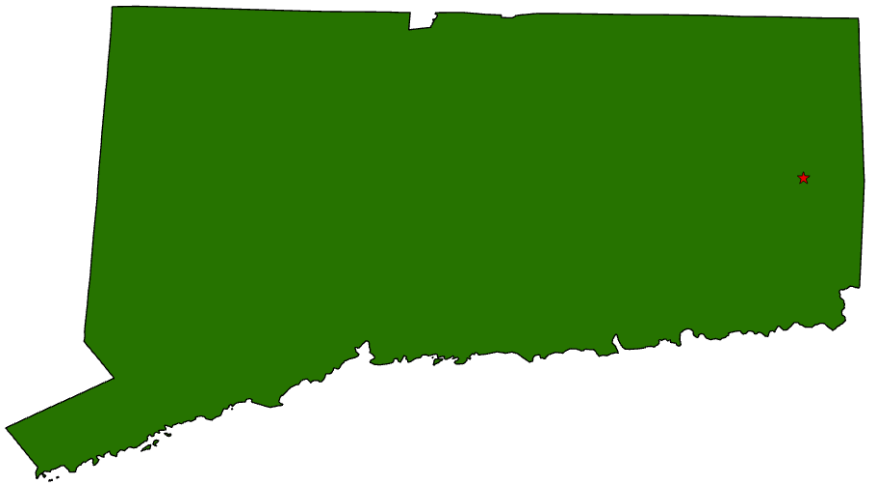
Economic Contributions of Wood-based Biomass Power Generation Industry in Connecticut
2022 Version



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Executive Summary

Decarbonizing Connecticut's electricity sector requires increased reliance on renewable energy sources, including biomass. As of 2023, about 60% of the state's electricity was generated from natural gas, 33% from nuclear power, and only 7% from renewables, primarily solar. Biomass accounted for 1.5% of total electricity generation, mostly from municipal solid waste, followed by wood and wood-derived fuels. 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 2022, Connecticut generated approximately 105,000 megawatt-hours (MWh) of electricity from wood and wood-derived fuels, a nearly 50% 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 Connecticut directly employed 6 individuals and generated $9.1 million in direct economic output. When accounting for indirect and induced effects, the industry supported a total of 57 jobs and contributed $17.7 million in total economic output to the state's economy. The industry also generated an estimated $1.7 million in state and local tax revenues and $1.4 million in federal tax revenues. The social accounting matrix (SAM) multiplier for industry output was calculated at 1.9, indicating that every $1 million in direct output from the wood-based biopower sector supported an additional $900,000 in economic activity across other sectors. The top three industries most affected by this activity, beyond the biomass power sector itself, were commercial logging, support activities for agriculture and forestry, and commercial and industrial machinery and equipment repair and maintenance industry.

In comparison, the wood-based biomass power generation industry in Connecticut directly employed 16 individuals and generated $14.5 million in direct output (in 2022 dollars) in 2017. Between 2017 and 2022, direct employment in the industry declined by 63%, while direct output decreased by 37%. Similarly, total employment supported by the industry, including indirect and induced jobs, fell by 64%, and total economic output declined by 43% 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.

