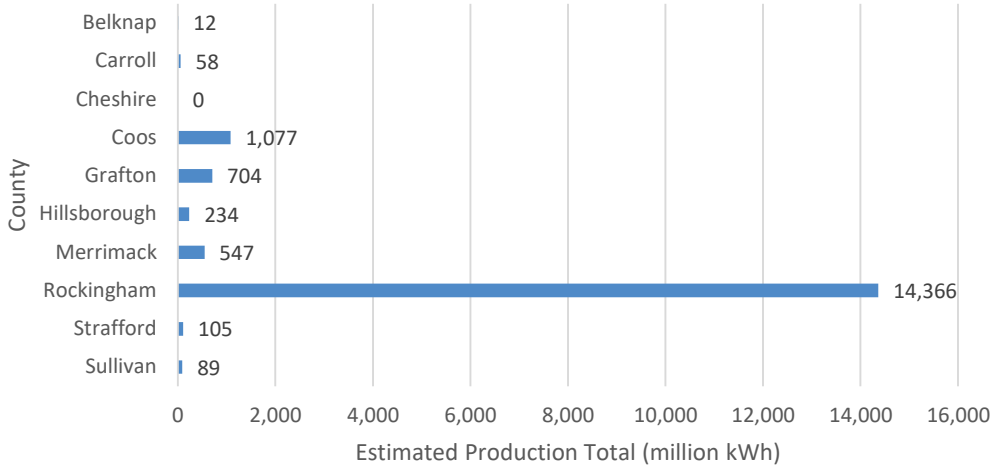
ENERGY

Electrical Production

Of the 17,193 million kWh total of electricity produced in New Hampshire in 2021, 83.6 percent was generated in Rockingham County. This 83.6 percent translates to 14,366 million kWh and was generated from 6 power plants: four natural gas, one petroleum, and one nuclear.[1] Furthermore, only four other counties produced greater than one percent of New Hampshire's total electricity: Coös, Grafton, Merrimack, and Hillsborough Counties.

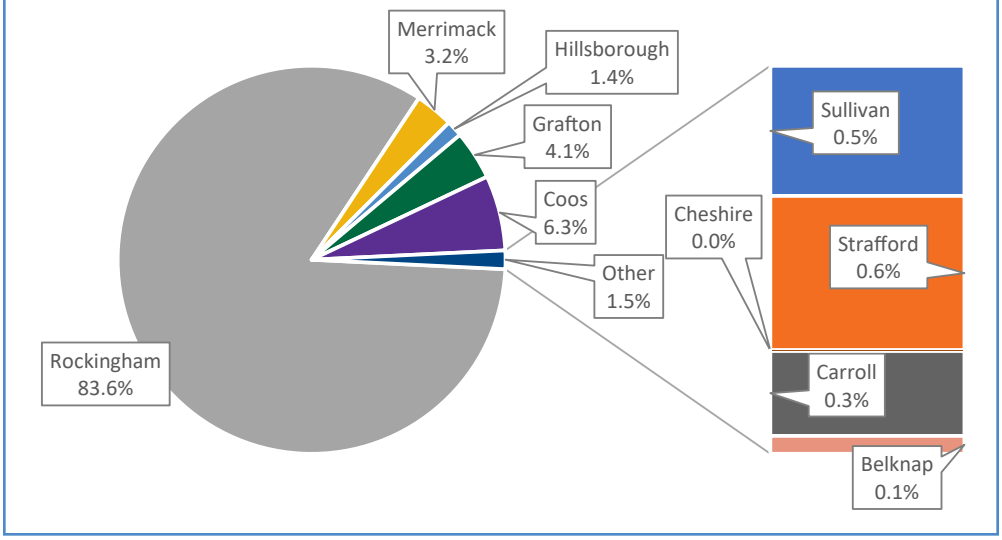
ELECTRICAL PRODUCTION BY COUNTY



Source: U.S. Energy Information Administration, Electricity Data Browser

Following Rockingham County, Coös County had the second highest power generation at 1,077 million kWh, 6.3 percent of the total. 99.96 percent of this generation was from renewable sources, primarily biomass, wind, and hydroelectric. This reliance on renewable energy extends to the entire state. Apart from Rockingham County, the majority of electricity generated was from renewable sources. The production from these sources summing to 87.7 percent of the remaining generated electricity and 14.6 percent of the state's total generation in 2021.[2]

