Forest Products Industries' Economic Contributions: Connecticut, 2023

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Foreword

With approximately 0.8 billion trees in Connecticut—roughly 225 trees per resident—Connecticut residents are forest dwellers. Trees and forests significantly contribute to our quality of life by providing a variety of ecosystem services, including filtering air, moderating temperatures, sequestrating and storing carbon, as well as creating stormwater flows, wildlife habitats, and, more aesthetically, our iconic annual display of fall colors. Connecticut's trees and forests are some of the most diverse in the nation. Whether in an urban, suburban, or rural setting, trees make Connecticut an attractive place to live, work, and play.

But for every advantage of our trees and forests, there are also challenges. Forest land conversion to commercial or residential use, invasive species, unusual weather patterns, and unprecedented wind events stress the very survival of our beloved landscape. Ironically, the very survival of our trees and forests depends on a robust forest products industry.

Foresters have a saying: no markets equates to no management. This means that individual tree and woodland owners need forest products markets to maintain vibrant and healthy trees and forests. The inability to respond to challenges results in a disincentive for woodland owners to keep their forests as forests and increases wood waste disposal costs for tree owners.

Connecticut forests' suite of ecosystem services directly correlates to the health and vibrancy of Connecticut's forest products industry. Although a small state, Connecticut contributes to and receives forest products from the northeast wood basket, which helps meet the world's forest products needs with local sustainably harvested trees, offsetting illegal and environmentally damaging forest practices in other less-regulated countries.

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Executive Summary

Based on 2023 FIA estimates, Connecticut contains approximately 1.79 million acres of forest land, accounting for about 58.0 percent of the state's total land area of 3.08 million acres. Of this forest base, 98.2 percent (1.75 million acres) is classified as timberland, defined as forest land capable of producing commercial volumes of wood, while the remaining 1.8 percent (31,793 acres) consists of reserved or low-productivity forestland. Non-forest land comprises approximately 1.29 million acres, or 42.0 percent of Connecticut's total land area. Building on this land base, this report evaluates the economic contribution of Connecticut's forest products manufacturing sector using IMPLAN data, with particular emphasis on employment, output, value added, and Labor Income trends. The analysis incorporates a time series covering the pre- and post-COVID period (2017–2023) to document changes in production levels and labor productivity over time.

Forest Product Industries

This report analyzes the economic contribution of Connecticut's forest products sector, comprised of 26 individual economic sectors aggregated into seven industry groups: Forestry, Logging, Primary solid wood products, Secondary solid wood products, Wood furniture, Pulp, paper, and paperboard mills, and Secondary paperboard and other paper products. In 2023, these industries directly supported 6,930 jobs and generated $3.20 billion in output, $1.15 billion in value added, and $595.2 million in Labor Income. When indirect supply-chain linkages and induced household-spending effects are included, the sector's total economic footprint reached 14,526 jobs, $4.97 billion in output, $2.24 billion in value added, and $1.23 billion in Labor Income. The sector exerts a notable multiplier effect (2.10) on the broader economy; for every 100 direct jobs in the forest industry, roughly 110 additional jobs are supported elsewhere in the state.

Leading Forest Products Industry Groups (direct contribution)

Among the seven aggregated groups, Secondary Paperboard and Other Paper Products was the largest direct employer in 2023 (2,159 jobs), followed closely by Wood Furniture (2,041 jobs) and Secondary Solid Wood Products (1,288 jobs). In terms of output, Secondary Paperboard and Other Paper Products produced the highest direct output at $1.33 billion, serving as the sector's primary revenue driver. Pulp, Paper, and Paperboard Mills followed with $851.0 million, highlighting the state's strength in capital-intensive manufacturing. Forestry, while the smallest contributor in dollar terms ($12.7 million), provided the essential management and biological services supporting the broader value chain.

Leading Individual Forest Products Sectors (direct contribution)

At the disaggregated level, Paperboard container manufacturing stood out as the top individual employer with 1,202 jobs. This sector also secured financial dominance, ranking first in Direct Output ($776.0 million) and Labor Income ($112.2 million). Wood kitchen cabinet and countertop manufacturing was a consistent top-tier performer, ranking second in Employment (848 jobs), reflecting the state's skilled labor base in secondary woodworking. However, in terms of wealth creation, Paper mills emerged as a major driver, ranking first in Value Added ($292.9 million) and second in Output ($749.4 million) despite having a smaller workforce (755 jobs). These rankings show a downstream-focused economy where specialized packaging and automated paper manufacturing dominate over primary processing.

Connecticut's Forest Products Industries Compared to Other Connecticut Industries

The Forest Products sector remains a vital component of Connecticut's natural resource economy. In 2023, it ranked second in employment among natural resource sectors, trailing Agriculture (11,337 jobs) but more than doubling the workforce of Mining (3,117 jobs). However, in terms of gross revenue, the Forest Products sector ranked first, with its direct output of $3.20 billion surpassing Mining ($2.86 billion) and significantly outperforming Agriculture ($800.2 million). Furthermore, within the statewide manufacturing landscape, Forest Products ranked as the ninth largest manufacturer by employment and tenth by output, positioning it as a specialized, high-efficiency industrial segment amidst the state's larger transportation and chemical manufacturing sectors.

Five-years Trends in Connecticut's Forest Products Industries Economic Contribution

From 2017 to 2023, the sector demonstrated a significant structural shift toward "capital deepening" and increased productivity. Direct employment decreased by 10.4 percent, while direct output increased by 5.6 percent in real terms. Notably, real Value Added surged by 39.2 percent despite the contraction in the workforce. This trend shows a sharp divergence in the state's forest economy, where efficiency gains and high-value manufacturing have allowed the industry to generate significantly more wealth per unit of production, stabilizing the sector as a highly productive economic anchor.

Glossary

Forestry Terms

Average annual harvest removals: The estimated volume of trees that were live at the time of the previous inventory and were either cut and removed by direct human activity related to harvesting or died as a result of silvicultural or land-clearing activity by the time of the current inventory.

Average annual mortality: The volume of trees that were live at the time of the previous inventory and are dead in the current inventory.

Average annual net growth: The change in merchantable bole volume of growing-stock trees (at least five inches diameter at breast height [DBH]) after deducting mortality volume, in cubic feet, on forest land.

Forest land: Land that is at least 10 percent stocked by trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and non-forested lands that are at least 10 percent stocked with trees and forest areas adjacent to urban and built-up lands, including pinyon-juniper and chaparral areas in the western U.S., and afforested areas. The minimum area for classification of forest land is one acre and 120 feet wide, measured stem-to-stem from the outermost edge. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest land if less than 120 feet wide.

Growing stock: Live trees of commercial species that meet minimum merchantability standards (at least five inches DBH). In general, these trees have at least one solid eight-foot section, are reasonably free of form defect on the merchantable bole, and at least 34 percent or more of the volume is merchantable. Excludes rough or rotten cull trees.

Timberland: A subset of forest land that produces or can produce crops of industrial wood and is not withdrawn from timber utilization by statute or administrative regulation. (Note: Areas qualifying as timberland can produce at least 20 cubic feet per acre per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.)

Economic Contribution Terms

Direct effects/contributions: The direct contribution represents the economic activities (output, employment, Labor Income, and Value-Added) that occur within an industry or sector as a result of its existing production to satisfy current (exogenous) final demand. In contribution analysis, the direct effect corresponds to the sector's own production activities that maintain the structure of the regional economy. For example, the direct contribution of the forest products industry reflects its ongoing production and employment required to meet current local and export demand for forest-based goods.

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

Indirect effects/contributions: The indirect contribution captures the inter-industry linkages created when the industry purchases goods and services from other local industries. These transactions stimulate additional production, employment, and income along the supply chain. For instance, demand for wood products generates additional output in sectors such as transportation, wholesale trade, and equipment manufacturing that supply inputs to the forest industry. The magnitude of indirect contribution reflects the degree of interdependence and strength of local supply-chain relationships.

Induce effects/contributions: The induced contribution measures the additional economic activity generated by household spending of Labor Income earned through direct and indirect effects. When workers employed in the forest products and related supply-chain sectors spend their income on goods and services, such as housing, healthcare, or retail, it further stimulates regional economic activity. This household feedback effect represents the cyclical flow of income and expenditures within the economy.

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.

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 region equals the total GSP.

Introduction

Forest products industries are an integral component of Connecticut's economy. They provide jobs, raw materials, and finished goods that generate additional economic activity throughout the state, region, and nation. Forests in Connecticut have always supported local and state economies and generated employment and income (Leefers 2014, 2015; Poudel, 2022). These forests form the foundation for a wide array of industries, supporting logging, sawmills, pulp and paper, wood products manufacturing, and furniture production. Collectively, the Forest Products Industry (FPI) contributes directly to the economic development of the region, while also supporting rural livelihoods, providing raw materials for construction and packaging, and generating substantial downstream linkages to other industries (Poudel and Dahal 2025; Lamsal et al. 2025a). The scale and diversity of activities across the FPI underscore its role as a major part of the broader manufacturing economy, contributing to value added and sustaining consumer demand (Lamsal et al. 2025b).

A state report on FPI contributions on Connecticut was previously published by Leefers et al. (2020) using 2017 IMPLAN data. The present update extends that effort using 2023 data, allowing for a comparison across time. This analysis measures how the performance of forest sector industries in Connecticut has shifted between 2017 and 2023 in terms of employment, output, Labor Income, and the Gross State Product (GSP), also known as value added[1]. Tracking these changes is essential, as it provides a clear picture of both long-term trends and the more recent disruptions caused by the COVID-19 pandemic. The pandemic had economy-wide effects on supply chains, consumer demand, and labor markets (Poudel and Dahal 2025; Lamsal et al. 2025b), and this report therefore captures the pre- and post-COVID conditions of the FPI within the region.

This trend analysis can be used in multiple ways by related stakeholders. For policymakers, it offers a benchmark for monitoring the health of one of the region's key resource-based industries and helps inform workforce development, investment, and rural economic policies. For industry stakeholders, it provides insight into productivity, competitiveness, and sectoral resilience, supporting strategic planning. For researchers and forest managers, it offers a consistent regional framework that connects forest resources with industrial performance and economic outcomes.

[1] The 2017 results in this report are based on data from the IMPLAN Pro desktop version, whereas the 2018–2023 results are based on the IMPLAN web platform. Because there are minor differences between the Pro and web versions, the 2017 estimates shown here may not exactly match 2017 results reproduced from the web version. To maintain consistency with the original 2017 report and ensure a valid basis for comparison and trend analysis, we use the original 2017 IMPLAN Pro data, and IMPLAN web data for all years from 2018 through 2023.

The inventory data used in this report were sourced from the U.S. Forest Service Forest Inventory and Analysis (FIA) database and the economic data were obtained from Impact Analysis for Planning (IMPLAN). These data and related information are presented in four major sections: (i) Forest Resources of Connecticut, (ii) Economic Contributions of the Connecticut FPIs, (iii) Comparing FPIs with other industries and neighbor states, and (iv) Summary. We acknowledge that, due to rounding, some values in the tables and figures may not sum to the exact total indicated.

Forest Resources of Connecticut state

According to 2023 estimates from the USDA Forest Inventory and Analysis (FIA) program, Connecticut's total land area totals 3,077,786 acres. Of this total, 1,785,772 acres (58.0 percent) meet the FIA definition of forest land, while the remaining 1,292,014 acres (42.0 percent) are classified as non-forest land. FIA defines forest land as land at least 10 percent stocked by trees of any size, including areas that formerly supported such tree cover and that will be naturally or artificially regenerated. Within Connecticut's forest land base, timberland accounts for 1,753,979 acres, or 98.2 percent (Figure 1), representing unreserved forest capable of producing at least 20 cubic feet of wood per acre per year. Reserved forestland comprises 31,793 acres (1.8 percent) and is withdrawn from timber utilization by legal or administrative designation. Other forestlands are negligible based on the reported data. In practical terms, nearly all of Connecticut's forest land base is both unreserved and biophysically suitable for commercial timber management, with a relatively small share restricted from timber utilization.

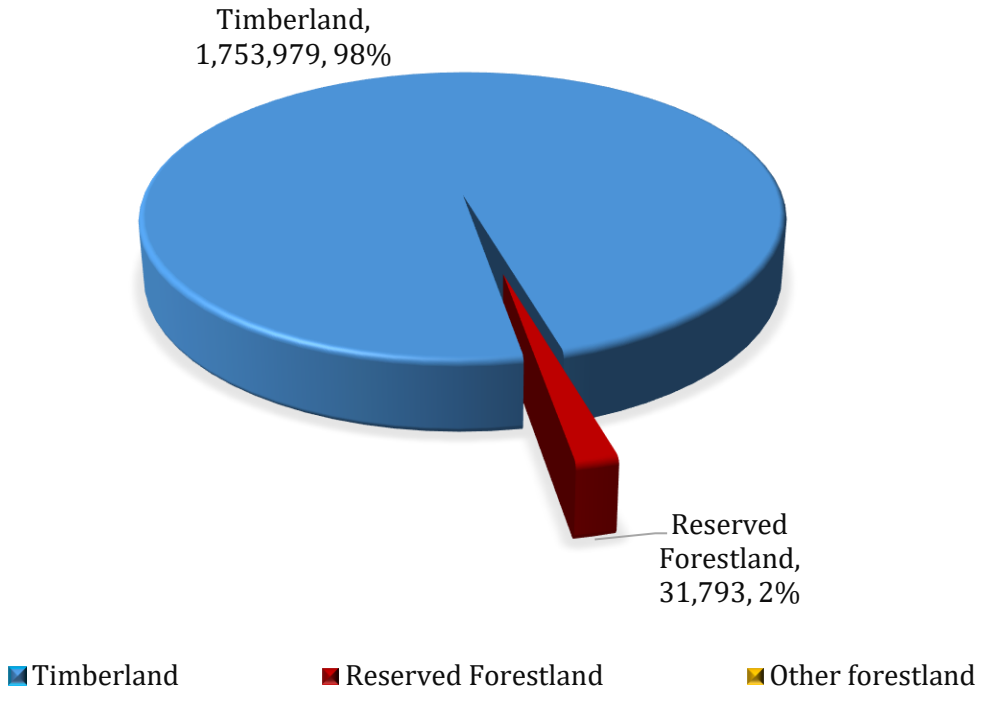


Figure 1: Connecticut Forest Land area in acres by Land use type, 2023 (US Forest Service).

