

CREATING A SUSTAINABLE FUTURE WITH **FOREST PRODUCTS** IN WISCONSIN.®



WHY FOREST PRODUCT COMPANIES CHOOSE WISCONSIN

Companies looking to start, relocate or expand their operations in Wisconsin benefit from the state's central location, reliable infrastructure, talented workforce and business-friendly policies—all of which create competitive advantages that help businesses capitalize upon regional, national and global market opportunities.

Wisconsin's long history of innovation continues to fuel new solutions to challenges facing people, companies, nations and our very planet, with some of the most respected companies in the world drawing upon Wisconsin's plentiful natural resources, renowned research capabilities and the can-do spirit of its citizens to grow and succeed.



The state's timber industry stretches back to a period before Wisconsin even achieved its statehood in 1848. As demand for raw building materials grew in western and Midwestern states, Wisconsin increasingly served as a source for wood. Not only did the state's abundant forests fulfill the demand, its bountiful waterways provided convenient transportation of harvested logs.

Wisconsin's logging industry grew in parallel with another major driver of the state's economy—agriculture. As the lumber industry expanded, demand grew for feed crops for oxen and horses. Logging also provided a way for farmers to supplement their income: they would work all winter long cutting down trees, piling the logs along riverbanks to be floated downstream once the rivers swelled and accelerated with the spring thaw. Later, the logging industry was largely responsible for the development of the state's railroads, as logging shifted from white pine to hardwoods, which were too heavy to float down the rivers. Many of Wisconsin's cities and towns owe their location to those early logging camps.

As the timber industry began to recover after the Great Depression, it found itself in a changed world. As the public became concerned with conservation, the industry pivoted to incorporate sustainable practices. Today, Wisconsin's forest products industry is committed to sustainable forestry practices and strong stewardship that help create and maintain the conditions necessary for the state's forests to thrive.

WISCONSIN CONSISTENTLY SCORES
AMONG THE TOP STATES IN THE NATION FOR
BEST-FUNDED PENSION PLANS.

Source: PEW Charitable Trusts

UNIQUE INDUSTRY ADVANTAGES

Today, Wisconsin is home to 10 state forests that cover more than 526,000 acres.¹ In total, the state has 17.07 million acres of forest land—48 percent of the state's total land area.² Wisconsin is the #1 papermaking state in the U.S., producing 5.3 million tons of paper annually.³ The forest products sector directly employs over 64,000 people.⁴

Wisconsin's forest products sector accounted for 6.6 percent of the state's exports in 2016. These exports traveled to a total of 117 countries around the world.⁵

Today, Wisconsin's forest products companies are leaders in sustainability, many of them receiving awards for their environmental stewardship, including reforestation and other practices to ensure the health of the state's forests for the sake of both the economy and the environment, as well as the enjoyment of Wisconsin residents.

TALENT

Wisconsin is well known for its industrious, Midwestern work ethic, and its educational system is universally admired. Wisconsin's high school graduation rate is consistently ranked among the top in the nation, and the University of Wisconsin System is regularly cited as a leader in terms of size and quality.

Wisconsin's public and private colleges support the resources, companies and policy makers throughout the state that are working to develop new, innovative products to fulfill market needs. And as the first state in the nation to develop a technical college system, Wisconsin has more than 100 years' experience training its workforce to fulfill ever-changing industry demands.

INFRASTRUCTURE

Wisconsin's central location and robust infrastructure give companies operating in the state one-day access to major markets throughout the U.S. and beyond. Wisconsin's roads, railways and ports provide seamless, convenient access to the world's busiest multimodal transportation hub, located just 55 miles south of the state's border.