COUNTY DISTRIBUTION OF ELECTRICAL PRODUCTION



Source: U.S. Energy Information Administration, Electricity Data Browser

Electrical Consumption

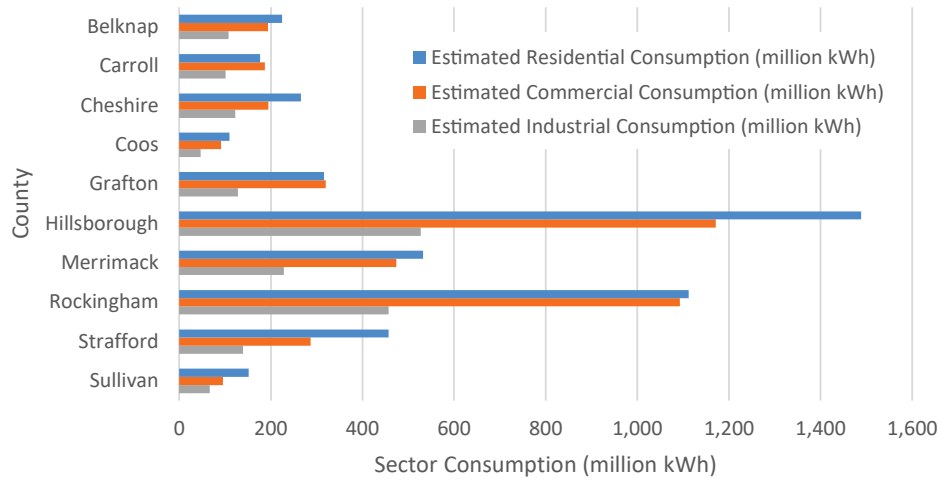
Electricity consumption was correlated to county population, as well as commercial and industrial activity. Out of 10,867 million kWh consumed, three

1 U.S. Energy Information Administration, Electricity Data Browser Beta. https://www.eia.gov/beta/electricity/data/browser
2 U.S. Energy Information Administration, Interactive GIS Data Viewer. https://eia.maps.arcgis.com/

counties consumed over 1,000 million kWh: Hillsborough, Rockingham, and Merrimack Counties.[3] This consumption spiked in Hillsborough and Rockingham Counties, over double any other county, with 29.3 percent and 24.5 percent of the total electrical consumption. Grafton and Strafford Counties consumed seven percent and eight percent of the total. The other counties consumed between two and five percent of total electricity.

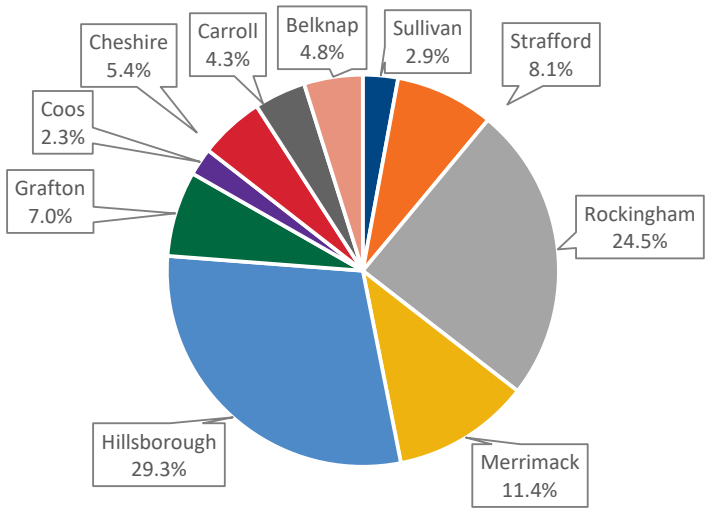
Rockingham and Coös Counties were the only counties with a production surplus, totaling 439.6 percent and 335.2 percent of their electricity consumption, respectively. Grafton County had a 7.9 percent deficit while Merrimack County had a 55.7 percent deficit. Every other county had a deficit of at least 70 percent of electricity consumed. Belknap and Hillsborough counties had deficits greater than 90 percent, while Cheshire County imported 100 percent of electricity consumed.