Ownership of Connecticut's 1,785,772 acres of forest land is distributed among federal, state and local, and private entities, with private landowners holding the majority share (Figure 2). Private ownership accounts for 1,272,308 acres, representing 71.3 percent of the state's forest land base. State and local governments manage 506,004 acres (28.3 percent), reflecting a substantial public ownership presence at the subnational level. Federal ownership is limited, totaling 7,460 acres (0.4 percent). No National Forest System lands are reported in Connecticut; all federally owned forest land is managed by other federal agencies. Overall, Connecticut's forest land base is characterized by a predominance of private ownership, complemented by a meaningful state and local public land component and minimal federal involvement.

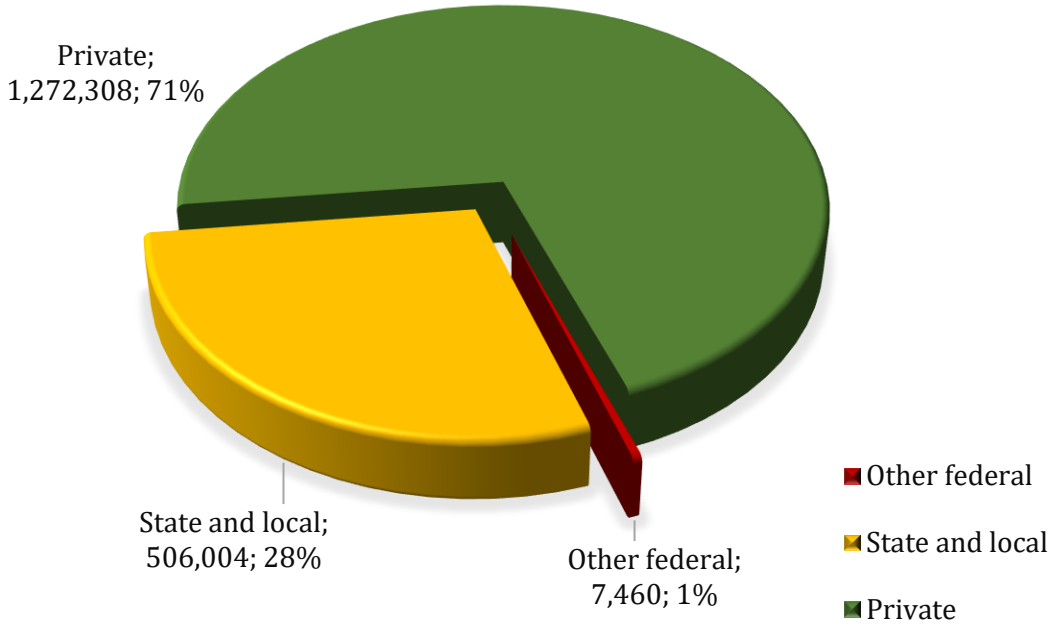


Figure 2: Connecticut Forest Land area in acres by Ownership group, 2023 (US Forest Service).

Hardwood forest types dominate Connecticut's 1,785,772 acres of forest land (Figure 3). The oak/hickory forest-type group is the most extensive, occupying 1,191,958 acres, or 67 percent of the state's forest land base. Several additional hardwood-associated groups contribute smaller but meaningful shares, including elm/ash/cottonwood at 134,271 acres (8 percent), maple/beech/birch at 109,536 acres (6 percent), and other hardwoods totaling 100,766 acres (6 percent). Mixed oak/pine forest types account for 84,089 acres (5 percent), reflecting a limited but notable presence of mixed hardwood–softwood stands. The remaining 165,154 acres (9 percent) are distributed across other forest-type groups. Collectively, the primary hardwood-

dominated forest types account for a substantial majority of Connecticut's forest land area, underscoring the state's predominantly hardwood forest composition.

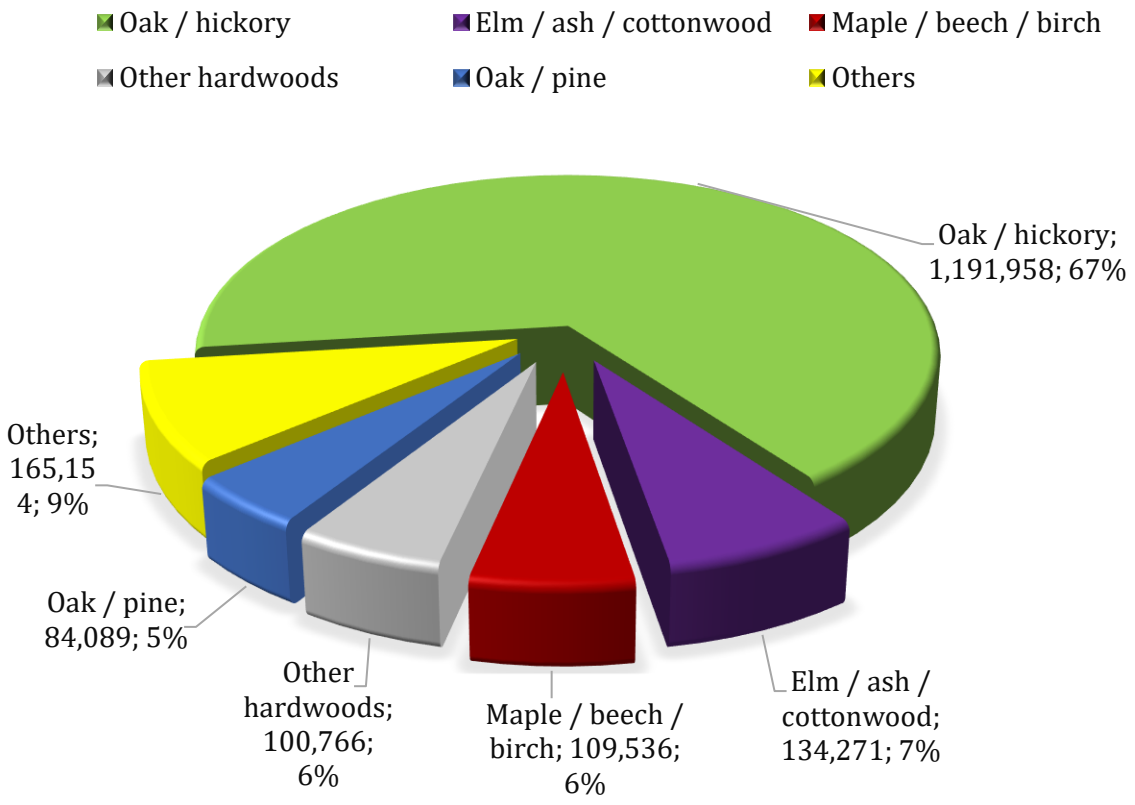


Figure 3*:* Connecticut Forest Land area in acres by Forest type group, 2023 (US Forest Service).

Connecticut's timber resource base supports a range of forest-based supply chains, including forest management, commercial harvesting, and downstream wood-using industries. The estimated volume of standing timber suitable for forest products (i.e., growing-stock volume) totals 4.73 billion cubic feet statewide (Table 1). Hardwood species dominate the timber resource, accounting for 3.93 billion cubic feet (83.2 percent) of total growing-stock volume, while softwoods comprise 796.1 million cubic feet (16.8 percent). By ownership class, private lands hold the majority of growing-stock volume at 3.27 billion cubic feet (69.1 percent), followed by state and local government lands with 1.44 billion cubic feet (30.4 percent), and Other federal ownership accounts for 23.9 million cubic feet (0.5 percent).

Average annual net growth of growing stock totals 58.2 million cubic feet per year, compared with 9.9 million cubic feet in average annual harvest removals and 50.5 million cubic feet in average annual mortality. On this basis, net growth exceeds harvest removals by a ratio of approximately 5.9 to 1, indicating that removals remain relatively low compared with biological growth. Because net growth is already net of mortality, the implied net change in standing volume is net growth minus harvest removals, which is positive and indicates an overall increase

in volume. . In relative terms, annual harvest removals represent approximately 0.2 percent of standing growing-stock volume, while mortality represents about 1.1 percent. Reflecting Connecticut's forest composition, hardwoods account for the majority of activity across flow measures, including 72.2 percent of net growth, 99.7 percent of harvest removals, and 90.5 percent of mortality.

Table 1: Characteristics of Growing Stock in Connecticut, 2023. †

Description	Species group	National Forest	Other federal	State and local	Private	Not available	**Total**
Net volume	Hardwood	0	23,896	1,151,070	2,757,479	0	**3,932,446**
	Softwood	0	0	284,963	511,141	0	**796,104**
	Total	**0**	**23,896**	**1,436,033**	**3,268,620**	**0**	**4,728,550**
Average annual net growth	Hardwood	0	373	16,834	24,027	828	**42,063**
	Softwood	0	0	6,074	10,091	12	**16,177**
	Total	**0**	**373**	**22,908**	**34,118**	**841**	**58,240**
Average annual harvest removals	Hardwood	0	0	2,719	7,168	0	**9,887**
	Softwood	0	0	26	0	0	**26**
	Total	**0**	**0**	**2,745**	**7,168**	**0**	**9,913**
Average annual mortality	Hardwood	0	139	11,597	33,950	0	**45,685**
	Softwood	0	0	1,956	2,842	0	**4,798**
	Total	**0**	**139**	**13,553**	**36,791**	**0**	**50,483**

† All amounts are in thousands of cubic feet.

Note: **Growing stock** is all live trees of commercial species that meet minimum merchantability standards. **Net volume** is net volume in cubic feet of growing stock for timber species, for trees greater than or equal to five inches in diameter, from a one-foot stump to a minimum four-inch top diameter, or to where the central stem breaks into limbs, all of which are less than four inches in diameter. **Net growth** is the average annual net growth of growing stock, in cubic feet, on forest land. **Annual mortality** is the average annual cubic foot mortality of live growing-stock trees (at least four inches DBH), in cubic feet, on forest land. **Harvest removals** are the average annual harvest removals, in cubic feet, of growing stock trees on forest land.

Economic contribution of the Forest Product Industries, 2023

The FPIs in this study are defined as 32 IMPLAN industries (only 30 industries present in Connecticut) that were aggregated into seven analytic groups for consistent reporting across the state. This report follows the same industry grouping framework used in the 2017 report, which was originally developed through consultation with state forestry agencies and other stakeholders and represent a working consensus on what constitutes the regional FPI (Leefers et al. 2020). The complete list of industries and groupings are presented in Appendix A.

The FPI encompasses a wide range of activities that begin with forest management and timber harvesting and extend through the conversion of raw materials into high-value finished goods. These activities include timber tract operations, nurseries, logging, sawmills, wood preservation, pulp and paper manufacturing, furniture production, and related downstream sectors (Poudel and Dahal 2025). The FPI is a cornerstone of the Connecticut economy, not only providing direct employment in logging, milling, and manufacturing but also supporting a much larger network of indirect and induced jobs in transportation, warehousing, wholesale trade, and retail (Leefers et al. 2020). Its health has far-reaching consequences for rural communities, where it is often one of the few sources of year-round employment, and for regional supply chains that depend on steady flows of wood, fiber, and paper products (Lamsal et al. 2025a).

Measuring these contributions requires more than simply counting jobs, mills, or other establishments. Contribution analysis is essentially a descriptive, ex-post accounting framework that traces how industries interact within a regional economy and support the economy (Lamsal et al. 2025b, Watson et al. 2015). It not only measures the direct transactions tied to a sector, but also the indirect effects in supplier industries and the induced effects from household spending that ripple outward. Economic contribution analysis depends on standardized frameworks that can translate government statistics into regional input-output models. The Bureau of Economic Analysis (BEA) provides the foundation through its Benchmark Input-Output Accounts, which map the flow of goods and services across industries and establish the structure of GDP by industry (BEA 2023). The Bureau of Labor Statistics (BLS) complements this with the Quarterly Census of Employment and Wages (QCEW) and occupational data, which provide details on employment and payroll. Further, the U.S. Census Bureau adds extra detail with the Economic Census and County Business Patterns, which track establishments, receipts, and industry-level production. Impact Analysis for Planning (IMPLAN) harmonizes these data sources into a consistent input-output modeling framework for estimating regional economic contributions (IMPLAN 2023). IMPLAN is widely used in forest-sector economic research to estimate employment, output, labor income, and value-added effects associated with forest-

products industries. Several forest-sector studies have also paired IMPLAN with FIA data to link forest resource conditions with regional economic outcomes, including timber-product output in Ohio (Coronado et al. 2014), domestic hardwood substitution for imported trailer decking in New York (Pokharel et al. 2023), and potential mass timber processing facility development in Michigan (Khanal et al. 2024). IMPLAN also provides a bridge table that is important for defining the forest-products sectors included in this report. The bridge table is useful in both directions: it aggregates NAICS industries into IMPLAN sectors for modeling and identifies the NAICS components represented within each IMPLAN sector. Although this does not by itself constitute a formal sector disaggregation within IMPLAN, it provides the basis for constructing partial-sector estimates when external data are available.

This distinction is particularly important for forest sector analysis because several IMPLAN sectors contain both forestry and non-forestry components (Poudel and Dahal 2025). In this study, the IMPLAN bridge table was used to identify the relevant NAICS-defined activities embedded within broader IMPLAN sectors, and external data were then used to approximate the forest-related share of selected mixed sectors. For example, IMPLAN Sector 10 (All Other Crop Farming) includes a wide variety of agricultural activities such as alfalfa, peanut, and hemp farming, also in addition to maple syrup production. Using USDA maple syrup production data, only the maple syrup portion of Sector 10 was included in the FPI. Similarly, IMPLAN Sector 19 (Support Activities for Agriculture and Forestry) encompasses a broad spectrum of NAICS industries, including soil preparation, crop harvesting, farm labor contracting, and specialized support services for forestry. To avoid overstating the sector, only Support Activities for Forestry were retained in the FPI totals, using BLS employment and establishment data. Thus, the partial-sector estimates reported here reflect analyst-defined allocations based on the IMPLAN bridge table and supplementary data, rather than an automatic sector split performed within IMPLAN. In the 2017 report, several additional sectors were treated as partial sectors, IMPLAN 40 (Electric Power Generation, Biomass), IMPLAN 352 (Institutional Furniture Manufacturing), and IMPLAN 356 (Showcase, Partition, Shelving, and Locker Manufacturing), but in 2023, following stakeholder consensus and due to limited data to isolate wood-based components, these are treated as full sectors; consequently, the 2023 economic contribution estimates for these specific sectors appear higher and are not directly comparable to the 2017 figures. Any comparison between years should therefore be interpreted with caution.