¹ Source: Forest Inventory and Analysis National Program

² Source: Forest Inventory and Analysis National Program

³ Source: Wisconsin Department of Natural Resources

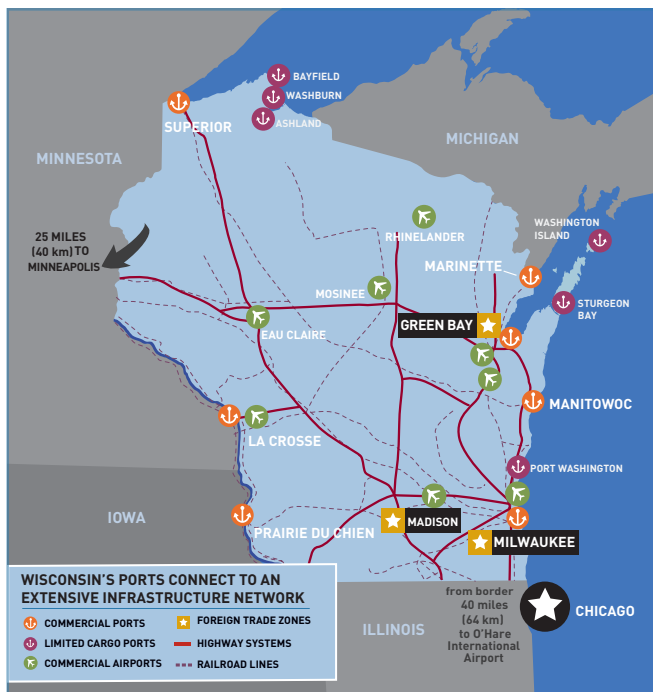
⁴ Source: WORKnet, Wisconsin Department of Workforce Development, Annual 2016 QCEW Employment

⁵ Source: U.S. Census Trade Data Set via WISERTrade 2016 Exports from Wisconsin to all countries

64K+ 

EMPLOYED IN THE FOREST PRODUCTS INDUSTRY

Source: WORKnet, Wisconsin Department of Workforce Development, Annual 2016 QCEW Employment



INFRASTRUCTURE IN WISCONSIN

09 HIGHWAY SYSTEMS

State commerce and industry relies on nine major highways covering more than 11,800 miles (18,990 km) to move our goods to market. Our interstate system connects us to major industrial cities across the U.S.

13 RAILROAD LINES

Rail traffic throughout the state continues to grow and move more than \$122 billion in freight each year, creating a seamless link in the nationwide intermodal system. Amtrak travels between Chicago and Milwaukee multiple times daily.

08 COMMERCIAL AIRPORTS

Eight commercial airport locations serving major industrial and metropolitan areas statewide. These airports are served by all major carriers, linking to every point in the nation within one business day. In addition, these larger airports are within driving distance:

CHICAGO: O'Hare is American's second largest hub, with 963 domestic flights daily to 153 U.S. cities and more than 100 direct flights daily to 55 international destinations.
MINNEAPOLIS: 135 nonstop flights including 115 domestic and 20 international markets.

13 COMMERCIAL PORTS

Uniquely situated on the nation's greatest waterways, Wisconsin ships 39 million ton of product from commercial cargo ports and 6 limited cargo ports located along Lake Michigan, Lake Superior and the Mississippi River.

03 FOREIGN TRADE ZONES (FTZ)

Companies located in one of our three Foreign Trade Zones (FTZs) can import merchandise (by truck, rail, air or boat) without going through formal customs entry procedures or paying import duties. These companies have the option to pay tariffs after their product inventory is sold, improving cash flow and saving money. Other benefits include, but are not limited to: global market competitiveness, minimized bureaucratic regulations, and improved supply chain efficiencies.

GLOBAL LEADERSHIP

WORLDWIDE IMPACT



Wisconsin exported forest products worth \$1.4 billion across all categories in 2016.¹ These exports make up a significant portion of Wisconsin's total exports: between 6 and 8 percent every year for the past two decades.² The majority of these exports are paper and paperboard (\$854 million, or 62 percent).³ Printed books, newspapers and manuscripts make up 19 percent, and lumber and wood products 16 percent.⁴ Wood pulp and furniture make up the balance of the exports.⁵ Canada and Mexico are the top destinations for Wisconsin wood products.

^{1, 2, 3, 4, 5} Source: U.S. Census trade dataset via WISERTrade

0.4% WISCONSIN'S
MANUFACTURING
TAX RATE

Examples of Wisconsin companies exporting wood products:

- **Ashley Furniture**
- **McDonald Owen**
- **Appvion**
- **Appleton Coated Paper**
- **Expera Specialty Solutions**
- **Kolbe & Kolbe**
- **Hurd Windows and Doors**
- **Kimberly-Clark**
- **Wisconsin Veneer and Plywood**

Select international wood products companies in Wisconsin:

- **Cascades Inc.** (Canada)
- **Catalyst Paper** (Canada)
- **Stella Jones** (Canada)
- **Domtar** (Canada)
- **Corenso** (Finland)
- **Seda** (Italy)
- **Sofidel** (Italy)
- **Amorim Group** (Portugal)

