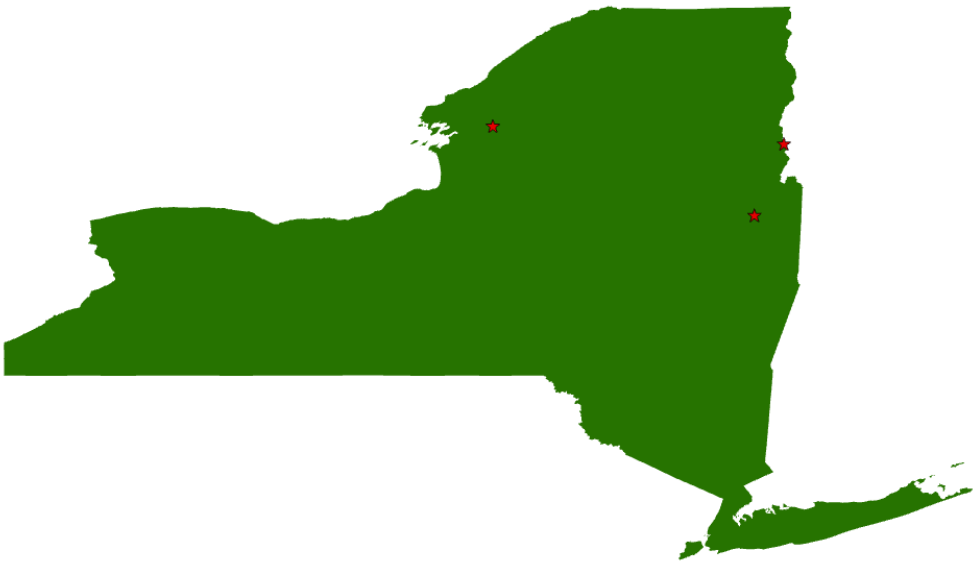
Economic Contributions of Wood-based Biomass Power Generation Industries in New York
2022 Version



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Executive Summary

Decarbonizing New York's electricity sector requires an increased reliance on renewable energy sources, including biomass-based power generation. As of 2023, approximately 46% of the total electricity generated in New York came from natural gas, followed by hydropower (22%) and nuclear power (almost 22%) respectively. The remaining was generated using other renewable energy sources such as solar, wind, and biomass. Biomass fueled a little over one percent of the state's total net electricity generation in 2023, with wood and wood-waste accounting for one-sixth of the state's total biomass-generating capacity. Unlike many other renewables, woody biomass can deliver consistent, around-the-clock baseload power. When sourced and managed sustainably, it offers several benefits: reducing greenhouse gas emissions relative to fossil fuels, supporting jobs and income in rural forest-based communities, creating markets for low-value forest residues, diverting waste from landfills, and promoting healthier forests.

To better understand the specific economic contributions of wood-based biomass power generation in this context, this study applied IMPLAN's detailed impact analysis activity type, analogous to its Analysis-by-Parts (ABP) technique. While IMPLAN's "electric power generation using biomass" sector (Sector 45) includes various biomass sources such as agricultural byproducts, landfill gas, municipal solid waste, black liquor, and sludge waste, it does not provide a dedicated sector for wood-based biomass. To address this, we constructed a customized sector profile using spending patterns and labor income specific to wood-based biomass energy. Supplementary data were drawn from the Michigan Department of Natural Resources' 2022 and 2024 mail surveys of biomass power producers across a 20-state Northeast-Midwest region along with California, Georgia and Virginia as well as a review of recent literature on biomass energy in the United States.

The economic contribution estimates presented in this report are expressed in constant 2022 dollars. In that year, New York generated approximately 423,000 Megawatt-hours (MWh) of electricity from wood and wood-derived fuels, a nearly 32% decline compared to 2017 levels. Based on data from a 2024 mail survey of biomass power facilities across a 20-state Northeast-

Midwest region, the average cost of producing electricity from wood-based biomass was estimated at $87 per MWh in 2022.

In 2022, the wood-based biomass power generation industry in New York directly employed 22 individuals and generated $36.8 million in direct economic output. When accounting for indirect and induced effects, the industry supported a total of 224 jobs and contributed $65.4 million in total economic output to the state's economy. The industry also generated an estimated $5.5 million in state and local tax revenues and $5.2 million in federal tax revenues. The social accounting matrix (SAM) multiplier for industry output was calculated at 1.8, indicating that every $1 million in direct output from the wood-based biopower sector supported an additional $800,000 in economic activity across other sectors. The top three industries most affected by this activity in terms of output, beyond the biomass power sector itself, were commercial logging, forestry, forest products, and timber tract production, and support activities for agriculture and forestry.

In comparison, the wood-based biomass power generation industry in New York directly employed 44 individuals and generated $43.3 million in direct output (in 2022 dollars) in 2017. Between 2017 and 2022, direct employment in the industry declined by 49%, and direct output decreased by 15%. Similarly, total employment supported by the industry, including indirect and induced jobs, fell by 50%, and total economic output declined by 28% over the same period.

Glossary

Biomass: Renewable organic material that comes from plants and animals. It contains stored chemical energy from the sun. Sources of biomass for energy include wood and wood processing wastes, agricultural crops and waste materials, biogenic materials in municipal solid waste, animal manure, and human sewage.