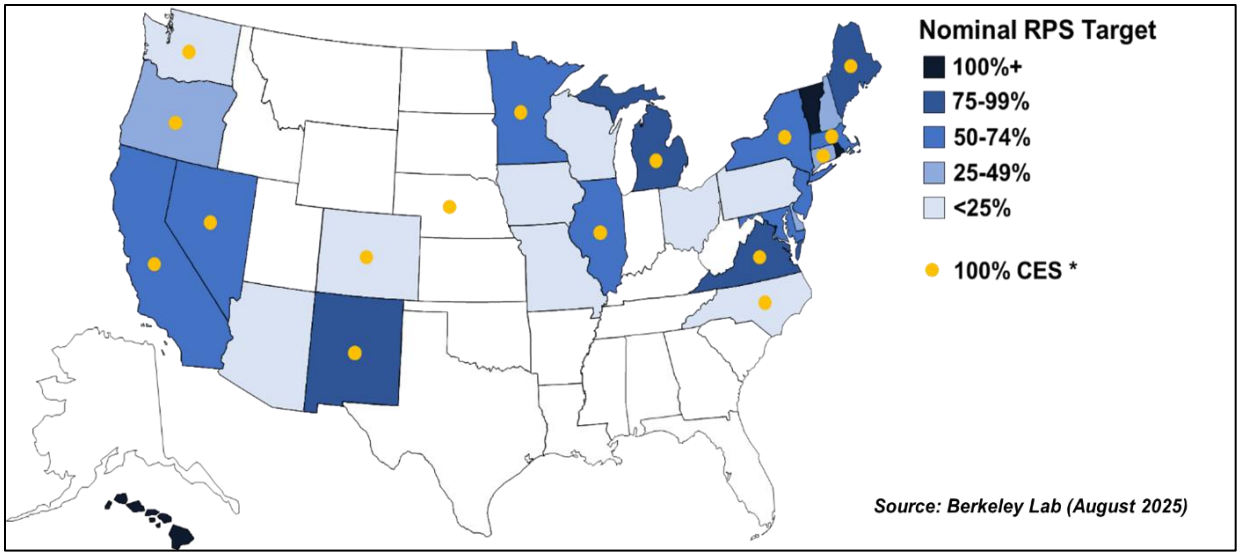

Figure1. Map of US depicting states with 100% Clean Energy Standards (CES) and associated Renewable Portfolio Standard targets (Source: Lawrence Berkeley National Laboratory, 2025).

Connecticut's strong state and local policies play a crucial role in accelerating the transition toward renewable electricity, complementing national trends. The state first established its RPS in 1998, with several revisions in subsequent years. Currently, the RPS mandates that renewable energy, primarily class I resources like solar, wind, and sustainably sourced biomass, supply approximately 48% of the state's electricity by 2030 (DSIRE 2025). Furthermore, in 2019 Governor Ned Lamont issued Executive Order No. 3, calling for Connecticut's electricity supply to be 100% zero-carbon by 2040, a goal later reinforced through legislation in 2022, positioning the state alongside others targeting full decarbonization of the power sector (Clean energy states alliance 2025). This directive dovetails with broader national clean energy momentum and magnifies the RPS's impact locally, pushing utilities and energy projects to align with ambitious renewable and carbon-free targets.

In 2023, approximately 7% of Connecticut's total electricity generation came from renewable sources, with solar energy contributing the largest share. Biomass accounted for about 1.5% of the state's renewable electricity, and 39% of that biomass-derived electricity originated from wood and wood-derived fuels (U.S. 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 Connecticut, woody biomass contributed approximately 0.6% of the state's total electricity production in 2017, declining to about 0.2% in 2022 before rebounding slightly to 0.5% in 2024 (U.S. 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 Connecticut, one wood-based biomass power facility has remained operational since 2017 (Figure 3), although the volume of electricity it produces has varied over time. Table 1 provides the name, location, sector classification, and full fuel portfolios of Connecticut's biopower facility using wood and wood-derived fuels in 2022.

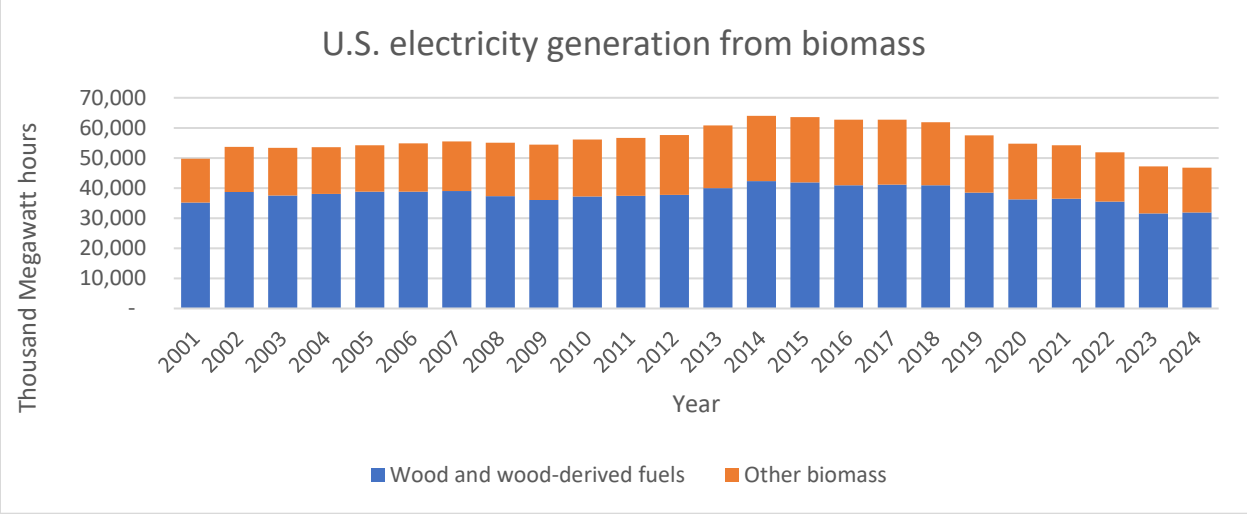

Figure 2. U.S. electricity generation from biomass, 2001 to 2024. (Source: U.S. Energy Information Administration 2025d).