Source: Uniworld Online

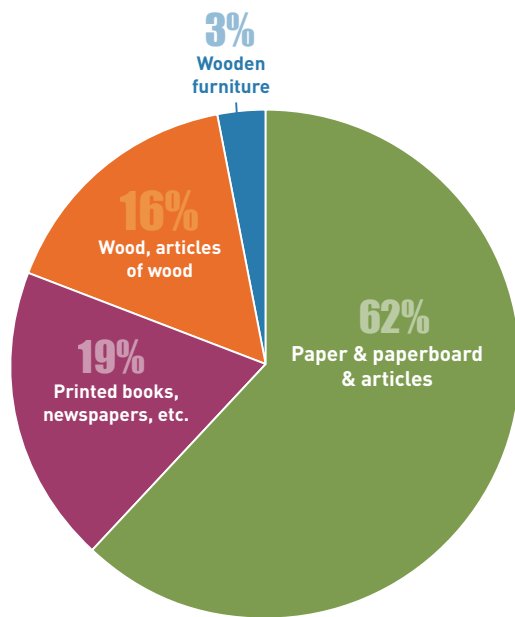
MANAGING THE STATE'S FOREST RESOURCES RESPONSIBLY TO BENEFIT THE ECONOMY AND THE ENVIRONMENT

The Chequamegon-Nicolet National Forest (CNNF) covers 1.5 million acres in 11 counties across northern Wisconsin, serving as a scenic destination for hikers, campers, hunters, anglers and other outdoor enthusiasts—but also playing a vital role in the region's economy. Every year, millions of cubic feet of sawlogs and pulpwood are responsibly harvested from the forest by local loggers for processing into furniture, flooring, millwork and a host of other wood products.

Wisconsin is leading the way in the use of two innovative programs—U.S. Forest Service stewardship agreements and the Good Neighbor Authority—both designed to support the tremendous resources of the CNNF.

In both programs, Wisconsin state agencies and local stakeholders have collaborated with CNNF leadership to identify and manage projects to yield timber for both business use and improved forest health. A typical stewardship agreement funds local forest improvement goals through timber production and sales. The Good Neighbor Authority allows the Forest Service to enter into cooperative agreements or contracts with U.S. states to perform watershed restoration and forest management services on Forest Service lands. In Wisconsin, the Good Neighbor Authority facilitates collaboration across jurisdictional boundaries and in mixed ownership settings. Both of these tools help ensure a robust supply of timber to the forest products and paper industries while supporting the health of the forest.

TOP WISCONSIN FOREST PRODUCT EXPORTS



\$1.4
FOREST PRODUCTS
INTERNATIONAL
EXPORTS TOTALED **BILLION**

Source: U.S. Census Trade Data Set via WISERTrade
2016 Exports from Wisconsin to all countries



WISCONSIN'S FOREST PRODUCT EXPORTS

(Product categories are based on 2 and 4 digit HS code numbers.)

RANK	DESCRIPTION	VALUE	PERCENT OF TOTAL
1	Paper and paperboard	\$854,747,147	61.80%
2	Printed books, newspapers, manuscripts	\$258,873,880	18.72%
3	Lumber and wood products	\$224,981,742	16.27%
4	Misc. wooden furniture	\$23,437,728	1.69%
5	Wooden bedroom furniture	\$9,227,728	0.67%
6	Wood pulp	\$9,098,407	0.66%
7	Wooden office furniture	\$2,161,739	0.16%
8	Wooden kitchen furniture	\$503,004	0.04%
TOTAL ALL COMMODITIES		\$1,383,031,193	100.00%

Source: U.S. Census Trade Data Set via WISERTrade 2016 Exports from Wisconsin to all countries

CUTTING-EDGE ACADEMIC PROGRAMS AND INDUSTRY-ACADEMIC COLLABORATIONS

The history of forestry education in Wisconsin is almost as old as the industry itself: forestry instruction has been offered at the University of Wisconsin since 1903. Wisconsin is one of only nine U.S. states that have two or more university campuses that are accredited by the Society of American Foresters. These campuses are the **UNIVERSITY OF WISCONSIN-MADISON**, whose Department of Forest and Wildlife Ecology received accreditation in 1971, and the **UNIVERSITY OF WISCONSIN-STEVENS POINT**, whose College of Natural Resources received accreditation in 1976. In these programs, students can focus on forestry, urban forestry, or natural resources and ecosystem management.