Further, the 2023 analysis implemented the mixed endogenous-exogenous closure using the Output- and Employment -based multipliers formulation approach (Miller and Blair 2022; Lamsal et al. 2025a), whereas the 2017 report used the equivalent matrix-inversion approach. Since these approaches are alternative computational expressions of the same input–output framework and, under the same closure assumptions, these formulations are theoretically equivalent and yield the same multipliers and results.

Note on Data Consistency (2017 vs. 2018–2023): *Readers should interpret the sharp variance between 2017 and 2018 data with caution. The 2017 figures presented in this report are retained from previous studies that used the desktop-based IMPLAN Pro software. Data for 2018 through 2023 were generated using the modernized IMPLAN Cloud (Web) platform, which utilizes updated accounting frameworks and regional purchase coefficients. Although both sets of estimates are based on the same underlying input–output/SAM framework, they are not fully comparable in construction. IMPLAN revised its industry classification structure over time, moving from the 536-industry scheme used for 2013–2017 data years to the 546-industry scheme used for 2018–2022, and later to the 528-industry scheme beginning in 2023. IMPLAN also documents differences in trade-flow and regional purchase coefficient estimation between legacy Pro-era workflows and the current cloud environment. In addition, this report applies updated aggregation and sector-inclusion rules for selected forest-related industries. Accordingly, differences between 2017 and later years may reflect methodological discontinuity in addition to underlying economic change. Comparisons spanning 2017 to 2018 should therefore be interpreted with caution.*

Economic Performance Trends of Forest Product Industry (2017-2023)

Figures 4 and 5 illustrate the economic trajectory and change of Connecticut's Forest Sector over the seven-year study period. As shown in Figure 4, the industry shows a pattern of workforce consolidation contrasting with output resilience. While employment fell from a high of 7,730 jobs in 2017 to a low of 6,614 in 2020, the post-pandemic rebound to 6,930 jobs in 2023 remains approximately 10% below the 2017 starting point. However, Real Industry Output has defied this labor contraction, actually increasing from $3.03 billion in 2017 to nearly $3.20 billion in 2023. This divergence between declining employment and rising output signals a significant gain in labor productivity, suggesting that the state's 26 active forest industries have successfully adopted more streamlined operations to maintain capacity with a smaller workforce.

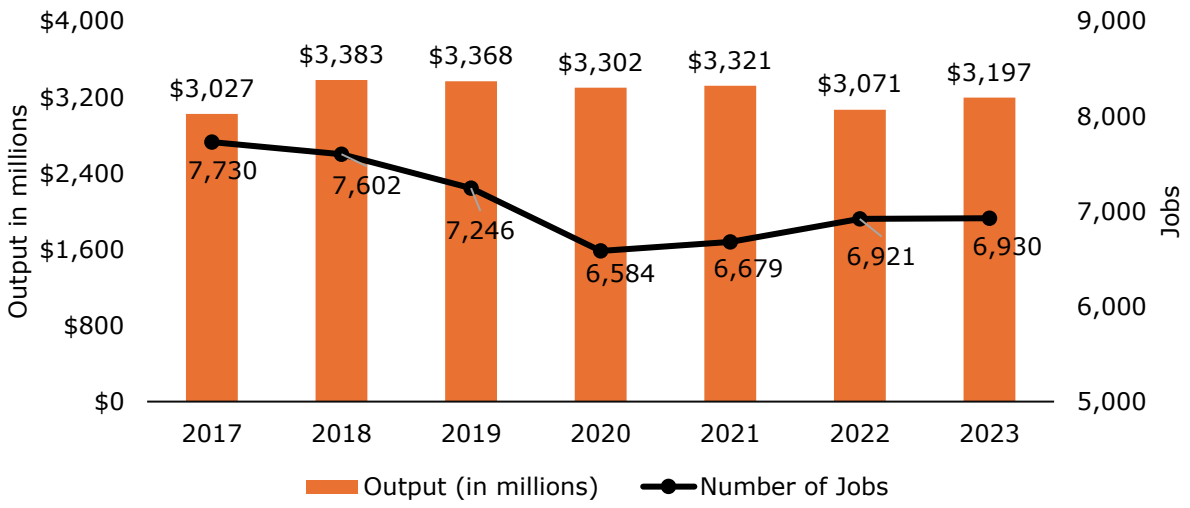
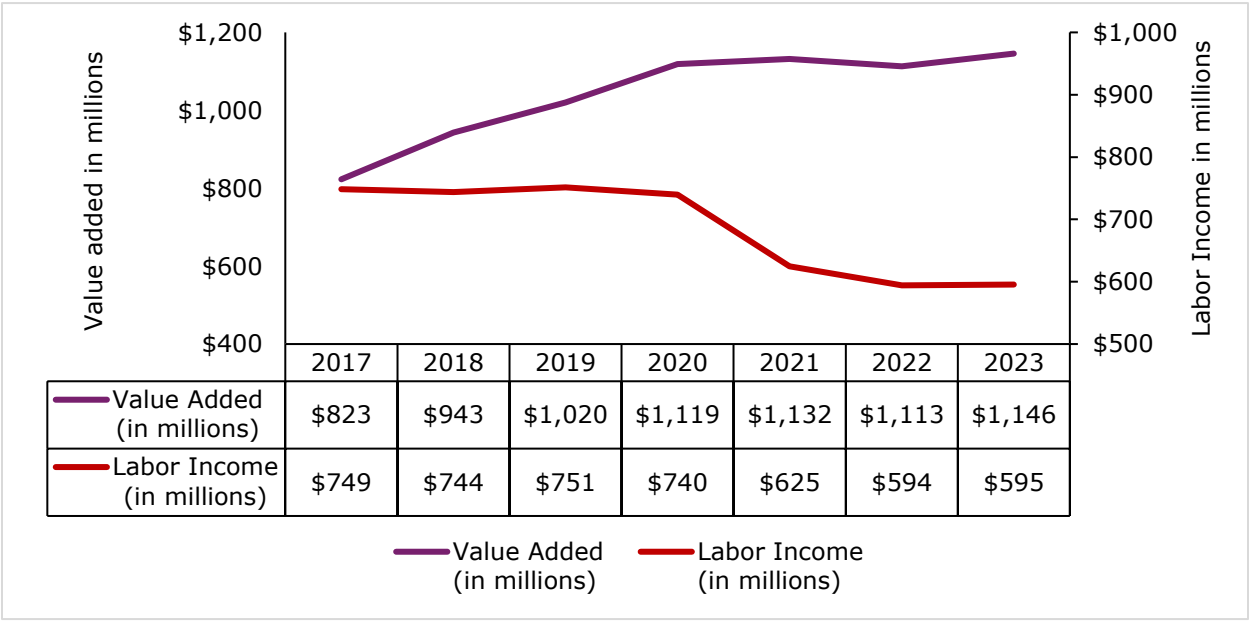


Figure 4: Direct output and employment, 2017–2023, Connecticut state forest products industries.

Figure 5 highlights a critical shift in the efficiency and wealth-generation mechanics of the state economy. A distinct technical divergence is visible between Value Added and Labor Income. Over the seven-year period, Value Added, the sector's net contribution to Gross State Product (GSP), surged by roughly 39%, rising consistently from $823 million in 2017 to $1.15 billion in 2023. This substantial rise in "Value-Added intensity" indicates the sector is generating significantly more economic wealth per unit of production, likely driven by strong market pricing or reduced intermediate input costs. In contrast, Labor Income has followed an inverse trend, declining by roughly 20% to $595 million in 2023, which is consistent with the decrease in number of jobs.



	2017	2018	2019	2020	2021	2022	2023
Value Added (in millions)	$823	$943	$1,020	$1,119	$1,132	$1,113	$1,146
Labor Income (in millions)	$749	$744	$751	$740	$625	$594	$595

Figure 5: Direct Value-Added and Labor Income, 2017–2023, Connecticut state, forest products industries.

Direct and Total Contributions by Forest Product Industry Groups

In 2023, Connecticut's forest products industries directly provided 6,930 jobs and generated approximately $3.20 billion in output. The sector also contributed roughly $1.15 billion in Value-Added to the state economy. The aggregate influence of these industries on the broader regional economy remains significant. When accounting for indirect supply-chain transactions and induced household spending, the total economic contribution of the forest sector reached 14,526 jobs and $4.97 billion in total output.

Table 2*:* Statewide Economic Contribution of Forest Products Industries, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct in 2023	6,930	$595,235	$1,145,575	$3,197,475
Compared to 2017	-10.4%	-20.5%	39.2%	5.6%
Total in 2023	14,526	$1,225,072	$2,242,907	$4,971,489
Compared to 2017	-10.0%	-18.2%	12.0%	0.2%
Multipliers in 2023	2.10	2.06	1.96	1.55

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

The calculated multipliers show the sector's deep integration into Connecticut's economy. The employment multiplier of 2.10 is particularly robust and indicates that for every 100 direct jobs in the forest industry, an additional 110 jobs are supported in other sectors within the state. Similarly, the Value-Added multiplier of 1.96 suggests that every dollar of wealth created directly by forest industries generates an additional $0.96 of wealth elsewhere in the state. These high multipliers reflect extensive local supply chain linkages and suggest that the forest sector serves as a critical economic anchor that drives significant activity in transportation, manufacturing, and service sectors throughout the state.

Table 3 outlines the direct economic contributions of the seven industry groups while Table 4 expands this to include total contributions with multiplier effects. In 2023, Connecticut's forest sector structure is heavily weighted toward downstream manufacturing rather than raw extraction. The Secondary Paperboard and Other Paper Products sector acts as the primary labor anchor and directly generated 2,159 jobs. This is significantly larger than the combined workforce of the Forestry and Logging sectors which totals only 356 jobs.

A distinct divergence in capital intensity becomes evident when comparing sectors. For example, the Wood Furniture sector requires a substantial labor force of 2,041 jobs to generate approximately $448 million in output. In contrast, the Pulp, Paper, and Paperboard Mills sector generates nearly double that output at $851 million with a much smaller workforce of only 850 employees. This indicates that the paper manufacturing sub-sector is highly automated and capital-intensive as it generates significantly higher output per worker compared to the more labor-intensive furniture manufacturing operations.

When supply-chain and induced effects are integrated as shown in Table 4, the Secondary Paperboard and Other Paper Products sector remains the primary economic engine of the state's forest sector and supports 5,210 total jobs and over $2.06 billion in total economic output. However, a notable leverage effect appears in the Pulp, Paper, and Paperboard Mills sector. This sector exhibits a robust employment multiplier of approximately 3.2 since 2,743 total jobs are supported by just 850 direct jobs. This shows deep backward linkages where paper mills require consistent volumes of raw materials, energy, and transportation services which sustains a broader network of utility providers and logistics operators throughout the regional economy.

Table 3: Direct Economic Contributions in Connecticut state, Industry Groups, 2023. †

Industries	Employment	Labor Income	Value-Added	Output
1.Forestry	166	$11,019	$11,315	$12,660
2.Logging	190	$17,548	$60,876	$61,651
3.Primary Solid Wood Products	236	$19,582	$44,343	$144,432
4.Secondary Solid Wood Products	1,288	$78,793	$86,615	$351,302
5.Wood Furniture	2,041	$168,206	$162,365	$447,751
6.Pulp, Paper, and Paperboard mills	850	$99,140	$330,169	$850,984
7.Secondary Paperboard and other Paper Products	2,159	$200,948	$449,893	$1,328,695

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Table 4: Total Economic Contributions in Connecticut state, Industry Groups, 2023. †

Industries	Employment	Labor Income	Value- Added	Output
1.Forestry	208	$14,083	$16,915	$21,054
2.Logging	262	$22,526	$69,869	$75,056
3.Primary Solid Wood Products	651	$55,980	$116,199	$257,194
4.Secondary Solid Wood Products	2,325	$162,535	$233,903	$592,814
5.Wood Furniture	3,499	$285,778	$367,016	$777,559
6.Pulp, Paper, and Paperboard mills	2,743	$262,519	$613,736	$1,319,260
7.Secondary Paperboard and other Paper Products	5,210	$452,887	$908,358	$2,063,503

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Note: *In Table 4, readers may observe that the sum of the economic contributions for the individual industries exceeds the reported total contribution for the Forest Sector as a whole as presented in Table 2. This difference is intentional and results from the "mixed-model" approach used to ensure accuracy.*

In Input-Output (I-O) analysis, simply adding the total contributions of individual sectors results in double-counting. This occurs because the output of one forest industry often serves as an input for another. For example, logs harvested by the Logging sector are inputs for the Furniture sector. If modeled individually and summed, the model counts both the direct value of the logs and the associated supply-chain ripples (indirect effects) twice: once as a production requirement for the Furniture, and again as a direct output of the Logging sector. To provide the most accurate estimate, the aggregated total is calculated by treating the forest industries as a single economic unit. This method mathematically nets out all inter-industry transactions within the sector, ensuring that the final results reflect only the new economic value generated for the state economy.

Forestry

Economic Contribution of Forestry

Table 5 presents the economic contribution of the Forestry sector. For Connecticut, this group aggregates two primary industries: timber tract operations, which involve the management of forest lands for the sale of standing timber, and support activities for forestry. As noted previously, the maple syrup production industry is not disclosed in the Connecticut dataset.

Table 5: Direct, Indirect, and Induced Economic Contributions of the Forestry Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	166	$11,019	$11,315	$12,660
Indirect	1	$55	$94	$162
Induced	42	$3,009	$5,506	$8,233
Total	208	$14,083	$16,915	$21,054
Multiplier	1.26	1.28	1.49	1.66

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

In 2023, the Forestry sector directly supported 166 jobs and generated approximately $12.7 million in direct output. While this sector provides the biological raw material for the rest of the forest economy, its financial structure is distinct from the downstream manufacturing sectors. The data indicates an exceptionally labor-intensive industry where the vast majority of gross output is allocated to the workforce rather than to equipment or intermediate supplies. Specifically, nearly 87% of the sector's direct output flows to Labor Income ($11.0 million out of $12.7 million).