Woody Biomass: It encompasses biomass obtained from the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management.

Biopower: Biopower technologies convert biomass fuels into heat and electricity. There are three main methods of releasing the energy stored in biomass to produce biopower: burning, bacterial decay, and conversion to gas/liquid fuel.

Net Electric Power Generation: Generation is a measure of electricity produced over time. Some portion of the electricity produced by the power plants is used internally to operate these plants. Net generation excludes electricity use for power plant operations.

Renewable Portfolio Standard (RPS): It is a regulatory requirement that electricity providers must supply a specified minimum share of their total electricity sales from eligible renewable energy sources.

Power Plant Capacity: It is the maximum level of electricity that a power plant can supply at a specific point in time under certain conditions.

Nameplate Capacity: Nameplate generator capacity is determined by the generator's manufacturer and indicates the maximum output of electricity a generator can produce without exceeding design thermal limits.

Kilowatt (kW): A standard unit for measuring electricity. 1 kW is equivalent to 1,000 Watts.

Kilowatt-hour (kWh): One kW of electricity generated or used for one hour.

Megawatt (MW): 1,000 kW

Megawatt hour (MWh): 1,000 kWh

Economic Contribution Terms

Direct effects/contributions: The economic activities (e.g., output, employment, labor income, and value-added) associated with an industry or sector in the study area. These can describe the current economic sectors or changes to those sectors.

Employment: The number of full- and part-time jobs associated with an industry plus self-employed individual.

Indirect effects/contributions: The impact of local industries purchasing goods and services from other industries, leading to others' outputs, employment, and labor income.

Induced effects/contributions: The impact of labor income (employee compensation and proprietor income) via goods and services purchased due to the direct and indirect spending by industries.

Labor income: The dollar total of employee compensation and proprietor income; the latter is associated with self-employed individuals.

Output: The dollar measure of production within an area; it is also viewed as sales.

Type I multiplier: These multipliers are derived by dividing the sum of direct and indirect effects by the direct effects.

Social Accounting Matrix (SAM) multipliers: These multipliers are derived by dividing the sum of direct, indirect, and induced effects by the direct effects. The social accounts include payments made between households, households, and government and more. These are available for output, employment, labor income, and value-added and are used to assess the effects of changes in industry activity (i.e., "ripple effects").

Total effects/contributions: The sum of direct, indirect, and induced effects.

Value-added (also known as gross state product, or GSP): The sum of labor income, other property income (e.g., rents and profits), and indirect business taxes (e.g., excise and sales taxes). It is the difference between an industry's total output and the cost of its intermediate inputs. The sum of value-added for all economic sectors within the state equals the total GSP.

Forest Inventory and Analysis Terms

Forestland: It is a land that has at least 10 percent canopy cover of trees of any size or has had at least 10 percent canopy cover of trees in the past that will be naturally or artificially regenerated. To qualify as forest land, an area must be at least 1 acre in size and have a minimum width of 120 feet to ensure continuity of forest conditions.

Merchantable net bole volume: It is the volume of sound wood in the merchantable bole (from the 1-foot stump to merchantable top), after deductions for rot, missing sections, or other defects.

Annual net growth: It is the average annual increase in net volume of live or growing-stock trees on forest land during the inventory period.

Annual removals: It is the average annual net volume of trees removed from forest land during the inventory period due to harvest, land-clearing, or other land-use changes.

Annual mortality: It is the average annual net volume of live trees that died from natural causes during the inventory period.

Introduction

Renewable energy plays an increasingly important role in the U.S. electricity sector, driven by concerns over greenhouse gas emissions from fossil fuels, energy security, and the potential for local and rural economic development. In 2023, the United States generated 4.18 trillion kilowatt-hours (kWh) of electricity, with approximately 60% produced from fossil fuels, 19% from nuclear energy, and 21% from renewable sources (U.S. Energy Information Administration [EIA], 2025a). Renewable electricity generation more than doubled over the past two decades, increasing from 357 billion kWh in 2000 to over 900 billion kWh in 2022 (EIA, 2025b). Despite this growth, the electricity sector remains a major contributor to national greenhouse gas emissions, accounting for roughly 25% of total U.S. emissions in 2022 (U.S. Environmental Protection Agency [EPA], 2025).

This expansion of renewable energy has been strongly supported by state and local policies, including renewable portfolio standards (RPS) and voluntary renewable energy goals. These policies aim to increase the share of renewable energy in electricity generation, reduce emissions, and stimulate local investment. In addition, some states have adopted clean energy standards (CES), which often encompass RPS requirements while also including broader low-emission technologies (National Conference of State Legislatures, 2025). As of 2025, 28 states, along with the District of Columbia, have enacted RPS mandates (Lawrence Berkeley National Laboratory, 2025). Three additional states and one U.S. territory (Guam) have adopted voluntary renewable energy targets, further reinforcing the nationwide momentum toward cleaner energy systems (National Conference of State Legislatures 2025). Additionally, sixteen states have established a broader 100% CES in combination with RPS (Lawrence Berkeley National Laboratory, 2025). Figure 1 highlights the states with 100% CES commitments and the range of RPS targets currently in place.