The **WISCONSIN INSTITUTE FOR SUSTAINABLE TECHNOLOGY** (WIST) at the University of Wisconsin-Stevens Point provides research, laboratory services and education for business and industry, bringing

new ideas and innovation from the university to the private sector. Its research areas include biofuels, renewably sourced chemicals from biomass and value-added uses of agricultural residuals from processing. WIST developed an interdisciplinary biofuels minor now being offered at UW-Stevens Point, and operates a Fourdrinier pilot paper machine. An important asset for the university's paper science and engineering program, the machine is used in WIST's hands-on courses on papermaking. The institute also houses a Cellulose Pilot and Processing Lab, a collaborative research facility for development and commercialization of biorefinery technologies. In a public-private partnership with American Science and Technology, WIST built a two-ton-per-day biorefinery located in Wausau. Together with the equipment on the university campus, this allows researchers and students to test processes from bench to pre-commercial pilot scale.

#1 WISCONSIN
RANKS #1 NATIONALLY IN EMPLOYMENT CONCENTRATION FOR PAPER MANUFACTURING.

Source: Annual Private Employment 2016, QCEW, BLS



The **NATIONAL FOREST PRODUCTS LABORATORY** is the nation's only federally funded wood utilization

research laboratory. It is partially or chiefly responsible for many of today's wood-based technologies, including wood preservatives, glulam (glued laminated timber) beams, oriented strandboard, and fiber-based packaging. Established in Madison in 1910 with a focus on conservation, its goal is to use the nation's timber resources efficiently and effectively while keeping forests healthy. Its early research in preservatives led to a 75 percent reduction in the demand for railroad ties. Through its research, the laboratory increased the average lumber yield per log from 25 percent to 60 percent. The laboratory designed and constructed the nation's first pre-fabricated home, and its wood frame technology is used in over 90 percent of homes in the U.S. Its current areas of research emphasis include advanced composites, advanced structures, forest biorefinery, nanotechnology and woody biomass utilization.



The **LAKE SUPERIOR RESEARCH INSTITUTE** at the **UNIVERSITY OF WISCONSIN-SUPERIOR** conducts

research not only on the marine environment, but on how forests and lakes interact and influence one another. Research topics include pollutant levels in the tissue of marine life; fish metabolism; fish and plankton population monitoring; invasive species; air quality; and the effects of erosion, soil quality and harbor development on water quality. The institute also conducted a major project to monitor eight Lake Superior watersheds and their coastal wetlands and streams. This project included analyzing and digitizing land cover in each of the eight study areas using high-resolution imaging. The resulting analysis examined the effects of deforestation on water quality and aquatic habitat, helping to determine priorities for reforestation.



The **WISCONSIN PAPER COUNCIL** is an advocacy group that informs and educates the industry on proposed legislation and job

opportunities and provides educational tools for showcasing the importance of the paper industry.



Wisconsin Forestry.org
growing, giving

The **WISCONSIN COUNCIL ON FORESTRY**, created by state statute in 2002 to

advise the Governor, Legislature, Department of Natural Resources, the former Department of Commerce, and other state agencies on forestry issues, is dedicated to sustainable forestry in Wisconsin. The council's priorities include timber supply, forest education, forest certification, deer impacts on Wisconsin forests, and Wisconsin's Managed Forest Law Program.



The **GREAT LAKES TIMBER PROFESSIONALS ASSOCIATION**, based in Rhinelander, is an advocacy group whose objective is to ensure the forest management practices are observed to support and strengthen the forest products sector in Wisconsin.



The **WOOD TECHNOLOGY CENTER OF EXCELLENCE** at Northcentral Technical College is a one-of-a-kind, 27,000-square-foot facility dedicated to preparing students for careers in the forest products and woodworking industry. It gives students access to the latest design software and manufacturing equipment, allowing them to learn about product design and engineering, quality assurance, materials science, manufacturing and sales. With \$1.5 million in state-of-the-art design and fabrication equipment, the center prepares students for work in a field that boasts over 1 million jobs nationwide. Northcentral Technical College offers the only wood science associate degree program in North America, and also offers a technical diploma in wood technology and a certificate program in CNC router operation.