This heavy reliance on labor rather than physical inputs dictates the sector's unique multiplier effects. The employment multiplier is approximately 1.25, meaning that for every 100 jobs in Forestry, roughly 25 additional jobs are supported elsewhere in the state. Decomposing this multiplier highlights that the sector's economic ripples are driven almost exclusively by workforce spending including proprietor income (induced effects) rather than business supply chains (indirect effects). The sector generated negligible indirect impacts and supported only 1 job through business-to-business transactions, reflecting the land-intensive nature of timber growing which has minimal purchasing requirements. In contrast, the induced effect supported 42 jobs and over $8.2 million in output. Because such a high percentage of the sector's output is retained as Labor Income, the primary economic contribution beyond the forest itself arises when foresters and loggers spend their earnings within their local communities.

When these effects are combined, the Forestry industry contributed a total of 208 jobs, $21.1 million in output, and $16.9 million in Value-Added to the Connecticut economy in 2023. The total output multiplier of 1.66 implies that every $100 of output generated by forest management activities generates an additional $66 of economic activity throughout the state.

Trend Analysis: Forestry (2017–2023)

As illustrated in Figure 6, the Forestry industry in Connecticut exhibits a period of stagnation followed by an extreme surge in 2023. Between 2019 and 2022, the sector remained relatively dormant, averaging roughly 41 jobs and $2.4 million in annual output. However, 2023 marked a

substantial deviation from this baseline. Employment quadrupled from the previous year to reach a period high of 166 workers, significantly surpassing the 2017 starting point of 90 jobs. Financial growth outpaced even this rapid workforce expansion. Real output spiked from $2.1 million in 2022 to $12.7 million in 2023. This disproportionate rise in output relative to employment signals a major shift in productivity. In 2017, the average output per worker was approximately $34,400. By 2023, this figure rose to roughly $76,500 per worker.

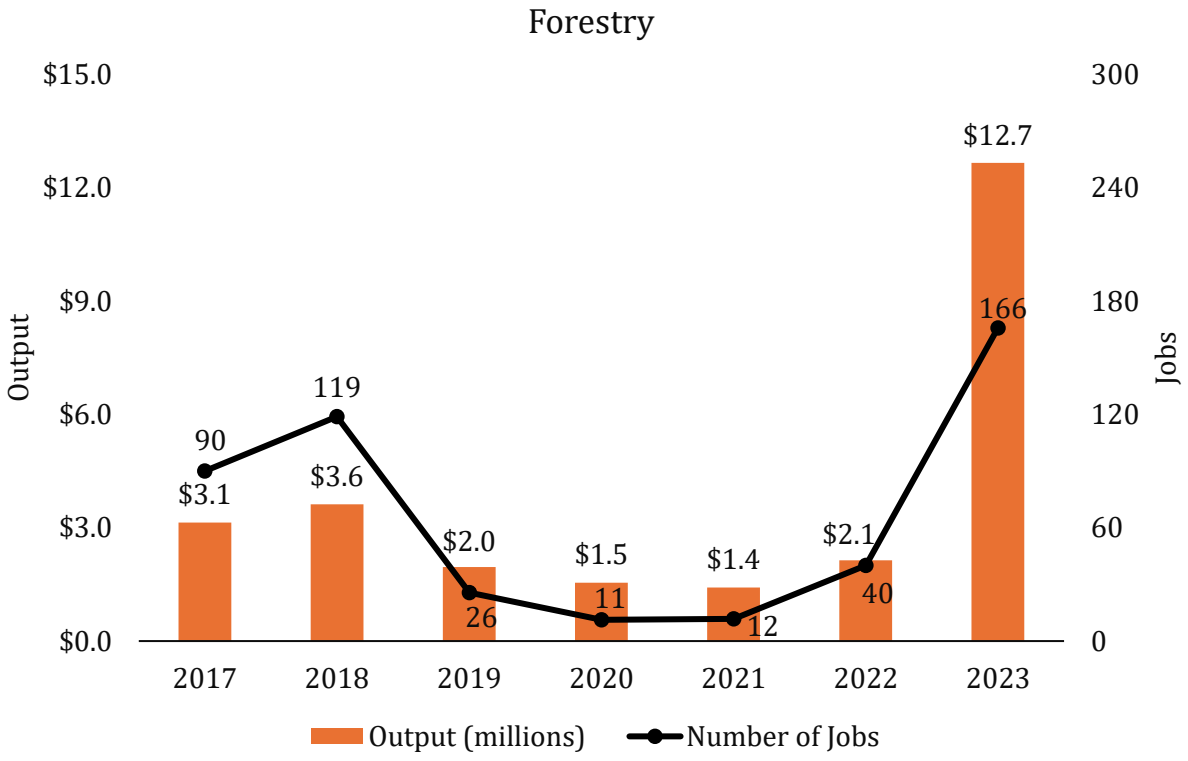


Figure 6: Trend in direct employment and output for the Forestry industry in Connecticut, 2017-2023.

Logging

Economic Contribution of Logging

Table 6 outlines the economic contributions of the Logging sector, which comprises establishments primarily engaged in cutting timber, transporting logs, and producing wood chips in the field. In 2023, this sector directly supported 190 jobs. The industry generated approximately $61.7 million in direct output and contributed roughly $60.9 million in Value-Added to the state's economy.

The data characterizes Logging as a sector with a highly distinct cost structure that prioritizes internal value creation over complex intermediate supply chains. Similar to the Forestry sector,

a key economic feature is the overwhelming dominance of household spending effects over business-to-business transactions. Output from induced effects ($13.0 million) was drastically higher than the $0.4 million generated through indirect effects. This disparity stems from the fact that nearly 99% of the sector's direct output is retained as Value-Added ($60.9 million out of $61.7 million), leaving minimal revenue for purchasing intermediate supplies. Among that, about 28.5 percent of the total output goes as a Labor Income. Because the industry relies minimally on external inputs like processed manufacturing goods, its economic ripple effects are driven almost exclusively by the re-spending of Labor Income and proprietor profits within the local community.

When these direct, indirect, and induced impacts are aggregated, the Logging industry contributed a total of 262 jobs, $75.1 million in output, and $69.9 million in Value-Added to the Connecticut economy. The implied Output Multiplier is 1.22, indicating that for every $100 of commercial logging activity, an additional $22 of economic activity is stimulated elsewhere in the state. This represents a more conservative ripple effect compared to the Forestry sector (1.66), reflecting a localized economic footprint where the primary value is captured directly by the operators and workers rather than dispersed through a broad supply chain.

Table 6: Direct, Indirect, and Induced Economic Contributions of the Logging Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	190	$17,548	$60,876	$61,651
Indirect	7	$237	$292	$398
Induced	66	$4,741	$8,701	$13,006
Total	262	$22,526	$69,869	$75,056
Multiplier	1.38	1.28	1.15	1.22

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Logging (2017–2023)

As shown in Figure 7, the Logging industry in Connecticut has undergone a radical structural transformation characterized by a steep divergence between workforce size and financial yield. Direct employment exhibited a relentless downward trajectory throughout the study period and contracted by roughly 67%, falling from 569 jobs in 2017 to a historic low of 190 in 2023.

Conversely, output trends present a picture of extreme volatility followed by a recent resurgence. After fluctuating significantly between 2018 and 2022, output surged to a period high of $61.7 million in 2023, surpassing the 2017 baseline of $49.5 million. This inverse relationship between plummeting employment and rising output indicates a massive spike in labor productivity. In 2017, the average output per worker was approximately $87,000, whereas

by 2023 this figure skyrocketed to roughly $325,000. This trend suggests that the surviving logging operations have successfully shifted toward highly mechanized harvesting methods or are focusing on high-value timber tracts, allowing them to generate record revenue despite operating with a significantly smaller workforce.

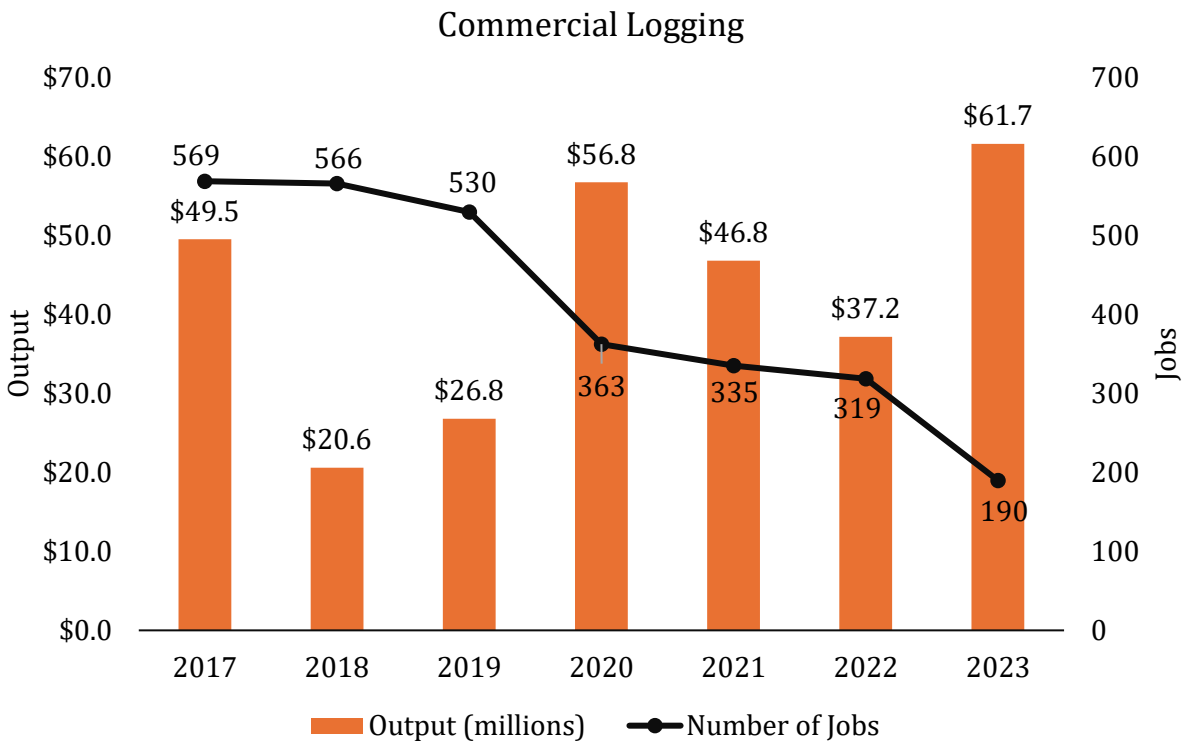


Figure 7: Trend in direct employment and output for the Logging industry in Connecticut, 2017–2023.

Primary Solid Wood Products

Economic Contribution of Primary Solid Wood Products

Table 7 presents the economic contributions of the Primary Solid Wood Products industry. In Connecticut, this sector represents a focused manufacturing segment. Due to data non-disclosures or the absence of specific sub-sectors such as wood preservation, reconstituted wood product facilities, and veneer manufacturing, the 2023 activity is primarily driven by sawmills and biomass power. This sector directly employed 236 workers and generated nearly $144.4 million in direct output. The sector demonstrates strong capital efficiency and contributed $44.3 million in direct Value-Added.

The Primary Solid Wood Products industry exhibits profound backward linkages within the Connecticut forest economy and acts as a critical demand driver for upstream operations. A pivotal structural dynamic is evident in the employment data where the Indirect Employment

effect supports 253 jobs, a figure that actually exceeds the sector's own direct workforce of 236. This results in a robust Employment Multiplier of approximately 2.76. Essentially, for every 100 direct jobs in primary wood manufacturing, an additional 176 jobs are supported elsewhere in the state economy. This underscores the sector's function as a "keystone" industry because its operational demands sustain a larger network of loggers, maintenance contractors, and utility providers than it employs directly.

When aggregating direct, indirect, and induced effects, the Primary Solid Wood Products industry contributed a total of 651 jobs, $257.2 million in output, and $116.2 million in Value-Added to the state economy in 2023. By supporting over 650 jobs statewide, this industry anchors the regional forest value chain and effectively transforms natural resources into widespread economic activity across Connecticut's industrial ecosystem.

Table 7: Direct, Indirect, and Induced Economic Contributions of the Primary Solid Wood Products Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	236	$19,582	$44,343	$144,432
Indirect	253	$24,707	$50,369	$80,651
Induced	162	$11,691	$21,487	$32,111
Total	651	$55,980	$116,199	$257,194
Multiplier	2.76	2.86	2.62	1.78

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Primary Solid Wood Products (2017–2023)

As shown in Figure 8, the Primary Solid Wood Products industry in Connecticut has followed a trajectory of rapid expansion followed by a sustained contraction. The sector experienced a distinct boom period in 2018 when output surged to a peak of $424.7 million and employment reached a high of 387 jobs. However, this momentum was not sustained, and both metrics have trended downward consistently over the subsequent five years.

By 2023, the industry had contracted to its smallest size within the study period. Direct employment fell to 236 workers, a 14.5% decline from the 2017 baseline of 276 jobs. Similarly, output dropped to $144.4 million, erasing the gains made during the 2018–2019 peak and falling just below 2017 levels. Despite this reduction in scale, a notable efficiency gain is evident. While employment dropped significantly between 2017 and 2023, real output remained relatively stable (-1.2%). This divergence indicates that while the sector has consolidated, the remaining facilities have improved their labor productivity. In 2017, the average output per worker was approximately $529,000, whereas by 2023, this figure rose to roughly $612,000 per worker.