Figure 3. Map depicting the location of wood-based biomass power plant in Connecticut in 2022 (Source: U.S. Energy Information Administration 2025d).

Table 1: Description of Connecticut's power plant using wood-based fuels in 2022.

Plant Name	Street Address	City	County	Sector Name	Fuel Type Used*
Plainfield Renewable Energy LLC	Millbrook Road	Plainfield	Windham	IPP Non-CHP	OBL,WDS

*Fuel Type Codes: OBL = Other biomass liquids; WDS = Wood and Wood-Derived Solids

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 Connecticut, focusing on the industry's economic role in the state's economy. The sections that follow provide an overview of Connecticut'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 Connecticut in 2022

In 2022, the electric power industry in Connecticut produced a total of 43.1 million Megawatt hours of electricity. Natural gas was the major source of electricity generated across the state followed by nuclear power (Figure 4). Out of the total electricity generated, approximately 0.2% or 0.1 million Megawatt hours were produced using wood and wood-derived fuel (Figure 4) (US EIA 2025d).

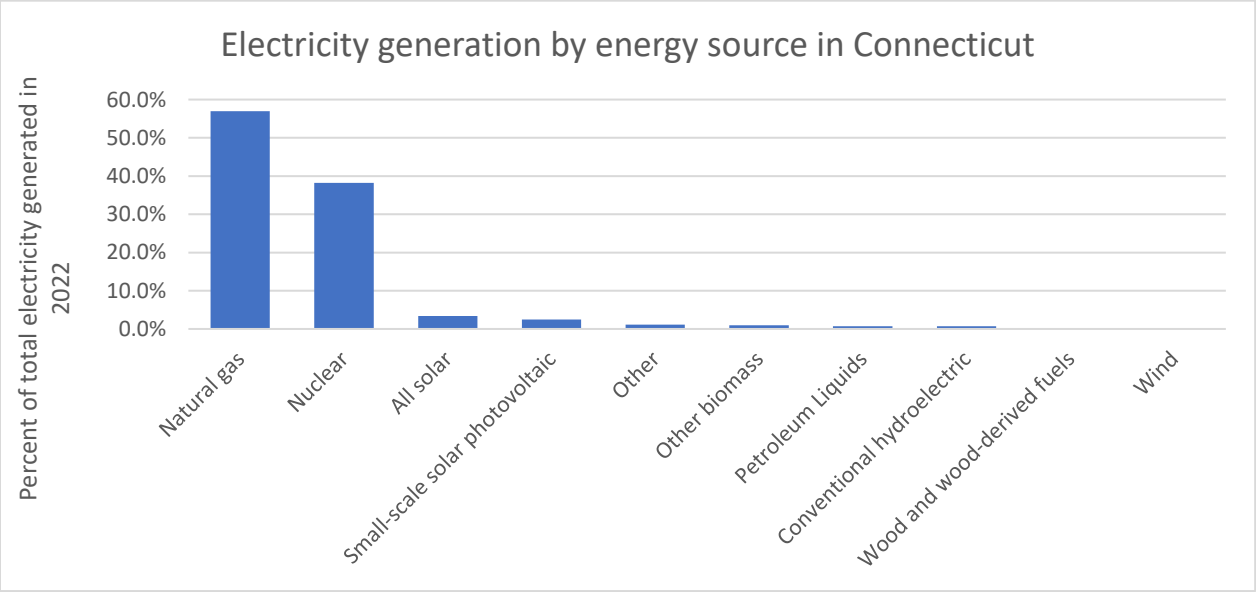

Figure 4. Percentage of total electricity generated in Connecticut in 2022 by energy source (Source: U.S. Energy Information Administration 2025d).

Collectively the electric power generation, transmission, and distribution industry employed 4,162 people in 2022 which is equivalent to 0.18% 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 Connecticut based on 2022 IMPLAN data.