The **LAKE STATES LUMBER ASSOCIATION**, based in Green Bay, Wisconsin is an advocacy group with more than 140 members in 18 states and one Canadian province. The organization conducts lobbying on

issues that pertain to the industry, with an objective of assuring the sustainability of forest resources.



WISCONSIN'S COUNTY FORESTS
Unique to the Nation

The **WISCONSIN COUNTY FORESTS ASSOCIATION** exists to provide leadership and counsel to county forestry committees in relation to forestry policies and programs, including but not limited to administration, development and protection of the forests of Wisconsin, and cooperation with state and federal agencies. The association also provides leadership in obtaining financial support for forestry programs and work, and also advises on proposed forestry legislation and other legislative matters affecting forestry and forest land use in Wisconsin, among other objectives.



The **WISCONSIN CONSULTING FORESTERS ASSOCIATION** is committed to promoting forest resources.



The **U.S. FOREST SERVICE** has a regional office in Milwaukee.



THE WISCONSIN SOCIETY OF AMERICAN FORESTERS aims to advance the science, technology, education and practice of forestry; to enhance the competency of its members; to establish professional excellence; and

to use the knowledge, skills and conservation ethic of the profession to ensure the continued health and use of forest ecosystems and the present and future availability of forest resources to benefit society. The society provides information and networking opportunities to prepare its members for the challenges and the changes that face natural resource professionals. The national society, founded in 1900, is the accreditation authority for professional forestry education in the U.S. It is the largest professional society for foresters in the world, and it publishes a number of periodicals to help members stay current on their professional knowledge.

WISCONSIN'S PAPERMAKING STRENGTH: PAST, PRESENT AND FUTURE

Papermaking in Wisconsin got its start in 1848, three months before President Polk signed legislation to make Wisconsin a state, when paper made of rags was used to publish the *Milwaukee Sentinel & Gazette*.

In the late 19th century, papermaking shifted to use forest products as its source, with the introduction of the Keller groundwood process. Due to Wisconsin's plentiful forests, the paper industry became a cornerstone of the state's economy. It remains so today, and the industry has evolved along with the state and world economy.

The digital revolution has certainly dampened paper consumption in developed markets, with some uses of paper—print publications, for example—experiencing dramatic decreases.¹ However, population growth in the developing world is creating new markets for paper products, including packaging materials.¹ The paperless future that many predicted has not yet come to pass, and it appears it will be some time before that happens.

Wisconsin is a leader in this industry, due to its natural resource wealth and the innovative companies in the state leading the way in sustainable production.

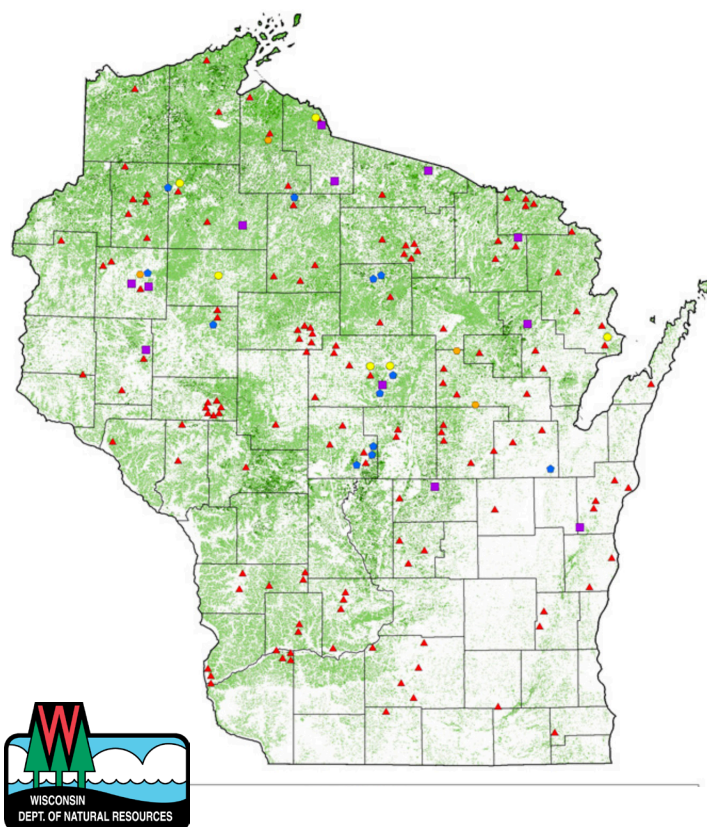
PROFILING WISCONSIN'S FOREST PRODUCT MILLS

The state's forest product mills fall into two main categories. The state's primary wood-using industry consists of firms that manufacture logs and pulpwood into wood products. Specific examples include sawmills, plywood mills, veneer plants, pulp mills and firewood processors, as well as companies that manufacture products such as composite panels, log cabins and treated wood. The state's secondary wood-using industry consists of firms that manufacture dimensional and reconstituted wood into value-added wood products. Specific examples include furniture and cabinet manufacturers.

