage hydro.

³ Includes primarily wood, waste, landfill gas, and ethanol.

⁴ Consumption used as proxy.

⁵ Ethanol TBtu are based on biomass inputs (feedstock) to produce fuel ethanol.