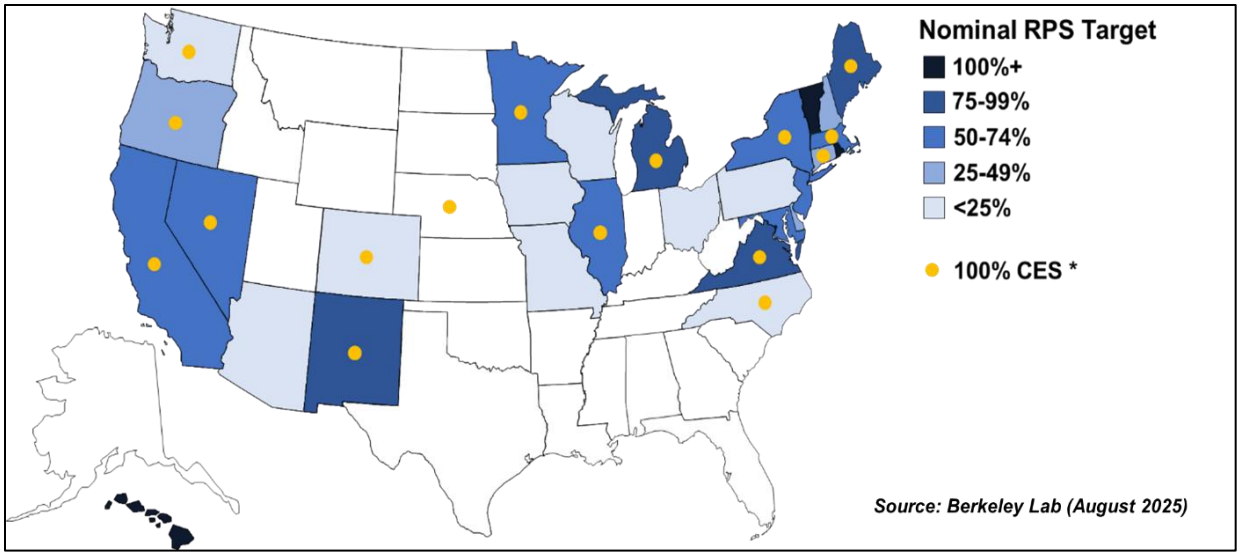

Figure1. Map of US depicting states with 100% Clean Energy Standards (CES) and associated Renewable Portfolio Standard targets (Source: Lawrence Berkeley National Laboratory, 2025).

New York's state and local policies play a crucial role in accelerating the transition toward renewable electricity, complementing national trends. The state initially adopted RPS in 2004 with a baseline of 19.3% renewable electricity, setting a target of 25% by 2013. This goal was later increased to 30% by 2015. The RPS ran until 2015 and was subsequently replaced by the state's Clean Energy Standard (CES). The CES initially required 50% of electricity sold in the state to come from renewable energy sources by 2030. The target was strengthened under the Climate Leadership and Community Protection Act (CLCPA) of 2019, which requires 70% renewable electricity by 2030 and 100% carbon-free electricity by 2040 (U.S. EIA, 2025c).
In 2023, about one-third of New York's total net electricity generation came from renewable energy sources, mostly hydro power. Biomass contributed a little more than one percent of the total net generation with most of it coming from municipal solid waste. About one sixth of the state's biomass-fueled generation came from wood-fueled power plants in 2023 (US EIA, 2025c). Woody biomass offers several unique advantages: it can provide consistent baseload power, reduce greenhouse gas emissions, support rural economies, and create markets for forest residues and byproducts from forest management, wildfire mitigation, and wood product manufacturing (National Renewable Energy Laboratory, 2023; USDA Forests and Rangelands, 2023; Gan & Smith, 2007). Additionally, biomass power generation can help offset the costs

associated with forest restoration and hazardous fuels reduction treatments (Page-Dumroese et al., 2022).

Despite these benefits, electricity generation from woody biomass in the U.S. has remained relatively stable over the past two decades, with a modest decline in recent years (Figure 2). In New York, woody biomass contributed about 0.5% of the total electricity produced in the state in 2017. By 2022, this share declined to 0.3% and to 0.1% by 2024 of the total electricity produced in the state (US EIA, 2025d). Nationally, the number of power plants utilizing wood and wood-derived fuels fell from 247 in 2017 to 219 in 2022, and further to 197 in 2024 (U.S. EIA, 2025d). In New York, there were three biopower facilities using wood and wood-derived fuel in 2022 (Figure 3; U.S. EIA, 2025d). Table 1 provides the names, locations, sector classifications, and full fuel portfolios of these facilities.