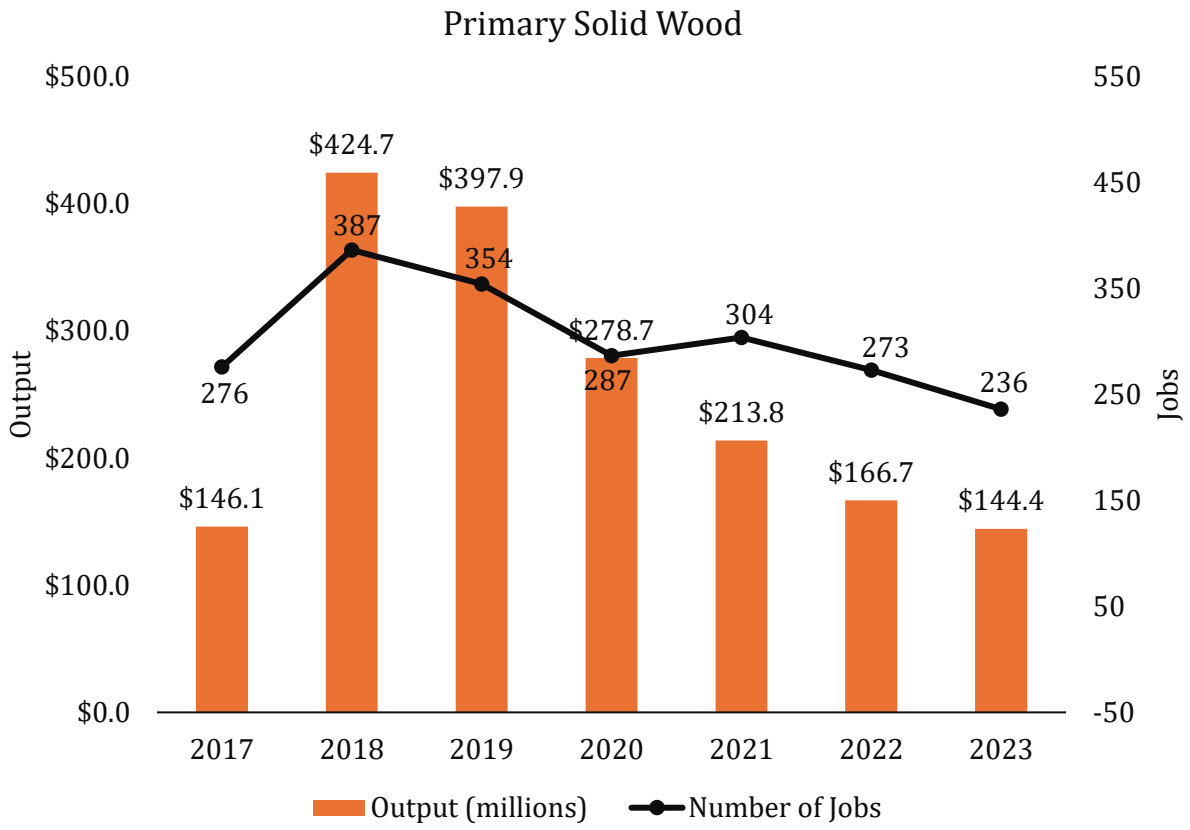


Figure 8: Trend in direct employment and output for the Primary Solid Wood Products industry in *Connecticut*, 2017–2023.

Secondary Solid Wood Products

Economic Contribution of Secondary Solid Wood Products

Table 8 presents the economic contribution of the Secondary Solid Wood Products industry. This diverse Value-Added sector encompasses industries such as engineered wood member and truss manufacturing, wood windows and doors manufacturing, millwork and flooring, wood container and pallet manufacturing, and miscellaneous wood product manufacturing. In 2023, this sector served as a key industrial employer within the Connecticut forest economy and directly employed 1,288 workers while generating roughly $351.3 million in direct output.

The sector exhibits a moderate employment multiplier of 1.81, indicating that for every 100 jobs created in secondary manufacturing, roughly 81 additional jobs are supported elsewhere in the Connecticut economy. While positive, this multiplier is notably lower than that of the Primary Solid Wood sector (2.76). This distinction reflects upstream supply chain dynamics because Secondary manufacturers primarily purchase processed lumber from capital-intensive sawmills or import intermediate wood components rather than relying on the labor-intensive logging

operations that supply the primary sector. Consequently, the Indirect Employment effect supports 569 jobs, which is less than half the size of the direct workforce. This contrasts sharply with the Primary sector where the indirect workforce actually exceeded the direct workforce.

When fully aggregated, the sector supports a total of 2,325 jobs and contributes nearly $592.8 million in total economic output. Financially, the sector acts as a steady contributor to the state's wealth and adds a total of $233.9 million in Value-Added to the GSP.

Table 8: Direct, Indirect, and Induced Economic Contributions of the Secondary Solid Wood Products Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	1,288	$78,793	$86,615	$351,302
Indirect	569	$49,938	$85,105	$148,600
Induced	468	$33,804	$62,183	$92,912
Total	2,325	$162,535	$233,903	$592,814
Multiplier	1.81	2.06	2.70	1.69

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Secondary Solid Wood Products (2017–2023)

Figure 9 presents employment and output trends for the Secondary Solid Wood Products industry in Connecticut from 2017 through 2023. Over this period, employment exhibited moderate variation, declining from 1,268 jobs in 2017 to a low of 1,169 jobs in 2020, followed by a gradual recovery. By 2023, employment increased to 1,288 jobs, slightly exceeding the 2017 level. Industry output followed a different trajectory. Output increased from $289.3 million in 2017 to over $310 million in 2018 and 2019, declined during 2020–2021, and then increased sharply in 2023. Total output reached $351.3 million in 2023, representing a 21.4 percent increase relative to 2017 and a 19.1 percent increase from 2022.

As a result of relatively stable employment combined with higher output, labor productivity, measured as output per worker, increased over the study period. Output per job rose from approximately $228,000 in 2017 to about $273,000 in 2023, an increase of roughly 20 percent. The increase in output per worker was most pronounced between 2022 and 2023, corresponding with the largest year-over-year increase in total output. Overall, the data indicate an improvement in average productivity in the Secondary Solid Wood Products industry over

the period analyzed.

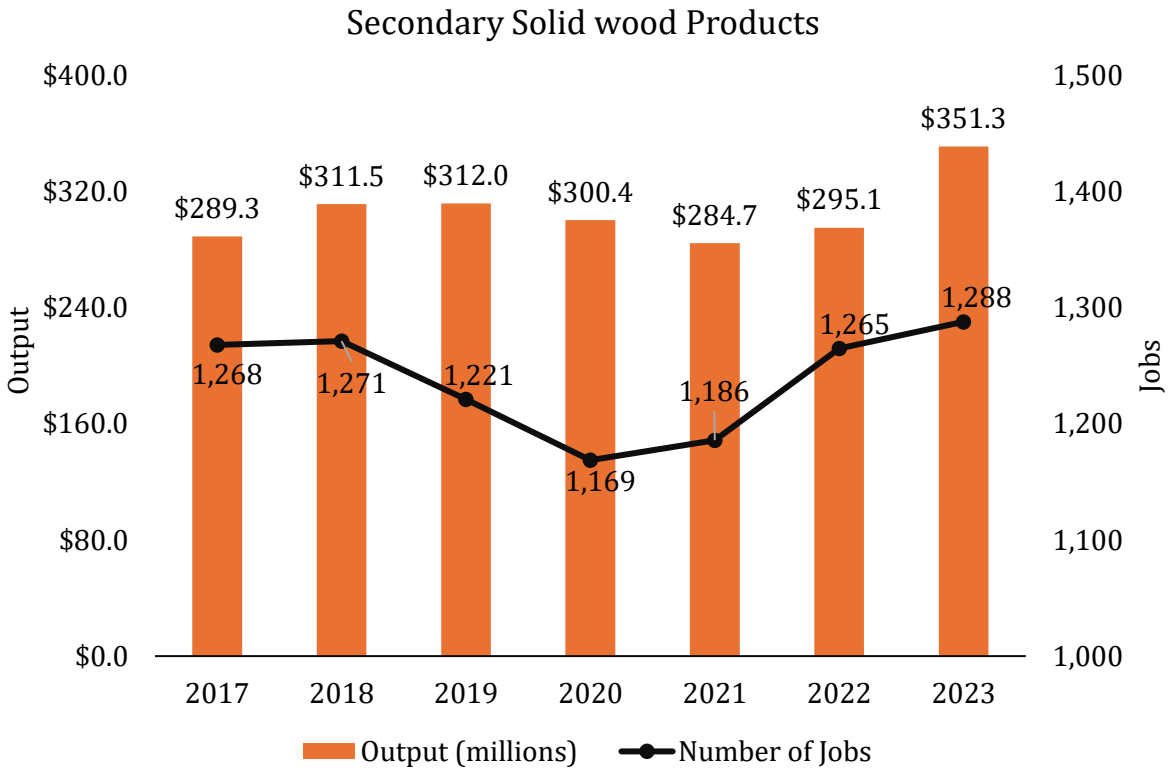


Figure 9: Trend in direct employment and output for the Secondary Solid Wood Products industry in Connecticut, 2017-2023.

Wood Furniture

Economic Contribution of Wood Furniture

Table 9 details the economic contributions of the Wood Furniture industry. This group encompasses a wide range of Value-Added manufacturers including those producing wood kitchen cabinets and countertops, upholstered and non-upholstered household furniture, institutional wood furniture, wood office furniture, and custom architectural woodwork. In 2023, this sector directly employed 2,041 workers and generated $447.8 million in direct output.

The data highlights that Wood Furniture manufacturing operates with a distinct economic structure compared to the upstream processing sectors. While it is a manufacturing industry, it retains a significant labor component relative to its output. Approximately 38% of its direct gross output redistributes as a Labor Income ($168.2 million out of $447.8 million). This ratio underscores the "craft" aspect of the industry, particularly in cabinetry and custom millwork where the production of high-value goods relies heavily on skilled joinery and assembly rather than purely automated throughput.

This workforce dynamic heavily influences the sector's multiplier effects. The Employment Multiplier is 1.71 which means that every 100 direct jobs support an additional 71 jobs elsewhere in the state. Notably, the Induced Employment effect (825 jobs) exceeds the Indirect Employment effect (634 jobs). This signals that the sector's primary leverage on the state economy is derived from the wages and proprietor income paid to its workforce who subsequently spend that income in the local service economy rather than from the industry's demands on the industrial supply chain.

When fully aggregated, the Wood Furniture industry contributed a total of 3,499 jobs, roughly $777.6 million in output, and $367.0 million in Value-Added to the Connecticut economy in 2023. While it generates less total output than the Secondary Solid Wood Products sector, it remains a vital pillar of the state's Value-Added manufacturing base as it effectively converts processed lumber into high-value consumer and industrial goods.

Table 9: Direct, Indirect, and Induced Economic Contributions of the Wood Furniture Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	2,041	$168,206	$162,365	$447,751
Indirect	634	$57,996	$95,112	$166,110
Induced	825	$59,576	$109,539	$163,698
Total	3,499	$285,778	$367,016	$777,559
Multiplier	1.71	1.70	2.26	1.74

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Wood Furniture Industry (2017–2023)

As shown in Figure 10, the Wood Furniture industry in Connecticut reflects a pattern of structural contraction followed by a gradual, stabilized recovery. The sector experienced a sharp decline between 2017 and 2020 where direct employment fell from a peak of 2,535 jobs to a pandemic-era low of 1,821. Similarly, real output contracted by roughly 30% over the same three-year window, dropping from $565.2 million to $394.7 million. Since hitting this low point in 2020, the industry has entered a phase of steady recuperation. Employment has grown for three consecutive years to reach 2,041 workers in 2023, while output has rebounded to $447.8 million. Despite this positive momentum, the sector remains significantly smaller than its 2017 baseline and operates with approximately 20% fewer jobs and 21% less output than at the start of the study period.

A key technical characteristic of this recovery is the close synchronization between labor and output. Unlike the extraction sectors where productivity surged, the Wood Furniture industry has maintained relatively stable output-per-worker ratios. In 2017, the average output per

employee was approximately $223,000, and in 2023 it remained nearly unchanged at roughly $219,000.

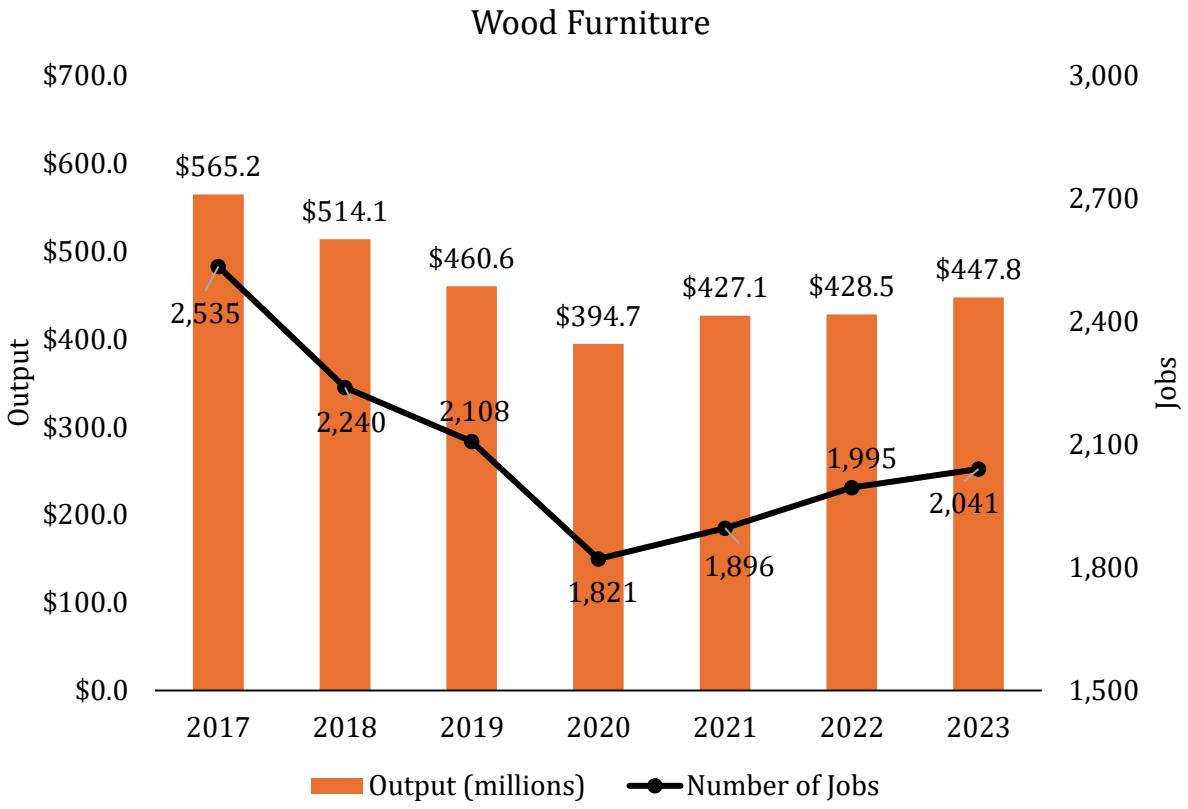


Figure 10: Trend in direct employment and output for the Wood Furniture industry in Connecticut, 2017–2023.