IMPLAN Sector Code	**Energy Source**	**Employment**	**Labor Income**	**Value-Added**	**Output**
(Electric Power Generation)			(Millions of 2022 dollars)		
39	Hydroelectric	47	$7	$26	$44
40	Fossil fuel	327	$65	$371	$675
41	Nuclear	1,022	$218	$679	$1,191
42	Solar	85	$13	$46	$76
43	Wind	-	$-	$-	$-
44	Geothermal	-	$-	$-	$-
45	Biomass	54	$9	$41	$85
46	All other	-	$-	$-	$-
47	Electric power transmission and distribution	2,627	$517	$2,784	$5,035
	Total electric power generation, transmission, and distribution	4,162	$829	$3,947	$7,106
	Total All Sectors	**2,341,078**	**199,235**	**326,858**	**531,958**

Forest Resources of Connecticut

Forestlands cover approximately 55% of the total land area in Connecticut (USDA Forest Service, Forest Inventory and Analysis 2023). Most of the forests in the state (71%) are under private ownership, followed by the state and local governments (28%), and the federal government (0.5%) respectively (Figure 5). Oak/hickory are the major forest type groups found in the state followed by Elm/ash/cottonwood forest type groups (Table 3).

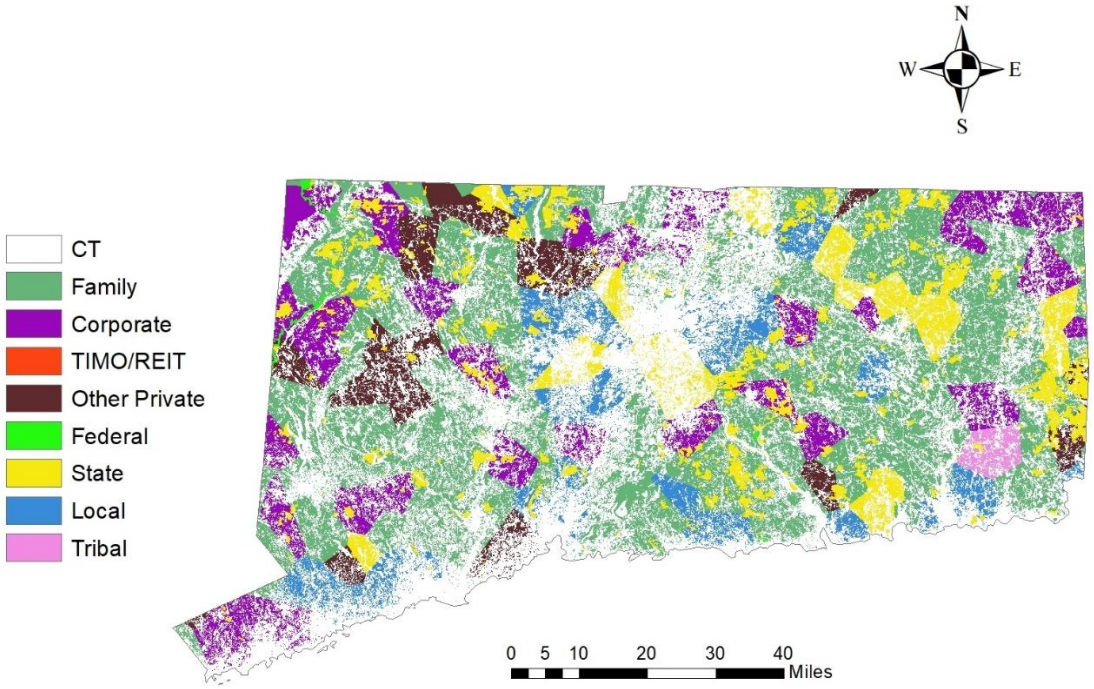

Figure 5. Forest ownership in Connecticut (Data source: Sass et al. 2020).

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

Forest Type Group	Acres	Percentage
Oak/hickory group	1,173,034	67%
Elm/ash/cottonwood group	134,232	8%
Maple/beech/birch group	123,220	7%
Other hardwoods group	92,643	5%
Oak/pine group	78,937	4%
White/red/jack pine group	69,320	4%
Oak/gum/cypress group	34,806	2%
Nonstocked	30,555	2%
Others	26,183	1%
Total	1,762,930	100%

The merchantable net bole volume of live trees in Connecticut is estimated to be ~4.6 billion cubic feet (Table 4). The average annual net growth is 66 million cubic feet, annual removals are 17 million cubic feet, and annual mortality is 33 million cubic feet. Annual growth in the timberlands exceeded the removals by a ratio of 3.9, meaning that for each cubic foot of timber harvested in the region, about 3.9 cubic feet of timber grew in the timberlands. The growth to removals ratio is 7.9 in the case of private forests and 4.9 in forests owned by the state and local government (Table 4). Annual mortality in Connecticut's timberlands is almost double the removals. Across the state, the annual removals are less than 1% of the standing timber volume (Table 4).