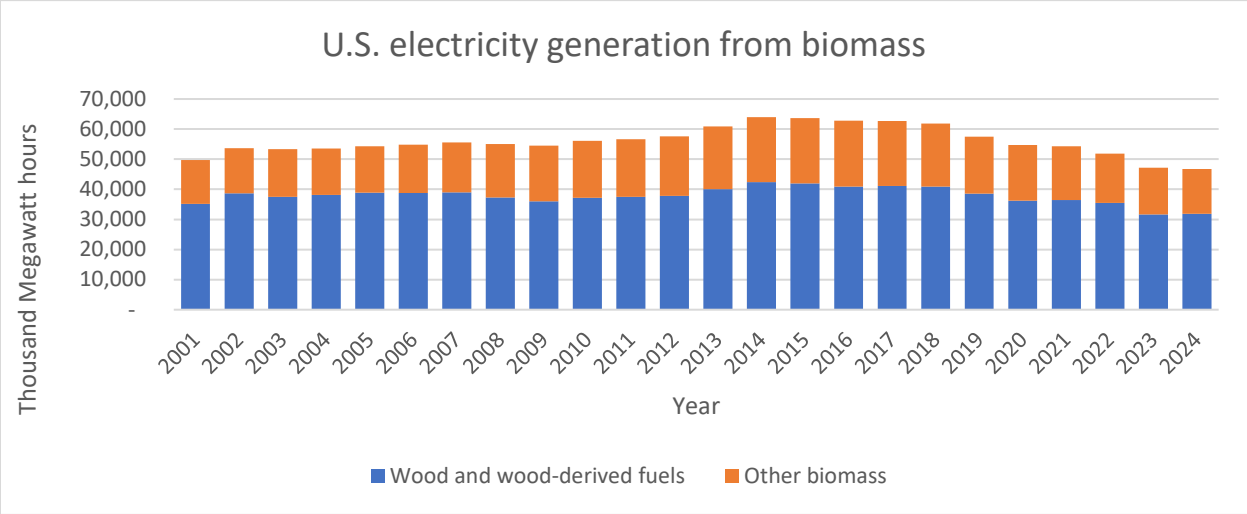

Figure 2. U.S. electricity generation from biomass, 2001 to 2024. (Source: U.S. Energy Information Administration 2025d).

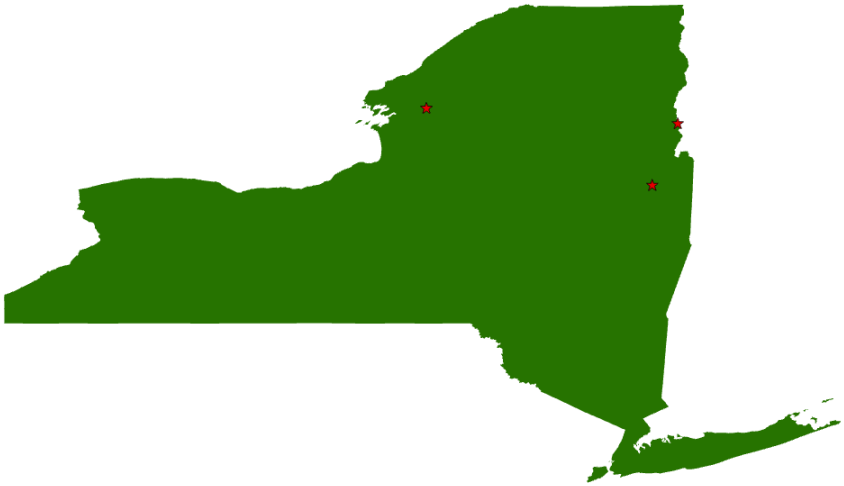

Figure 3. Map depicting location of wood-based biomass power plants in New York in 2022 (Source: US EIA 2025d).

Table 1: List of New York's power generation facilities using wood-based fuels in 2022.

Plant Name	Street Address	City	County	Sector Name	Fuel Type Used*
Finch Paper	1 Glen Street	Glen Falls	Warren	Industrial cogen	WDL,NG,WDS
ReEnergy Black River	Euphrates RV Rd. & Oneida Ave.	Fort Drum	Jefferson	Electric utility non-cogen	DFO,WDS,TDF
Ticonderoga Mill	568 Shore Airport Rd.	Ticonderoga	Essex	Industrial cogen	NG,WDS,RFO,BLQ

*Fuel Type Codes: NG = Natural Gas; WDL = Wood and Wood-Derived Liquids; WDS = Wood and Wood-Derived Solids; BLQ = Black Liquor; DFO = Distillate Fuel Oil; RFO = Residual Fuel Oil; TDF = Tire-Derived Fuel.

Estimating the economic contributions of the wood-based biomass power generation industry is essential for highlighting its broader impacts on regional and state economies, and for supporting efforts to sustain and expand the industry. In 2022, the Michigan Department of Natural Resources (MI DNR) Forest Resources Division commissioned a research team from Michigan State University's Department of Forestry along with collaborators from North Carolina State University, Oklahoma State University, the University of Idaho, SUNY College of Environmental Science and Forestry, and Michigan Biopower to assess the economic contributions of this industry for calendar years 2017 and 2022.

As part of this project, the research team developed a 2022 regional report analyzing the economic contributions of the wood-based biomass power generation industry across a 20-state Northeast and Midwest regions. In addition to the regional analysis, individual state reports are prepared for the participating states which include California, Connecticut, Georgia, Illinois, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Pennsylvania, Vermont, Virginia, and Wisconsin. These reports summarize the industry's economic contributions within each state.

This report presents the results for New York, focusing on the industry's economic role in the state's economy. The sections that follow provide an overview of New York's electric power generation industry, a brief description of the state's forest resources, an explanation of the methods used in this analysis, and a summary of the findings from the 2022 study.