ESTIMATED SECTOR ELECTRICITY COSUMPTION



Source: U.S. Energy Information Administration, Electricity Data Browser

COUNTY CONSUMPTION DISTRIBUTION



Source: U.S. Energy Information Administration, Electricity Data Browser

New Hampshire produced 17,193 million kWh of electricity in 2021, and consumed 10,867 million kWh, resulting in a production surplus of 6,326 million kWh. New Hampshire belongs to ISO New England, a regional organization that operates the electricity transmission network in New England, as well as the market for buying and selling electricity. Electricity produced in New Hampshire is used throughout the region, depending on where it is needed.

Electrical Infrastructure

Highly concentrated electricity production is heavily reliant on long range transmission infrastructure, primarily high voltage lines and substations. All of Eversource's major construction projects planned for 2023 through 2025 involve the maintenance of their long range infrastructure.[4] Liberty Utilities is

3 Commercial and industrial activity in each county were estimated based on commercial and industrial employment, according to 2021 Quarterly Census of Employment and Wages employment counts. Electricity consumption estimates assume that for each use (residential, commercial, and industrial), electricity costs are constant across geographies.

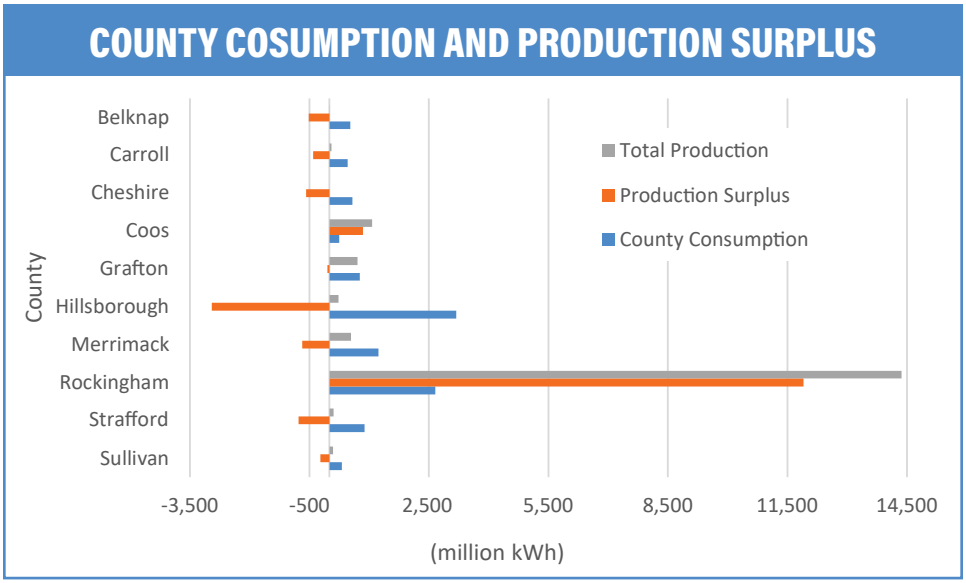
4 Eversource, Major New Hampshire Projects. https://www.eversource.com/content/nh/residential/about/ transmission-distribution/projects/new-hampshire-projects

continuing their expansion of new infrastructure in Salem, replacing old equipment and increasing capacity to meet growing demand.[5] These initiatives cite aging equipment as a primary reason for the construction, stressing the increasing need to continue to modernize New Hampshire's electrical infrastructure.

As the U.S. transitions away from using fossil fuels to generate electricity, energy infrastructure will need to be modernized and upgraded. Renewable energy production facilities are often located in rural areas, and infrastructure will need to be developed to transmit power from these facilities to the rest of the grid.[6]

– Aaron Rockwood

COUNTY COSUMPTION AND PRODUCTION SURPLUS



Source: U.S. Energy Information Administration, Electricity Data Browser

5 Liberty Utilities, Salem Electric Enhancement Project. https://new-hampshire.libertyutilities.com/acworth/ residential/new-services/rockingham-substation.html
6 Tim McLaughlin, "Creaky U.S. power grid threatens progress on renewables, EVs," *Reuters*, May 12, 2022. https://www.reuters.com/investigates/special-report/usa-renewables-electric-grid/