Table 4. Characteristics of state growing stock in Connecticut 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	4,585	66	17	33	3.9
Other federal	24	-	-	-	-
State and local	1,342	23	5	8	5.0
Private	3,219	42	5	25	7.9

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 Connecticut, 105 thousand 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 $9.1 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 Connecticut. According to it, approximately 51.7% of the output of the biomass power generation industry was comprised of intermediate inputs and 48.3% was value-added. Value added was further broken into employee compensation (9.4%), proprietor income (0.7%), other property type income (25.6%), and taxes on production and imports (12.6%) following IMPLAN sector 45's percentage breakdown for Connecticut. To estimate employment, the industry's total output was divided by the output per worker value for IMPLAN sector 45 (from Connecticut's 2022 dataset). Using this method, the wood-based biomass power generation industry directly supported an estimated 6 jobs in Connecticut 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 $168,998. 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 Connecticut, the wood-based biomass power generation industry directly employed 6 individuals in 2022 with a labor income of $0.9 million, value-added of $4.4 million, and an output or sales of $9.1 million in 2022 US dollars (Table 6). Including ripple effects, the industry supported a total of 57 jobs with $5.4 million in labor income. The industry contributed a total of $10.2 million in value-added and $17.7 million in total output to the economy of Connecticut (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 1.9. This means that every $1 million in output in the state's wood-based biopower industry supported an additional $900 thousand in output to the rest of the economy. Likewise, the SAM multiplier for employment, labor income, and value added were estimated to be 9.5, 5.9 and 2.3 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 Connecticut contributed about $1.7 million in annual state and local taxes and $1.4 million in federal taxes in 2022 (Table 7).

Compared to 2017, in 2022, direct employment in wood-based biomass power generation industry in Connecticut declined by 63% (from 16 employees in 2017 to 6 employees in 2022) and direct output declined by 37% (from $14.5 million in 2017 to $9.1 million in 2022). Similarly, total employment declined by 64% and output declined by 43% in 2022 compared to 2017.

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

	Economic Contributions of Wood-based Biomass Power Generation Industry				
States Included		**Employment (Jobs)**	**Labor Income**	**Value-added ($MM 2022)**	**Output**
Connecticut	Direct Contributions	6	$0.9	$4.4	$9.1
	Indirect Contributions	34	$3.3	$3.7	$5.3
	Induced Contributions	17	$1.2	$2.1	$3.3
	Total Contribution	57	$5.4	$10.2	$17.7
	SAM Multiplier	9.5	5.9	2.3	1.9

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

Impact Type	Sub-county general	Sub-county special districts	County	State	Federal	Total
Direct	$0.64	$0.01	-	$0.58	$0.36	$1.58
Indirect	$0.06	$0.00	-	$0.15	$0.76	$0.97
Induced	$0.10	$0.00	-	$0.13	$0.33	$0.57
Total	$0.79	$0.02	-	$0.86	$1.45	$3.12

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

		Impact			
	Industry affected (IMPLAN Sector)	**Direct**	**Indirect**	**Induced**	**Total**
1	Commercial logging (16)	0	21	0	21
2	Electric power generation – Biomass (45)	6	0	0	6
3	Support activities for agriculture and forestry (19)	0	4	0	4
4	Commercial and industrial machinery and equipment repair and maintenance (515)	0	2	0	2
5	All other crop farming (10)	0	1	0	1

Summary

This study assessed the economic contributions of wood-based biomass power generation industry in Connecticut 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 Connecticut was found to directly support 6 jobs and contribute $9.1 million in output to the state's economy. Including direct, indirect, and induced effects, the industry contributed a total of 57 jobs and $17.7million in output in Connecticut.

Compared to 2017, in 2022, direct employment in wood-based biomass power generation industry in Connecticut declined by 63% (from 16 employees in 2017 to 6 employees in 2022) and direct output declined by 37% (from $14.5 million in 2017 to $9.1 million in 2022). Similarly, total employment declined by 64% and output declined by 43% in 2022 compared to 2017.

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