Electric power generation in New York in 2022

In 2022, the electric power industry in New York produced a total of ~125 million Megawatt hours of electricity. Natural gas was the major source of electricity generated across the state followed by hydroelectric, and nuclear power respectively (Figure 4). Out of the total electricity generated, approximately 0.3% or 423 thousand Megawatt hours were produced using wood and wood-derived fuel (Figure 4) (US EIA 2025d).

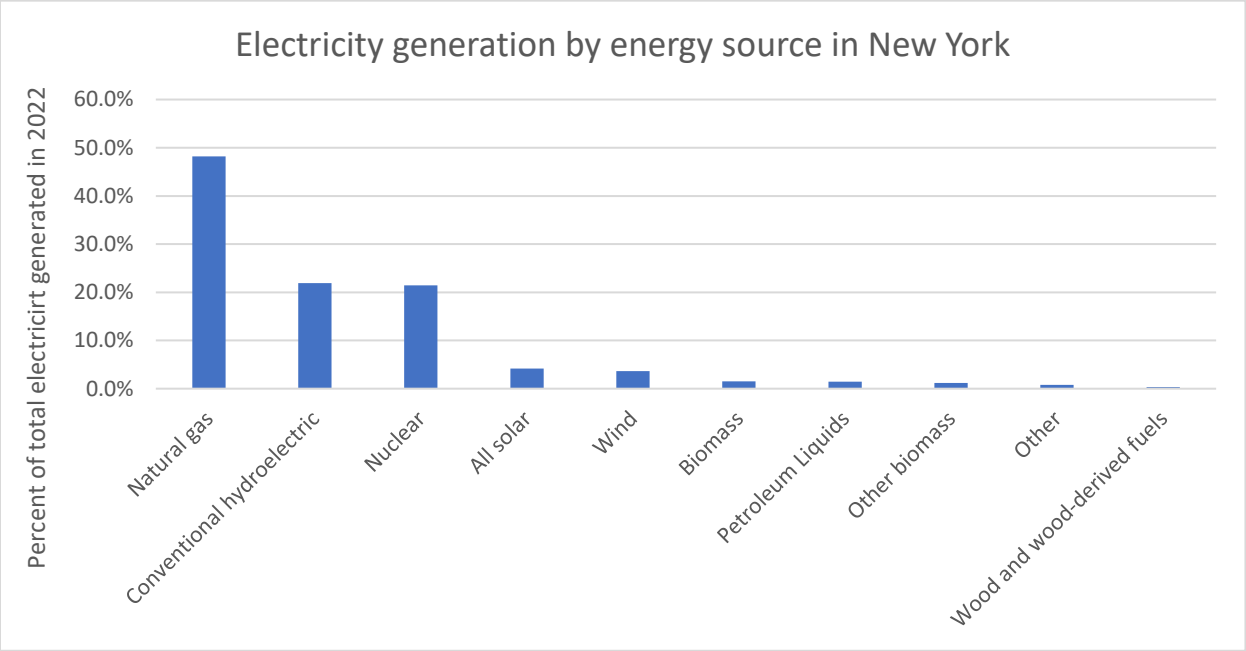

Figure 4. Percentage of total electricity generated in New York in 2022 by energy source (Source: U.S. Energy Information Administration 2025d).

Collectively the electric power generation, transmission, and distribution industry employed 34,285 people in 2022 which is equivalent to 0.27% of total jobs in the state the same year (IMPLAN 2022). The direct economic effects resulting from various power-generating industries within the state including biomass are listed in Table 2.

Table 2. The direct economic effects of power generating industries in New York based on 2022 IMPLAN data.

IMPLAN Sector Code (Electric Power Generation)	Energy Source	Employment	Labor Income	Value-Added	Output
			(Millions of 2022 dollars)		
39	Hydroelectric	416	$127	$234	$386
40	Fossil fuel	1,890	$677	$1,713	$3,473
41	Nuclear	2,328	$866	$1,467	$2,635
42	Solar	627	$161	$311	$532
43	Wind	275	$126	$563	$918
44	Geothermal	-	$-	$-	$-
45	Biomass	107	$44	$91	$179
46	All other	33	$5	$1	$4
47	Electric power transmission and distribution	28,609	$9,050	$22,212	$46,717
	Total electric power generation, transmission, and distribution	34,285	$11,056	$26,592	$54,844
	Total All Sectors	**12,634,862**	**1,195,514**	**1,990,746**	**3,030,945**

Forest Resources of New York

New York is rich in forests. Forestlands cover approximately 18.6 million acres or 59% of the total land area in New York (USDA Forest Service, Forest Inventory and Analysis 2023). Most of the forests in the state (73.5%) are under private ownership, followed by the state and local governments (25.6%), and the federal government (0.9%) respectively (Figure 5). Maple/beech/birch are the major forest types in the state followed by Oak/hickory forest types (Table 3).