Pulp, Paper, and Paperboard Mills

Economic Contribution of Pulp, Paper, and Paperboard Mills

Table 10 details the economic contribution of the Pulp, Paper, and Paperboard Mills industry. In the context of Connecticut, this sector is highly integrated and primarily comprised of Paper and Paperboard Mills, as Pulp Mills are not present or disclosed within the state's dataset. This sector remains the most capital-intensive component of the state’s forest economy and exhibits an "inverted" employment profile where output is exceptionally high relative to the direct workforce.

In 2023, these highly automated mills generated substantial financial flows despite a relatively small direct workforce. While directly employing 850 workers, the sector generated approximately $851.0 million in Direct Output. This divergence between low headcount and high output is the hallmark of advanced automation and high-value, continuous process

manufacturing. Direct value added in the pulp and paper mills sector totals $330.2 million, compared to $99.1 million in direct Labor Income. This distribution shows that a relatively large share of the sector's economic activity is associated with non-labor inputs, including capital investment, energy consumption, maintenance, and raw material costs, rather than direct compensation to labor.

A defining characteristic of this industry is its function as an economic anchor where the supply chain workforce exceeds the workforce inside the facility itself. Specifically, the Indirect Employment (1,131 jobs) is roughly 33% larger than the Direct Employment (850 jobs). This shows that the intense operational requirements of these mills, including massive inputs of wood fiber, energy, process chemicals, logistics, and technical maintenance services, sustain a much larger external workforce. Consequently, the sector exhibits a powerful Employment Multiplier of 3.23. This is the highest multiplier in the entire forest economy and indicates that every 100 direct mill jobs support an additional 223 jobs elsewhere in the state.

When fully aggregated, the Pulp, Paper, and Paperboard Mills sector supports a total of 2,743 jobs and generates roughly $1.32 billion in total economic output. Furthermore, the quality of direct employment in this sector is high. With total direct Labor Income of $99.1 million distributed among 850 jobs, the average annual Labor Income per direct job is approximately $116,600. This figure underscores the industry's role as a critical source of high-income, high-skill technical employment in Connecticut.

Table 10: Direct, Indirect, and Induced Economic Contributions of the Pulp, Paper, and Paperboard Mills Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	850	$99,140	$330,169	$850,984
Indirect	1,131	$108,334	$182,303	$316,981
Induced	762	$55,045	$101,264	$151,295
Total	2,743	$262,519	$613,736	$1,319,260
Multiplier	3.23	2.65	1.86	1.55

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Pulp, Paper, and Paperboard Mills (2017–2023)

As illustrated in Figure 11, the Pulp, Paper, and Paperboard Mills industry in Connecticut is characterized by remarkable stability and high capital intensity. Unlike other manufacturing sectors that faced significant volatility during the pandemic years, this industry maintained a steady operational baseline. Direct employment remained tightly clustered between 800 and 850 workers throughout the entire seven-year period. By 2023, the workforce stood at 850 employees, which represents a modest net gain of 2.7% over the 2017 baseline of 828 jobs.

Financial performance followed a more dynamic path and highlighted the sector's high value-generation capabilities. Real output grew consistently from 2017 through 2021, peaking at $887.5 million even amidst broader economic disruptions. Although there was a correction in 2022, the sector rebounded strongly in the final year to reach $851.0 million in 2023. This trajectory underscores the immense productivity of these facilities. In 2023, the industry generated approximately $1.0 million in output for every single direct job. This is a significant increase from the roughly $925,000 per worker observed in 2017.

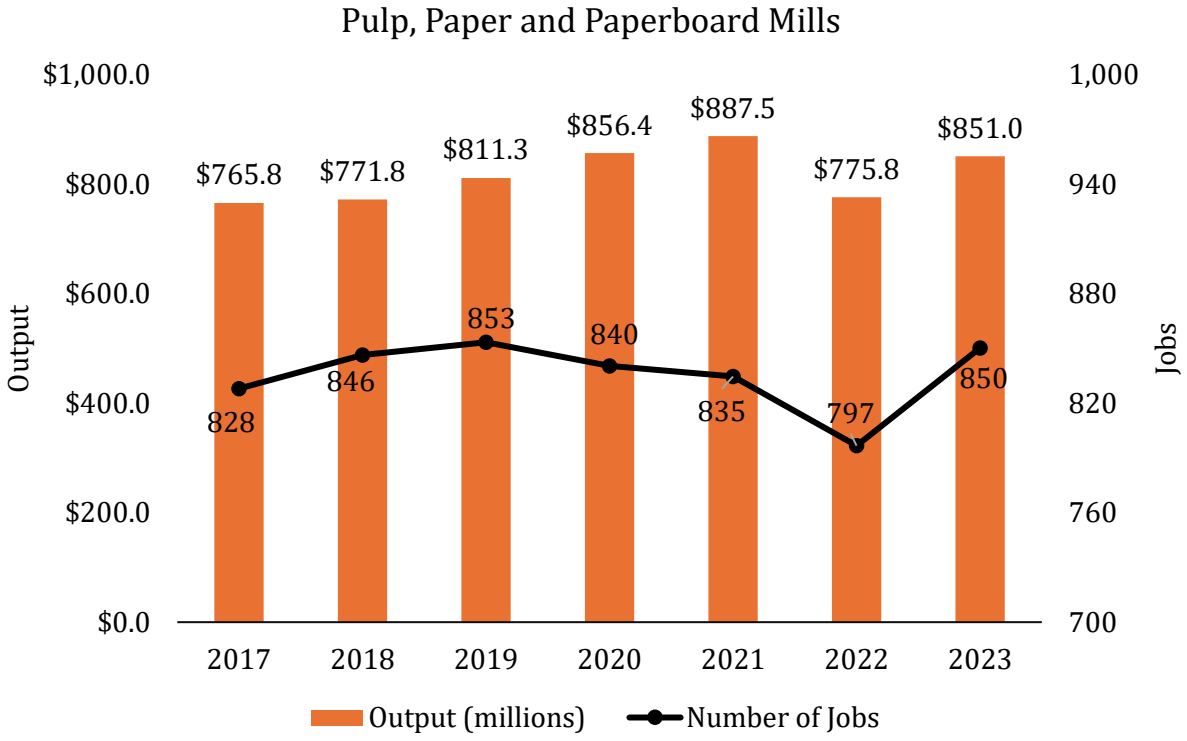


Figure 11: Trend in direct employment and output for the Pulp, Paper, and Paperboard Mills industry in Connecticut, 2017–2023.

Secondary Paperboard and Other Paper Products

Economic Contribution of Secondary Paperboard and Other Paper Products

Table 11 outlines the economic contribution of the Secondary Paperboard and Other Paper Products industry. This group is composed of "converters" that manufacture finished goods from purchased paper, paperboard, or recycled materials, and includes products such as paperboard containers, paper bags, coated paper, stationery, and other specialized paper products. In Connecticut, this sector serves as a significant downstream component of the forest economy as it directly employs 2,159 workers and generated approximately $1.33 billion

in direct output in 2023, along with $449.9 million in direct value added and $200.9 million in direct Labor Income..

Beyond its direct footprint, the industry supports substantial additional economic activity through supply-chain and household spending effects. Indirect effects account for 1,747 jobs, $475.8 million in output, and $272.2 million in value added, reflecting the sector's demand for intermediate inputs and business services. Induced effects contribute an additional 1,305 jobs, $259.0 million in output, and $186.2 million in value added, associated with household spending by employees supported by both direct and indirect activities.

In total, the Secondary Paperboard and Other Paper Products industry supports 5,210 jobs statewide, generates approximately $2.06 billion in total output, and contributes $908.4 million in total value added. The implied employment multiplier of 2.41 indicates that every 100 direct jobs in the sector supports an additional 141 jobs elsewhere in the Connecticut economy. Collectively, these results demonstrate the sector's role as a significant downstream manufacturing component, translating paper and paperboard inputs into finished products while supporting broader economic activity across multiple sectors of the state economy.

Table 11: Direct, Indirect, and Induced Economic Contributions of the Secondary Paperboard and Other Paper Products Industry in Connecticut, 2023. †

	Employment	Labor Income	Value-Added	Output
Direct	2,159	$200,948	$449,893	$1,328,695
Indirect	1,747	$157,725	$272,216	$475,847
Induced	1,305	$94,214	$186,249	$258,961
Total	5,210	$452,887	$908,358	$2,063,503
Multiplier	2.41	2.25	2.02	1.55

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars.

Trend Analysis: Secondary Paperboard and Other Paper Products (2017–2023)

Figure 12 presents employment and output trends for the Secondary Paperboard and Other Paper Products industry in Connecticut from 2017 through 2023. Over this period, employment remained stable, fluctuating within a relatively narrow range. Total employment declined slightly from 2,164 jobs in 2017 to 2,159 jobs in 2023, representing a net decrease of five jobs, or 0.2 percent. Industry output increased steadily between 2017 and 2021, rising from $1.21 billion to $1.46 billion. Output declined in subsequent years, falling to $1.33 billion in 2023, but remained above the 2017 level. Compared to the start of the period, total output in 2023 was approximately 10.0 percent higher.

The combination of stable employment and higher output resulted in an increase in output per worker over the study period. Average output per job increased from approximately $558,000 in 2017 to about $615,000 in 2023, an increase of roughly 10 percent. Although output peaked in 2021, output per worker in 2023 remained higher than in the pre-period baseline. Overall, the data indicate that changes in output were not accompanied by proportional changes in employment, contributing to higher average productivity in the sector over time.

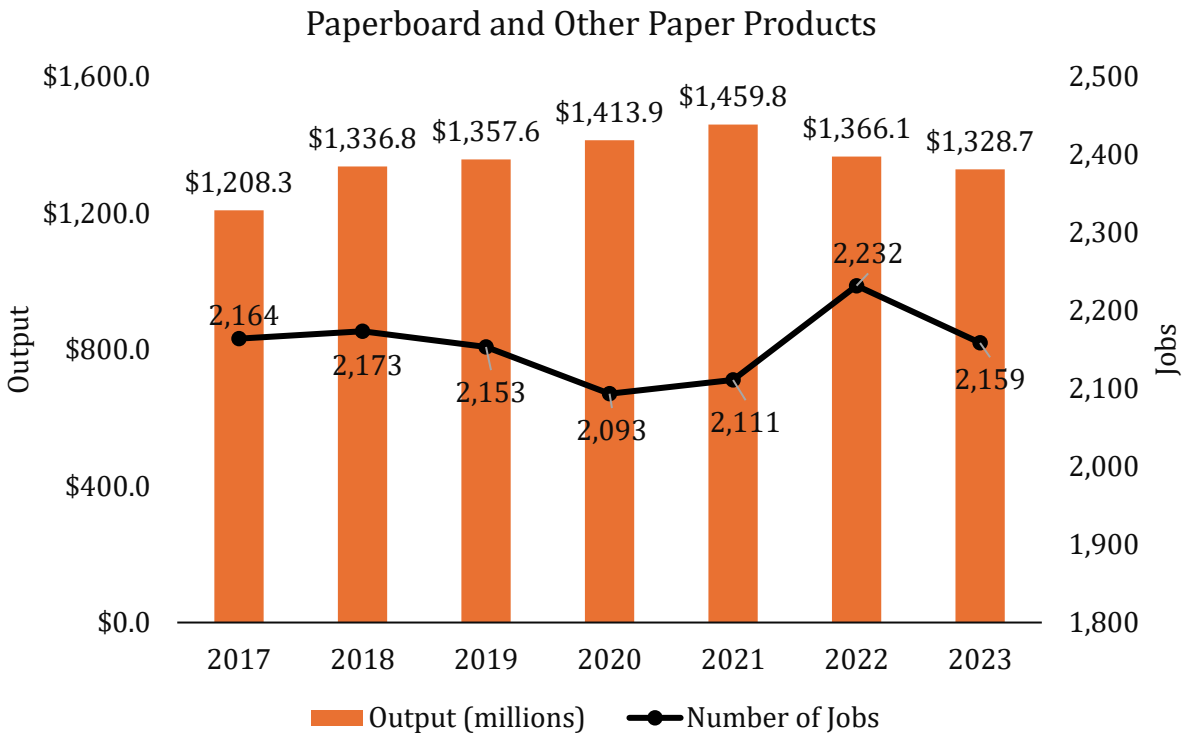


Figure 12: Trend in direct employment and output for the Secondary Paperboard and Other Paper Products industry in Connecticut, 2017–2023.

Top Forest Product Sectors

Connecticut's forest-products sector is represented by 26 IMPLAN industries, as six forest-related sectors, used for the analysis: All other crop farming (Maple syrup production), Wood preservation, Veneer and plywood manufacturing, Reconstituted wood product manufacturing, Manufactured home (mobile home) manufacturing, and Pulp mills, are not present or their data is undisclosed in the state's 2023 industry mix. The economic profile of Connecticut's forest economy is distinctly defined by advanced downstream manufacturing rather than raw extraction or primary processing. Among the diverse range of activities, Paperboard container manufacturing stands as the clear economic anchor of the state's forest sector. It ranks first in three of the four major economic indicators, generating 1,202 direct jobs, nearly $776 million in output and $112 million in Labor Income. This highlights the state's specialized strength in the packaging and logistics supply chain.

Table 12: Top five industries in terms of direct Economic Contributions in Connecticut state, 2023. [†]

Rank	Employment	Labor Income	Value added	Output
1	Paperboard container manufacturing (1,202)	Paperboard container manufacturing ($112,195)	Paper mills ($292,880)	Paperboard container manufacturing ($775,993)
2	Wood kitchen cabinet and countertop manufacturing (848)	Paper mills ($87,446)	Paperboard container manufacturing ($236,104)	Paper mills ($749,363)
3	Paper bag and coated and treated paper manufacturing (790)	Paper bag and coated and treated paper manufacturing ($70,359)	Paper bag and coated and treated paper manufacturing ($160,084)	Paper bag and coated and treated paper manufacturing ($431,462)
4	Paper mills (755)	Wood kitchen cabinet and countertop	Wood kitchen cabinet and countertop	Wood kitchen cabinet and countertop

		manufacturing ($61,726)	manufacturing ($71,879)	manufacturing ($170,697)
5	Custom architectural woodwork and millwork (712)	Custom architectural woodwork and millwork ($60,727)	Commercial logging ($60,876)	Custom architectural woodwork and millwork ($146,889)

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

In terms of employment, the sector exhibits a mix of paper converting and wood furniture manufacturing. While Paperboard container manufacturing leads the workforce, the Wood kitchen cabinet and countertop manufacturing industry follows closely as the second-largest employer with 848 individuals. The prevalence of Custom architectural woodwork and millwork in the fifth spot (712 jobs) further reinforces the importance of the wood furniture manufacturing sub-sector, particularly those segments tied to residential construction and home renovation. Notably, no primary extraction industries (logging or forestry) appear in the top five for employment, showing that the state's labor demand is driven primarily by Value-Added processing.