RETAIL SALES OF ELECTRICITY	2017	2018	2019	2020	2021
Sales to Ultimate Customers (million kWh)					
New Hampshire:					
Total	10,787	11,046	10,712	10,684	10,866
Percent change	-1.1%	2.4%	-3.0%	-0.3%	1.7%
Residential	4,441	4,641	4,507	4,790	4,834
Percent change	0.1%	4.5%	-2.9%	6.3%	0.9%
Commercial	4,390	4,443	4,281	4,030	4,106
Percent change	-1.7%	1.2%	-3.6%	-5.9%	1.9%
Industrial	1,956	1,963	1,924	1,873	1,926
Percent change	-2.2%	0.4%	-2.0%	-2.7%	2.8%
New England:					
Total	115,458	118,634	114,458	111,846	113,412
Percent change	-2.0%	2.8%	-3.5%	-2.3%	1.4%
Residential	45,849	48,099	46,173	48,328	48,703
Percent change	-1.5%	4.9%	-4.0%	4.7%	0.8%
Commercial	52,190	52,924	51,503	47,469	48,480
Percent change	-2.9%	1.4%	-2.7%	-7.8%	2.1%
Industrial	16,867	17,054	16,234	15,583	15,751
Percent change	-6.1%	1.1%	-4.8%	-4.0%	1.1%

Source: U.S. Energy Information Administration, ELMI Analysis. Last Update 10/24/2022

ELECTRICITY GENERATED	2017	2018	2019	2020	2021
Net Electrical Energy Generated, New Hampshire (million kWh)	17,447	17,087	18,027	16,351	17,435
As percentage of energy purchased	161.7%	154.7%	168.3%	153.0%	160.5%
Energy by type (million kWh)					
Coal	287	660	343	128	284
Hydro	1,413	1,355	1,462	1,228	1,167
Natural Gas	3,580	2,992	3,583	3,638	4,466
Nuclear	9,991	10,062	10,907	9,865	9,856
Petroleum	105	178	30	42	72
Renewables	2,022	1,793	1,647	1,393	1,535
As percentage of total generated by type:[a]					
Coal	1.6%	3.9%	1.9%	0.8%	1.6%
Hydro	8.1%	7.9%	8.1%	7.5%	6.7%
Natural Gas	20.5%	17.5%	19.9%	22.2%	25.6%
Nuclear	57.3%	58.9%	60.5%	60.3%	56.5%
Petroleum	0.6%	1.0%	0.2%	0.3%	0.4%
Renewables	11.6%	10.5%	9.1%	8.5%	8.8%

[a] *Other energy sources, accounting for less than one percent of generation, include municipal solid waste, purchased steam, and miscellaneous technologies.*

Source: U.S. Energy Information Administration, ELMI Analysis. Last Update 10/24/2022

ENERGY AND FUEL CONSUMPTION	2017	2018	2019	2020	2021
Energy Consumption					
Total consumption (trillion BTU)	317.8	325.7	319.8	295.5	
Annual percent change	3.4%	2.5%	-1.8%	-7.6%	
United States rank	46	46	46	46	
Types of energy consumption (percent of total)					
Residential	31.4%	32.9%	32.9%	34.2%	
Commercial	22.1%	22.4%	22.2%	22.1%	
Industrial	14.4%	12.9%	12.6%	13.4%	
Transportation	32.1%	31.7%	32.2%	30.3%	

Fuel Consumed to Generate Electricity (In equivalent barrels of oil)					
New Hampshire total (thousand barrels)	22,330,614	21,661,228	23,830,939	22,128,540	23,154,144
Oil	163	298	49	61	110
Coal	432	943	509	186	395
Gas	4,597,817	3,817,685	4,502,807	4,618,463	5,677,606
Nuclear	17,732,202	17,842,302	19,327,574	17,509,830	17,476,032
Source: U.S. Energy Information Administration, ELMI Analysis. Last Update 10/25/2022					
These data are made available every two years					

ENERGY EXPENDITURES AND PRICES	2017	2018	2019	2020	2021
Energy Expenditures Per Capita	3,841	4,310	4,075	3,354	
United States rank (including DC)	33	32	32	33	

Energy Prices ($ per million BTU)	$22.26	$24.50	$23.52	$21.49	
United States rank (including DC) (1 = lowest)	47	47	45	45	

Petroleum prices ($ per million BTU)	$19.47	$21.96	$20.72	$17.60	
United States rank (including DC) (1 = lowest)	38	36	34	33	

Electric prices ($ per million BTU)	$47.39	$49.87	$50.28	$48.75	
United States rank (including DC) (1 = lowest)	46	46	46	45	
Source: U.S. Energy Information Administration, ELMI Analysis. Last Update 10/24/2022					
These data are made available every two years					
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