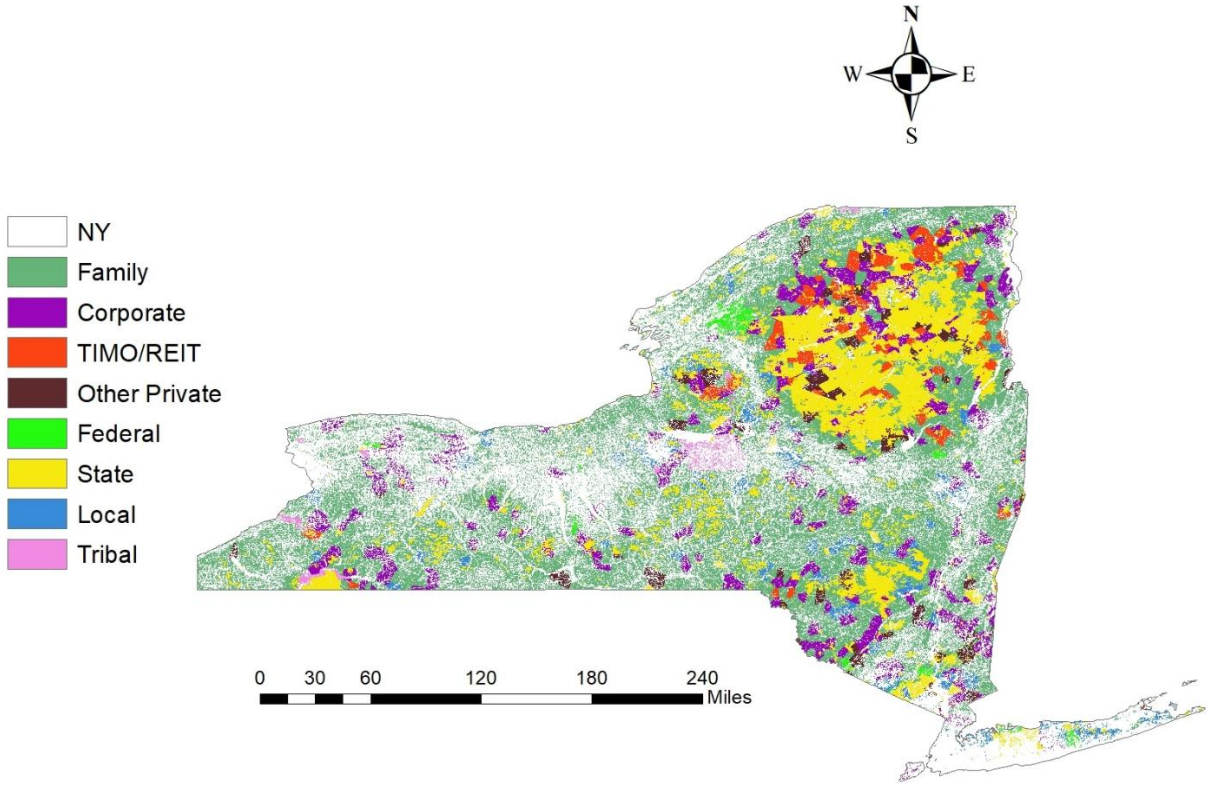

Figure 5. Forest ownership in New York (Data source: Sass et al. 2020).

Table 3. Forestland area in New York by forest type (Source: USDA Forest Service, Forest Inventory and Analysis 2023).

Forest Type Group	Acres	Percentage
Maple /beech /birch group	10,281,867	55%
Oak /hickory group	3,357,131	18%
Elm /ash /cottonwood group	1,188,461	6%
White /red /jack pine group	1,155,918	6%
Spruce /fir group	707,420	4%
Oak /pine group	643,299	3%
Aspen /birch group	475,524	3%
Others	817,508	4%
Total	18,627,128	100%

The merchantable net bole volume of live trees in New York is estimated to be ~35 billion cubic feet (Table 4). The average annual net growth is 720 million cubic feet, annual removals are 257 million cubic feet, and annual mortality is 235 million cubic feet. Annual growth in the timberlands exceeded the removals by a ratio of 2.8, meaning that for each cubic foot of timber harvested in the region, about 2.8 cubic feet of timber grew in the timberlands. However, this ratio varies by ownership type. The growth to removals ratio is 3.3 in private forests, 2.1 in forests under state and local government, and 14.7 in forests under other federal ownership (Table 4). This suggests variation in management focus on timberlands owned by different forest ownership types. Across the state, the annual removals are close to 0.7% of the standing volume and annual mortality in the timberlands is slightly less than annual removals (Table 4).

Table 4. Characteristics of state growing stock in New York in 2023 (million cubic feet) (Source: USDA Forest Service, Forest Inventory and Analysis 2023).

Ownership	Net Volume	Annual Net Growth	Annual Removals	Annual Mortality	Growth/Removals
Total	35,290	720	257	235	2.8
National Forest	46	1	-	0	NA
Other federal	242	5	0	1	14.7
State and local	4,657	87	42	31	2.1
Private	30,345	627	191	201	3.3

Methods

The analysis was conducted using impact analysis for planning (IMPLAN) software and 2022 IMPLAN data using the Analysis-by-Parts (ABP) technique accomplished through detailed industry impact analysis activity type in IMPLAN. The ABP technique was chosen because it allows the user to create a customized industry sector by using the information about that sector's budgetary spending pattern and labor income (Lucas 2022). So far IMPLAN does not have a separate sector to represent wood-based biomass power generation. Instead, it is incorporated as a part of the electric power generation using the biomass industry. This means that it includes power generation from all sources of biomass including agricultural byproducts, landfill gas, municipal solid waste, woody biomass, black liquor, and sludge waste. To separate the economic contributions associated with wood-based power generation from power generation using all forms of biomass, the analysis-by-parts (ABP) technique was used. The resulting economic contributions are measured in terms of full- and part-time employment, industry output, value-added, labor income, other property income, and business taxes.