Financial contributions reveal a sharp divergence between labor-intensive wood manufacturing and capital-intensive paper production. Although Wood kitchen cabinet manufacturing is the second-largest employer, it drops to fourth in both Output ($171 million) and Value-Added ($72 million). This indicates a highly labor-intensive structure typical of craft manufacturing. In contrast, the Paper mills sector demonstrates exceptional capital intensity. Despite ranking fourth in employment with 755 workers, Paper mills surges to rank first in Value-Added ($293 million) and second in Output ($749 million). This disconnect suggests that the paper manufacturing sectors function as high-value automated hubs that generate significantly more economic wealth per worker compared to their counterparts in wood furniture and cabinetry. Additionally, Commercial logging makes a notable appearance as the fifth-ranked industry for Value-Added ($61 million), suggesting that while the extraction workforce is small, the economic value retained from timber harvesting remains high relative to its scale.

Top Non-Forest Industries supported by the Forest Sector in 2023

Excluding the forest-products industries themselves, the Connecticut included 437 other IMPLAN sectors in 2023. The forest sector supported at least one job in 166 industries and at least ten jobs in 113 of those industries. In addition to 6,930 direct jobs, the sector supported 7,597 indirect and induced jobs across the state's economy. These additional jobs, generated through supply chain purchases and household spending, are heavily concentrated in logistics, real estate, and service sectors. Table 13 highlights the top ten non-forest industries most heavily impacted by this economic activity in 2023. Together, these ten sectors account for 2,653 jobs. This represents approximately 34.9 percent of all indirect and induced employment generated by the forest economy.

Table 13: Top Ten Industries Impacted by Connecticut state's Forest Products Industries in terms of number of jobs in 2023.

Industries	Number of Jobs
Warehousing and storage	601
Other real estate	426
Wholesale - Other durable goods merchant wholesalers	279
Truck transportation	217
Couriers and messengers	212
Management of companies and enterprises	205
Full-service restaurants	201
Hospitals	190
Employment services	163
Individual and family services	159
Total	**2,653**

The composition of these top sectors shows the specific mechanisms through which the forest sector stimulates the wider Connecticut economy:

- **Logistics and Commercial Trade:** The strongest linkages are found in the movement and storage of physical goods. Warehousing and storage ranks as the single largest sector supported by the Forest sector, with 601 jobs. This reflects the industry's need for extensive inventory space for raw timber, processed lumber, other wood and paper products. When combined with Wholesale - Other durable goods merchant wholesalers (279 jobs), Truck transportation (217 jobs), and Couriers and messengers (212 jobs), it is evident that the forest sector is a critical driver of the state's logistics infrastructure. The

industry requires a massive, reliable network to transport raw materials and distribute finished goods to regional markets.

- **Induced Household Spending:** The prominence of Other real estate (426 jobs), Full-service restaurants (201 jobs), Hospitals (190 jobs), and Individual and family services (159 jobs) illustrates the "induced" power of the forest workforce. These sectors are sustained not by mill supply chains, but by the wages and salaries spent by forest-sector employees in their local communities. The high ranking of real estate, which is the second largest impacted sector overall, suggests that the income earned by loggers, mill workers, and manufacturers is a significant source of revenue for maintaining the local housing market and essential community services.
- **Business Support Services:** Notably, Management of companies and enterprises (205 jobs) and Employment services (163 jobs) also appear in the top ten. This indicates that Connecticut's forest product firms are active consumers of corporate support services. They rely on external firms for administrative oversight, staffing solutions, and organizational management to maintain efficient operations.

The output rankings highlight the substantial commercial and infrastructure footprint of the forest economy in Connecticut. Wholesale - Other durable goods merchant wholesalers ranks as the single largest supported sector, generating approximately $107.1 million in output. When combined with Wholesale - Other nondurable goods merchant wholesalers ($79.7 million), Warehousing and storage ($57.0 million), and Trucking transportation ($49.2 million), it becomes evident that the forest sector acts as a massive driver of the state’s distribution network. This dominance underscores the critical role of freight and logistics in moving the high volume of raw timber and finished paper products through the regional supply chain.

Table 14: Top Ten Industries impacted by Connecticut State’s Forest Products Industries in terms of output production in 2023. †

Industries	Output
Wholesale - Other durable goods merchant wholesalers	$107,098
Owner-occupied housing	$86,087
Wholesale - Other nondurable goods merchant wholesalers	$79,711
Other real estate	$71,714
Electric power transmission and distribution	$65,346
Management of companies and enterprises	$61,109
Warehousing and storage	$56,995
Truck transportation	$49,206
Hospitals	$42,654
Monetary authorities and depository credit intermediation	$37,112
Total	**$657,031**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value

The presence of Owner-occupied housing as the second-largest supported sector ($86.1 million) is a significant indicator of the "induced" economic effect. In economic modeling, this sector represents the imputed value of homeownership. Its high ranking suggests that forest sector jobs, particularly the steady, technical manufacturing roles identified in previous tables, sustain decent levels of homeownership and household wealth across the state. This conclusion is further supported by the Other real estate sector, which contributed an additional $71.7 million in output.

Furthermore, Electric power transmission and distribution ranks fifth, contributing $65.3 million. This substantial figure is driven by the immense electricity consumption of the state's capital-intensive operations, specifically the paper mills and sawmills that require continuous energy inputs. Additionally, the sector supports $42.7 million in output for Hospitals and $37.1 million for Monetary authorities and depository credit intermediation (banking and finance), reflecting the essential spending power of the forest workforce which supports critical services and financial institutions within their local communities.

Importance of the Forest Products Industries in Context

Natural Resources and Agricultural Industries

To contextualize the economic importance of the forest economy, Table 15 compares the direct contributions of Connecticut's four primary natural resource sectors: Forest Products, Agriculture, Mining, and Commercial Fishing. The data indicates that while Agriculture serves as the primary reservoir for rural employment, the Forest Products industry stands as the dominant generator of gross output among the state's natural resource industries.

In terms of employment, the landscape is defined by the scale of the Agriculture sector. It supports 11,337 jobs and accounts for approximately 52% of the total natural resources workforce. The Forest Products sector ranks second as a key industrial employer and supports 6,930 jobs. This is more than double the workforce of the Mining sector (3,117 jobs) and significantly larger than Commercial Fishing (611 jobs). However, a comparison of Output reveals a distinct inversion of this hierarchy. Despite employing fewer workers than Agriculture, the Forest Products sector generated nearly four times the output ($3.20 billion vs. $800.2 million). This underscores that the forest economy functions as a high-value industrial engine, whereas agriculture in the state remains more labor-intensive relative to its financial yield.

A comparison of Value-Added (GSP) highlights the extreme capital intensity of the Mining, and Oil & Gas sector. While the Forest Products sector contributed a substantial $1.15 billion to the state GSP, the Mining sector surpassed it with a contribution of $1.60 billion. This occurred despite Mining having less than half the workforce of the forest sector. This discrepancy highlights the heavy capitalization of extraction industries, where immense physical investments drive exceptionally high Value-Added per worker compared to the more diversified forest products industry.

The comparative trend analysis reveals divergent economic trajectories over the seven-year period. The Mining sector experienced explosive growth, with Output surging by roughly 131% and Value-Added increasing by nearly 86%. In contrast, the Forest Products sector demonstrated a classic pattern of "capital deepening" and efficiency gains. While its employment contracted by 10.4%, its Value-Added surged by 39.2% and Output grew by 5.6%. This signals that the forest sector has successfully modernized, shedding labor while simultaneously increasing its contribution to the state's wealth. Meanwhile, the Agriculture and Commercial Fishing sectors faced significant headwinds. Agriculture saw declines across both employment (-6.1%) and output (-14.0%), while Commercial Fishing exhibited a paradoxical trend where employment spiked by nearly 57% but output and Value-Added collapsed by over 60%.

Table 15: Natural Resources and Agricultural Production Industries in Connecticut state, 2023. †

Industry	Employment	Δ2017††	Labor Income	Δ2017††	Value-Added	Δ 2017††	Output	Δ 2017††
1. Forest Products	6,930	-10.4%	$595,235	-20.5%	$1,145,575	39.2%	$3,197,475	5.6%
2. Commercial fishing, hunting & trapping	611	56.9%	$10,804	-54.7%	$20,471	-61.7%	$20,987	-62.2%
3. Mining, and oil & gas production	3,117	-5.9%	$474,916	35.4%	$1,603,769	85.6%	$2,863,068	130.9%
4. Agriculture production (plant crops and animals)	11,337	-6.1%	$317,816	-10.2%	$438,750	10.2%	$800,154	-14.0%
Total	**21,995**	**-6.4%**	**$1,398,771**	**-5.3%**	**$3,208,566**	**50.0%**	**$6,881,684**	**31.0%**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.
†† All percentage differences are calculated in real terms using 2023 constant dollars.

Manufacturing Industries

To assess the relative standing of the forest sector within Connecticut's industrial base, Table 16 compares the aggregated "Forest Products manufacturing" contribution against the state's other major manufacturing groups. Note that in this context, "Forest Products" refers specifically to the manufacturing sub-sectors (Groups 3 through 7), excluding the extraction activities of forestry and logging and other non-manufacturing sectors (IMPLAN codes 10, 15, 16, 19, and 40 see Appendix A). Forest products manufacturing accounts for 94 percent of total forest-sector Employment, and Labor Income, 91 percent of Value-Added, and 96 percent of total forest-sector Output. The data reveals that while the forest sector is not the largest, it serves as a highly efficient, specialized component within a diversified advanced manufacturing economy dominated by heavy industry.

In 2023, Forest Products Manufacturing employed 6,533 workers, ranking 9th out of 16 industries and accounting for approximately 4.1 percent of total manufacturing employment statewide. Employment levels are comparable to Electrical Equipment Manufacturing (6,789 jobs) and Chemical Manufacturing (7,740 jobs), and exceed those of industries such as Printing, Plastics and Rubber Products, and Primary Metal Manufacturing. In contrast, employment is substantially lower than the state's largest manufacturing employers, including Transportation Equipment Manufacturing (45,008 jobs) and Fabricated Metal Manufacturing (28,230 jobs).

From an output perspective, Forest Products Manufacturing generated approximately $3.07 billion, ranking 9th overall and representing 3.6 percent of total manufacturing output. Output levels are similar to those observed in Electrical Equipment Manufacturing ($3.89 billion) and exceed those of Printing ($1.10 billion), Beverage and Tobacco Products ($1.62 billion), and Textiles and Apparel ($0.61 billion). At the same time, output is considerably lower than that of Transportation Equipment, Chemical Manufacturing, and Fabricated Metal Manufacturing, which together account for a large share of statewide manufacturing production.

When evaluated on a per-worker basis, Forest Products Manufacturing generated approximately $469,000 in output per employee. This level exceeds that of several larger employers, including Food Manufacturing (approximately $436,000 per worker), Fabricated Metal Manufacturing (approximately $357,000 per worker), and Machinery manufacturing (approximately $388,000 per worker). Output per worker remains below that observed in Chemical Manufacturing and Petroleum and Coal Manufacturing, which report substantially higher output per employee.

In terms of value added, Forest Products Manufacturing contributed $1.04 billion, or approximately 2.8 percent of total manufacturing value added. This corresponds to roughly $159,000 in value added per worker, placing the sector near the middle of the distribution

across manufacturing industries. Overall, the data indicate that Forest Products Manufacturing occupies a mid-tier position within Connecticut's manufacturing economy. While smaller in scale than the state's largest manufacturing industries, it maintains competitive levels of output and value added relative to employment, contributing meaningfully to the state's diversified manufacturing base.

Table 16: Manufacturing Industries in Connecticut state, 2023. †

Manufacturing Industries	Employment	Labor Income	Value Added	Output
Transportation Equipment	45,008	$6,815,430	$14,030,842	$26,752,359
Fabricated Metal	28,230	$2,889,028	$4,120,328	$10,089,592
Machinery	13,458	$1,698,699	$1,955,485	$5,227,286
Food	11,861	$906,238	$1,423,013	$5,172,314
Miscellaneous	10,516	$956,130	$2,353,529	$4,248,317
Computer and Electronic Product	9,362	$1,104,459	$1,704,380	$4,704,356
Chemical	7,740	$2,277,024	$5,663,499	$10,878,106
Electrical Equipment	6,789	$930,005	$1,686,786	$3,890,131
Forest Products	6,533	$558,348	$1,042,028	$3,065,992
Printing	5,353	$411,469	$547,694	$1,102,236
Plastics and Rubber Products	4,539	$403,539	$597,755	$2,005,780
Primary Metal	3,593	$400,184	$454,359	$3,515,018
Beverage and Tobacco Product	3,043	$221,838	$564,474	$1,618,918
Nonmetallic Mineral Product	2,543	$223,433	$299,657	$823,381
Textiles and Apparel	2,167	$148,030	$209,081	$606,811
Petroleum and Coal	314	$44,775	$177,624	$917,758
Total	**161,046**	**$19,988,630**	**$36,830,535**	**$84,618,357**
Compared to 2017	**-3.2%**	**-17.0%**	**8.6%**	**-6.6%**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

Summary

The 2023 economic contribution report shows that the Forest Products sector remains a cornerstone of Connecticut's industrial base and a high-value engine for its economy. In 2023, the Forest Products sector directly provided 6,930 jobs and generated $3.20 billion in direct economic output. The sector's influence extends deeply into the broader regional economy; when accounting for indirect supply chain purchases and induced household spending, the total contribution reached 14,526 jobs and $4.97 billion in total output. This indicates a robust employment multiplier of 2.10. Essentially, for every 100 direct jobs in the forest sector, an additional 110 jobs are supported elsewhere in the Connecticut economy, which reflects the deep integration of forest industries with local logistics, warehousing, and service sectors.