¹ Source: World Paper Markets Up to 2030, Poyry Management Consulting, 2015

5.3M TONS WISCONSIN PRODUCES 5.3 MILLION TONS OF PAPER ANNUALLY

Source: Wisconsin Department of Natural Resources, 2014

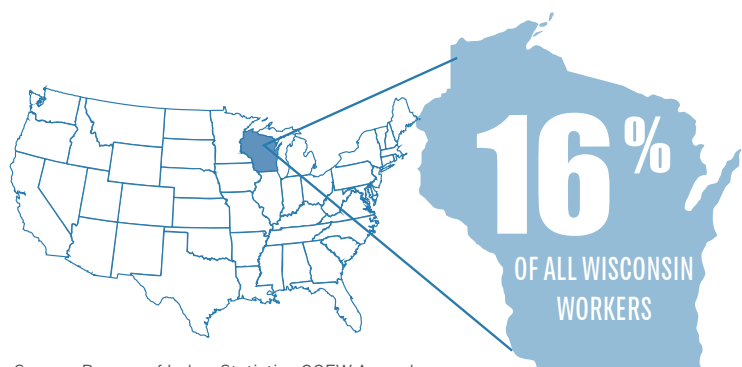


MILL TYPES

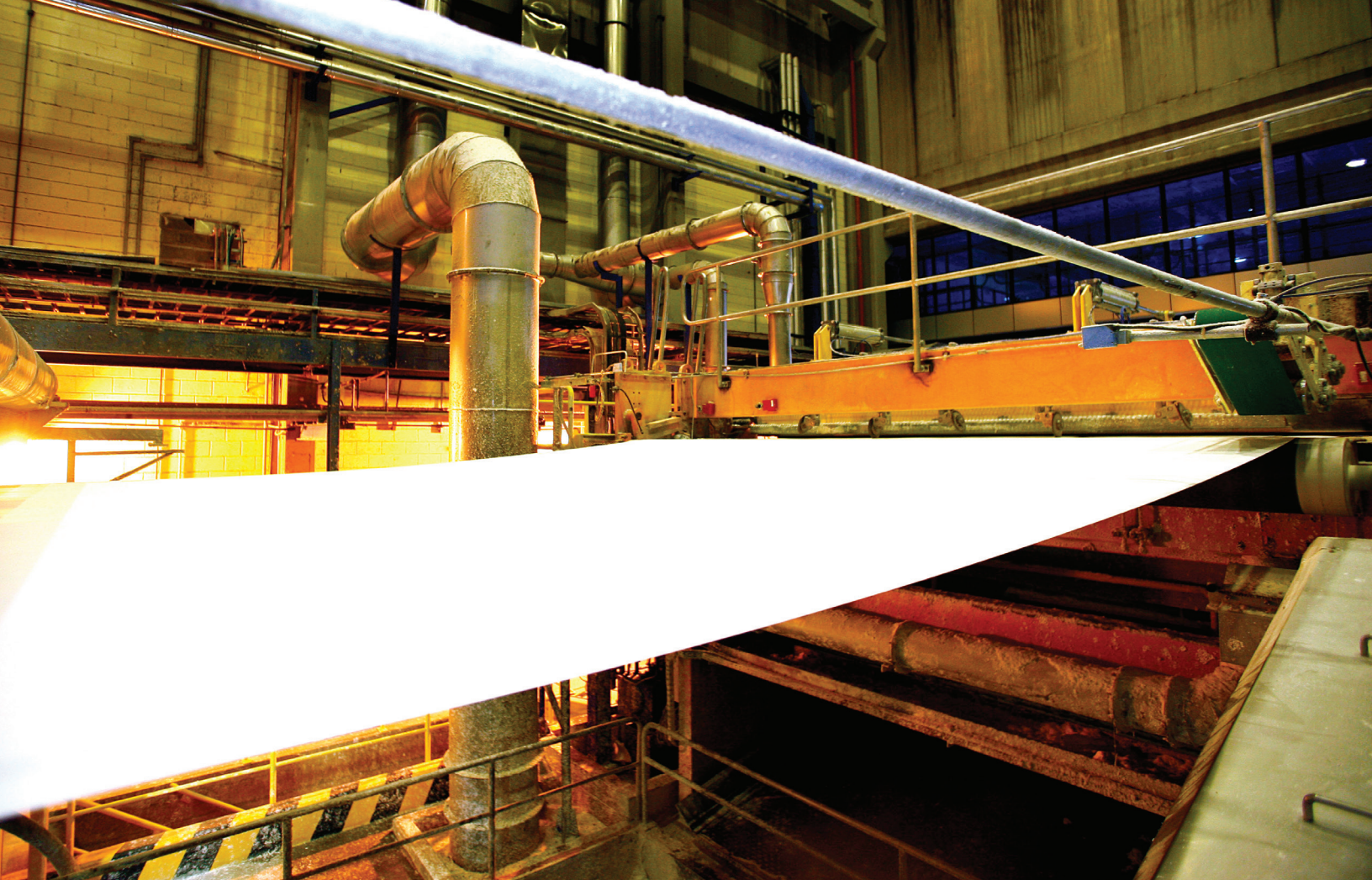
- PELLET MILL
- POST / POLE / PILING MILL
- ◆ PULP / COMPOSITE MILL
- ▲ SAWMILL
- VENEER MILL