The information about industry spending patterns for the biomass power generation industry using woody biomass was obtained from Dahal et al. (2020) and corroborated or supplemented (where applicable) with the information collected through the mail survey of biomass power generation plants located in the twenty state Northeast-Midwest region. In fall 2022 and 2024, Michigan Department of Natural Resources conducted a mail survey of 120 biomass power industries located in the 20-state Northeast-Midwest region along with California, Georgia, and Virginia to collect the financial and resources utilization data for the year 2017 and 2022 respectively. Overall, 11 responses were obtained in the 2022 survey (9.2% response rate), and five responses were obtained in the 2024 survey (4.2% response rate). The data obtained from these responses were used to inform and supplement the industry spending pattern for wood-based biomass power generation industries for regional and state level reports for participating states. The average operation and maintenance expenditure for the wood-based biomass power generation industry used for the economic contribution analysis is listed in Table 5.

The 2024 survey asked respondents to indicate the total amount of electricity produced in 2022 using wood and wood-derived fuel along with the total cost of production. This information was used to estimate the cost per megawatt hour of electricity produced. It was estimated to be $87/MWh on average when weighed by the size of production for respondents who responded to the survey. This cost falls within the range of levelized cost of electricity generation from biomass ($77.16 to $95.16) as listed by the US energy information administration in the Annual Energy Outlook (2023). Hence, we used $87/MWh of electricity production as the cost of generating biopower from woody biomass for our 2022 analysis. The details of the survey method along with the information collected are included in the twenty-state Northeast-Midwest biopower economic contribution analysis report.

The per unit cost of electricity produced using wood and wood-derived fuel was multiplied by the total electricity produced using wood and wood-derived fuel within a state to obtain the direct output from the wood-based biomass power-generating industry in that state. Information about the total electricity produced by the electric power generation industry using wood and wood-derived fuels in 2022 was obtained from US EIA (2025d).

In New York, 0.4 million Megawatt hours of electricity were generated using wood and wood-derived fuel in 2022. At the rate of $87/MWh of electricity produced, this translated into a direct output of $36.8 million for the wood-based biomass power generation industry in the state. Direct output was then allocated into intermediate inputs and value-added following the percentage breakdown of output into its component parts for IMPLAN sector 45 (electricity generation using biopower industry) using 2022 IMPLAN data for New York. According to it, approximately 50.9% of the output of the biomass power generation industry was comprised of intermediate inputs and 49.1% was value-added. Value added was further broken into employee compensation (14.0%), proprietor income (10.7%), other property type income (17.4%), and taxes on production and imports (8.8%) following IMPLAN sector 45's percentage breakdown for Connecticut. To estimate direct employment, the industry's total output was divided by the output per worker value for IMPLAN sector 45 (from New York's 2022 dataset). Using this method, the wood-based biomass power generation industry directly supported an estimated 22 jobs in New York in 2022.

When estimating the economic contribution of the biomass power generation industry in IMPLAN using the ABP technique, the local purchase percentage (LPP) for all other items in the industry spending pattern except woody biomass, was set to default SAM value. For woody biomass, LPP was set to 100%. This is because all wood used by the biomass power generation industry is sourced locally as per the findings obtained from the mail survey (within 60 miles radius). Since it is not possible to precisely identify the location of production, transport, and purchase of other items included in the industry spending pattern for the wood-based biomass power generation industry, LPP was set to default SAM values for those items. Like Dahal et al. (2020), we estimated total taxes (including emission fee) to be 1.85% of total operation and maintenance cost, which amounted to $680,819. This was modeled separately, and the resulting indirect and induced effects obtained from tax contributions were added to the total economic contribution summary for the state.

Table 5. Percentage distribution of annual operation and maintenance expenditures for the wood-based biomass power generation industry. Percentages are based on Dahal et al. (2020) and supplemented with data collected from a mail survey of wood-based power generation facilities in the Northeast and Midwest United States.