The industry exhibits a distinct structural emphasis on Value-Added manufacturing rather than raw extraction. Connecticut's sector is defined primarily by downstream processing and packaging. The Secondary Paperboard and Other Paper Products group stands as the primary employment driver, supporting 2,159 jobs. Further, despite employing fewer workers than the converting sectors, the Pulp, Paper, and Paperboard Mills sector remains a capital-intensive powerhouse. It generated $851.0 million in direct output with only 850 workers, highlighting the high value-generation capacity of the state's mills. When analyzing the specific, unaggregated industries, Paperboard container manufacturing emerges as the most significant subsector, ranking first in direct employment (1,202 jobs) and total output ($776.0 million). Wood kitchen cabinet and countertop manufacturing ranks second in direct employment, while Paper mills rank first in Value-Added, underscoring the diversity of the state's forest economy.

Within Connecticut's natural resource-based economy, the forest products sector represents a source of industrial strength. While Agriculture is the dominant volume leader in terms of employment, the Forest Products sector generates nearly four times the gross output, positioning it as the premier financial contributor among natural resource industries. Within the broader manufacturing sector, forest products occupies a specialized mid-tier position, ranking as the ninth-largest manufacturing employer with 6,533 jobs. Notably, its productivity (output per worker) exceeds that of larger sectors like Food and Fabricated Metal manufacturing, showing its status as a highly efficient industrial segment.

From 2017 to 2023, the sector shifted toward greater capital efficiency, maintaining output even as employment declined. While traditional sectors like Logging saw employment declines, they achieved record productivity levels in the year 2023. Ultimately, by converting raw materials into essential packaging, high-value cabinetry, and consumer goods, the sector not only sustains the state's industrial landscape but also supports a critical logistics and supply chain network. This solidifies its role as an enduring and cornerstone of Connecticut's economy.

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Appendix A: Forest Products Industries Groupings and IMPLAN Sectors

A1: Forestry Industry Grouping and IMPLAN Sectors

Industry Code	Industry name
10	All other crop farming***
15	Forestry, forest products, and timber tract production
19	Support activities for agriculture and forestry-*

Note: Sectors with an "*" indicate that only a portion of the sector is included in the forest products industries.
Sectors denoted by "***" indicate that the corresponding FPI is not present in Connecticut.

A2: Logging Industry Grouping and IMPLAN Sector

Industry Code	Industry name
16	Commercial logging

A3: Primary Solid Wood Products Industry Grouping and IMPLAN Sectors

Industry Code	Industry name
40	Electric power generation – Biomass**
124	Sawmills
125	Wood preservation***
126	Veneer and plywood manufacturing***
128	Reconstituted wood product manufacturing***

Note: Sectors with "**" indicate that it is treated as **full sector** in 2023; however in 2017 it was treated as a **partial (wood component only)** so the numbers are not strictly comparable.
Sectors denoted by "***" indicate that the corresponding FPI is not present in Connecticut.

A4: Secondary Solid Wood Products Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
348	Wood kitchen cabinet and countertop manufacturing
349	Upholstered household furniture manufacturing
350	Non-upholstered wood household furniture manufacturing
352	Institutional furniture manufacturing**
353	Wood office furniture manufacturing
354	Custom architectural woodwork and millwork
356	Showcase, partition, shelving, and locker manufacturing**

Note: Sectors with "**" indicate that it is treated as **full sector** in 2023; however in 2017 it was treated as a **partial (wood component only)** so the numbers are not strictly comparable.

A5: Wood Furniture Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
127	Engineered wood member and truss manufacturing
129	Wood windows and door manufacturing
130	Cut stock, resawing lumber, and planning
131	Other millwork, including flooring
132	Wood container and pallet manufacturing
133	Manufactured home (mobile home) manufacturing***
134	Prefabricated wood building manufacturing
135	All other miscellaneous wood product manufacturing

Sectors denoted by "***" indicate that the corresponding FPI is not present in Connecticut.

A6: Pulp, Paper, and Paperboard Mills Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
136	Pulp mills***
137	Paper mills
138	Paperboard mills

Sectors denoted by "***" indicate that the corresponding FPI is not present in Connecticut.

A7: Secondary Paperboard and Other Paper Products Industry Grouping and IMPLAN Sectors.

Industry Code	Industry name
139	Paperboard container manufacturing
140	Paper bag and coated and treated paper manufacturing
141	Stationery product manufacturing
142	Sanitary paper product manufacturing
143	All other converted paper product manufacturing

Appendix B. Detailed Economic Contribution Results of 2017 and 2023

B1: Direct Economic Contribution by IMPLAN Sector, 2023

B1.1: Direct Economic Contributions, Forestry Sector Details, 2023. †

Industries	Employment	Labor Income	Value-Added	Output
All other crop farming	0	$0	$0	$0
Forestry, forest products, and timber tract production	129	$10,204	$10,481	$11,745
Support activities for agriculture and forestry	37	$815	$834	$914
Total	**166**	**$11,019**	**$11,315**	**$12,660**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.2: Direct Economic Contributions, Logging Sector Details (2023, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Commercial logging	190	$17,548	$60,876	$61,651
Total	**190**	**$17,548**	**$60,876**	**$61,651**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2023, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Electric power generation - Biomass	41	$8,320	$31,356	$57,171
Sawmills	195	$11,262	$12,987	$87,260
Wood preservation	0	$0	$0	$0
Veneer and plywood manufacturing	0	$0	$0	$0
Reconstituted wood product manufacturing	0	$0	$0	$0
Total	**236**	**$19,582**	**$44,343**	**$144,432**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2023, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	91	$5,800	$6,364	$33,278
Wood windows and door manufacturing	22	$1,347	$1,466	$5,971
Cut stock, resawing lumber, and planing	11	$586	$677	$3,589
Other millwork, including flooring	428	$29,715	$33,214	$125,211
Wood container and pallet manufacturing	400	$20,997	$22,506	$91,703
Manufactured home (mobile home) manufacturing	0	$0	$0	$0
Prefabricated wood building manufacturing	96	$6,077	$6,817	$31,079
All other miscellaneous wood product manufacturing	240	$14,272	$15,571	$60,469
Total	**1,288**	**$78,793**	**$86,615**	**$351,302**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.5: Direct Economic Contributions, Wood Furniture Sector Details (2023, 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	848	$61,726	$71,879	$170,697
Upholstered household furniture manufacturing	20	$1,486	$1,714	$4,740
Non-upholstered wood household furniture manufacturing	147	$9,886	$11,231	$28,720
Institutional furniture manufacturing	60	$4,185	$4,841	$14,053
Wood office furniture manufacturing	170	$22,722	$28,362	$58,401
Custom architectural woodwork and millwork	712	$60,727	$34,994	$146,889
Showcase, partition, shelving, and locker manufacturing	83	$7,474	$9,343	$24,250
Total	**2,041**	**$168,206**	**$162,365**	**$447,751**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2023, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Pulp mills	0	$0	$0	$0
Paper mills	755	$87,446	$292,880	$749,363
Paperboard mills	95	$11,694	$37,289	$101,621
Total	0	$0	$0	$0

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B1.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector Details (2023, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Paperboard container manufacturing	1,202	$112,195	$236,104	$775,993
Paper bag and coated and treated paper manufacturing	790	$70,359	$160,084	$431,462
Stationery product manufacturing	39	$2,393	$3,612	$16,659
Sanitary paper product manufacturing	50	$6,035	$24,241	$55,891
All other converted paper product manufacturing	79	$9,967	$25,852	$48,689
Total	**2,159**	**$200,948**	**$449,893**	**$1,328,695**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B2: Direct Economic Contribution by IMPLAN Sector, 2017 (2017 USD))

B2.1: Direct Economic Contributions, Forestry Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
All other crop farming	0	$0	$0	$0
Forestry, forest products, and timber tract production	19	$1,212	$1,189	$1,262
Support activities for agriculture and forestry	71	$472	$454	$1,244
Total	**90**	**$1,683**	**$1,642**	**$2,506**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B2.2: Direct Economic Contributions, Logging Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Commercial logging	569	$25,807	$27,016	$39,521
Total	**569**	**$25,807**	**$27,016**	**$39,521**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Electric power generation - Biomass	28	$24,211	$31,067	$42,624
Sawmills	218	$11,545	$10,912	$58,907
Wood preservation	30	$2,134	$731	$15,049
Veneer and plywood manufacturing	0	$0	$0	$0
Reconstituted wood product manufacturing	0	$0	$0	$0
Total	**276**	**$37,889**	**$42,710**	**$116,580**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	78	$5,551	$6,070	$18,596
Wood windows and door manufacturing	67	$4,301	$4,220	$14,729
Cut stock, resawing lumber, and planing	14	$744	$680	$2,972
Other millwork, including flooring	464	$30,921	$28,621	$93,495
Wood container and pallet manufacturing	396	$19,564	$18,635	$59,031
Manufactured home (mobile home) manufacturing	0	$0	$0	$0
Prefabricated wood building manufacturing	84	$4,753	$4,602	$14,131
All other miscellaneous wood product manufacturing	165	$8,634	$7,930	$27,881
Total	**1,268**	**$74,468**	**$70,756**	**$230,835**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.5: Direct Economic Contributions, Wood Furniture Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	1,215	$96,057	$92,297	$202,071
Upholstered household furniture manufacturing	78	$5,871	$5,322	$16,202
Non-upholstered wood household furniture manufacturing	175	$14,666	$13,738	$27,009
Institutional furniture manufacturing	54	$3,824	$3,583	$10,442
Wood office furniture manufacturing	162	$15,973	$12,203	$34,715
Custom architectural woodwork and millwork	549	$48,356	$45,543	$97,721
Showcase, partition, shelving, and locker manufacturing	303	$24,974	$21,566	$62,779
Total	**2,535**	**$209,721**	**$194,252**	**$450,940**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Pulp mills	0	$0	$0	$0
Paper mills	685	$70,746	$99,723	$499,923
Paperboard mills	143	$15,290	$20,185	$111,080
Total	**828**	**$86,036**	**$119,908**	**$611,003**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B2.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector Details (2017, in Nominal 2017 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Paperboard container manufacturing	1,179	$91,327	$111,721	$538,679
Paper bag and coated and treated paper manufacturing	751	$65,572	$79,601	$327,946
Stationery product manufacturing	61	$3,055	$3,737	$20,253
Sanitary paper product manufacturing	56	$6,247	$10,053	$39,399
All other converted paper product manufacturing	117	$10,508	$11,618	$37,828
Total	**2,164**	**$176,709**	**$216,730**	**$964,105**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2017 dollars value.

B3: Direct Economic Contribution by IMPLAN Sector, 2017 (2023 USD)

B3.1: Direct Economic Contributions, Forestry Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
All other crop farming	0	$0	$0	$0
Forestry, forest products, and timber tract production	19	$1,482	$1,454	$1,581
Support activities for agriculture and forestry	71	$577	$555	$1,559
Total	**90**	**$2,058**	**$2,008**	**$3,140**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.2: Direct Economic Contributions, Logging Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Commercial logging	569	$31,554	$33,033	$49,533
Total	**569**	**$31,554**	**$33,033**	**$49,533**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.3: Direct Economic Contributions, Primary Solid Wood Products Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Electric power generation - Biomass	28	$29,603	$37,986	$53,421
Sawmills	218	$14,116	$13,343	$73,829
Wood preservation	30	$2,609	$894	$18,861
Veneer and plywood manufacturing	0	$0	$0	$0
Reconstituted wood product manufacturing	0	$0	$0	$0
Total	**276**	**$46,329**	**$52,223**	**$146,112**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.4: Direct Economic Contributions, Secondary Solid Wood Products Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Engineered wood member and truss manufacturing	78	$6,787	$7,422	$23,306
Wood windows and door manufacturing	67	$5,259	$5,160	$18,461
Cut stock, resawing lumber, and planing	14	$909	$831	$3,725
Other millwork, including flooring	464	$37,808	$34,996	$117,179
Wood container and pallet manufacturing	396	$23,922	$22,785	$73,985
Manufactured home (mobile home) manufacturing	0	$0	$0	$0
Prefabricated wood building manufacturing	84	$5,812	$5,626	$17,710
All other miscellaneous wood product manufacturing	165	$10,557	$9,696	$34,944
Total	**1,268**	**$91,055**	**$86,516**	**$289,310**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.5: Direct Economic Contributions, Wood Furniture Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Wood kitchen cabinet and countertop manufacturing	1,215	$117,452	$112,854	$253,260
Upholstered household furniture manufacturing	78	$7,178	$6,507	$20,307
Non-upholstered wood household furniture manufacturing	175	$17,933	$16,797	$33,851
Institutional furniture manufacturing	54	$4,676	$4,382	$13,087
Wood office furniture manufacturing	162	$19,531	$14,921	$43,509
Custom architectural woodwork and millwork	549	$59,126	$55,687	$122,476
Showcase, partition, shelving, and locker manufacturing	303	$30,536	$26,370	$78,682
Total	**2,535**	**$256,432**	**$237,518**	**$565,172**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.6: Direct Economic Contributions, Pulp, Paper, and Paperboard Mills Sector Details (2017, in 2023 USD). †

Industries	Employment	Labor Income	Value-Added	Output
Pulp mills	0	$0	$0	$0
Paper mills	685	$86,503	$121,935	$626,563
Paperboard mills	143	$18,696	$24,680	$139,219
Total	**828**	**$105,199**	**$146,615**	**$765,783**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.

B3.7: Direct Economic Contributions, Secondary Paperboard and Other Paper Products Sector Details (2017, in real 2023 Dollars). †

Industries	Employment	Labor Income	Value-Added	Output
Paperboard container manufacturing	1,179	$111,668	$136,605	$675,137
Paper bag and coated and treated paper manufacturing	751	$80,177	$97,330	$411,021
Stationery product manufacturing	61	$3,736	$4,569	$25,383
Sanitary paper product manufacturing	56	$7,639	$12,292	$49,380
All other converted paper product manufacturing	117	$12,848	$14,206	$47,411
Total	**2,164**	**$216,067**	**$265,002**	**$1,208,332**

† All monetary values (Labor Income, Value-Added, and Output) are in thousands of U.S. dollars, adjusted to 2023 dollars value.