IMPLAN Sector	Cost category (sector)	Percentage
16	Biomass	58.6%
20	Natural Gas	0.05%
39	Utilities	2.8%
49	Water	1.6%
60	Building expenses	0.4%
154	Oil and diesel	0.8%
162	Chemical	1.3%
167	Supplies (consumable, urea, ammonia)	1.9%
384	Office supplies and expenses	0.2%
408	Gasoline (retail)	0.1%
433	Communication	0.2%
444	Insurance	1.6%
453	Equipment rental	0.1%
457	Outside support services (water treatment, vendor services)	0.6%
462	Consulting fees	0.4%
470	Office administrative service	1.0%
474	Travel and entertainment	0.1%
476	Janitorial	0.3%
479	Ash freight and waste management	3.0%
512	Vehicle repair	0.1%
515	Maintenance	7.2%
50001	Employee compensation	15.6%
	Total taxes (including emission fee)	1.8%
	Total operation and maintenance cost	100.0%

Results

The results obtained from the economic contribution analysis indicated that in New York, the wood-based biomass power generation industry directly employed 22 individuals in 2022 with a labor income of $9.1 million, value-added of $18.7 million, and an output or sales of $36.8 million in 2022 US dollars (Table 6). Including ripple effects, the industry supported a total of 224 jobs with $21.1 million in labor income. The industry contributed a total of $36.4 million in value-added and $65.4 million in total output to the economy of New York (Table 6). The top three industries affected in terms of employment by wood-based biomass power generation industry in the state include commercial logging (IMPLAN sector 16), electric power generation using biomass sector (IMPLAN sector 45), and support activities for agriculture and forestry (IMPLAN sector 19).

SAM multiplier for industry output across the state was estimated to be 1.8. This means that every $1 million in output in the state's wood-based biopower industry supported an additional $800 thousand in output to the rest of the economy. Likewise, the SAM multiplier for employment, labor income and value added were estimated to be 10.1, 2.3, and 1.9 respectively. The relatively high employment multiplier compared to output, labor income, and value-added multipliers, reflect the biomass power industry's supply chain and spending patterns. It reflects the wood-based biomass power sector's dependence on labor-intensive upstream industries, especially commercial logging and forestry support services. These industries generate many jobs per dollar of spending, but with relatively modest wages and value added per worker. Additional induced effects in service industries such as hospitals, restaurants, and retail further increase job counts. Consequently, employment multipliers are substantially higher than output, labor income, or value-added multipliers. It should be noted that IMPLAN employment is jobs including part-time, seasonal workers and proprietors head count, hence sectors that add lots of part-time, low-hour service jobs tend to increase the employment count though labor income and output remain modest.

The wood based biopower industry in New York contributed about $5.5 million in annual state and local taxes and $5.2 million in federal taxes in 2022 (Table 7).

Compared to 2017, in 2022, direct employment in wood-based biomass power generation industry in New York declined by 49% (from 44 employees in 2017 to 22 employees in 2022) and direct output declined by 15% (from $43.3 million in 2017 to $36.8 million in 2022). Similarly, total employment declined by 50% and output declined by 28% in 2022 compared to 2017.

Table 6. Economic contributions of wood-based biomass power generation industry in New York in 2022 US dollars using IMPLAN software and 2022 IMPLAN data.

	Economic Contributions of Wood-based Biomass Power Generation Industry				
		Employment	**Labor Income**	**Value-added**	**Output**
States Included		**(Jobs)**		**($MM 2022)**	
New York	Direct Contributions	22	$9.1	$18.7	$36.8
	Indirect Contributions	141	$7.4	$9.4	$15.9
	Induced Contributions	61	$4.7	$8.3	$12.6
	Total Contribution	224	$21.1	$36.4	$65.4
	SAM Multiplier	10.1	2.3	1.9	1.8

Table 7. Total tax contributions of wood-based biomass power generation Industry in New York in 2022 US dollars ($MM) using 2022 IMPLAN data.

Impact Type	Sub-county general	Sub-county special districts	County	State	Federal	Total
Direct	$1.43	$0.56	$0.40	$1.39	$2.31	$6.09
Indirect	$0.24	$0.07	$0.05	$0.42	$1.69	$2.46
Induced	$0.35	$0.12	$0.08	$0.42	$1.17	$2.13
Total	$2.02	$0.75	$0.53	$2.22	$5.17	$10.68

Table 8. The top five industries affected in terms of employment by wood-based biomass power generation industry in New York in 2022

		Impact			
	Industry affected (IMPLAN Sector)	Direct	Indirect	Induced	Total
1	Commercial logging (16)	0	97	0	97
2	Electric power generation – Biomass (45)	22	0	0	22
3	Support activities for agriculture and forestry (19)	0	12	0	12
4	All other crop farming (10)	0	6	0	6
5	Commercial and industrial machinery and equipment repair and maintenance (515)	0	5	0	5

Summary

This study assessed the economic contributions of wood-based biomass power generation industry in New York using IMPLAN, an input-output analysis software and 2022 IMPLAN data. It provides a snapshot of the economic effects of wood-based biomass power generation industry in terms of employment generated, value-added contributed and output produced using analysis by parts technique. The ABP technique was used to separate the economic contributions of wood-based biomass power generation from the contributions of biomass power generation in general, which also includes biomass sources other than wood and wood-derived fuel. The wood-based biomass power generation industry in New York was found to directly support 22 jobs and contribute $36.8 million in output to the state's economy. Including direct, indirect, and induced effects, the industry contributed a total of 224 jobs and $65.4 million in output in New York.

Compared to 2017, in 2022, direct employment in wood-based biomass power generation industry in New York declined by 49% (from 44 employees in 2017 to 22 employees in 2022) and direct output declined by 15% (from $43.3 million in 2017 to $36.8 million in 2022). Similarly, total output decreased by 50% and total employment declined by 28% in 2022 compared to 2017.

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