Source: Wisconsin Department of Natural Resources, 2014

2ND HIGHEST MANUFACTURING CONCENTRATION OF ANY STATE IN THE NATION



Source: Bureau of Labor Statistics QCEW Annual



WISCONSIN'S FOREST PRODUCTS WORKFORCE

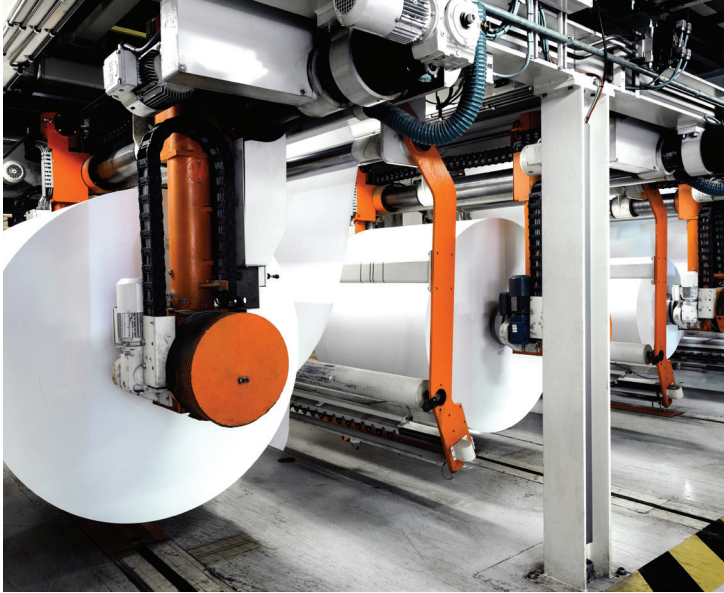
INDUSTRY	ANNUAL 2016 EMPLOYMENT
Converted paper product manufacturing	18,957
Other wood product manufacturing	12,519
Pulp paper & paperboard mills	11,370
Household & institutional furniture manufacturing	10,558
Office furniture & fixtures manufacturing	3,557
Plywood & engineered wood product manufacturing	2,921
Sawmills & wood preservation	2,226
Other furniture related product manufacturing	1,282
Logging	767
Support activities for forestry	141

Source: WORKnet, Wisconsin Department of Workforce Development, Annual 2016 QCEW Employment

WISCONSIN

APPLETON COATED

Combined Locks



Appleton Coated's paper mill located on the banks of the Fox River in Combined Locks, Wisconsin, has been making paper since 1889. Today, Appleton Coated is a diversified manufacturer of coated, uncoated, inkjet, specialty and technical papers sold under the Ethos™ and Utopia® brand names, among others. The company's products are used in high-end commercial printing, textbook publishing, label papers, transactional printing, and a variety of specialty and custom applications.

When it comes to the environment, Appleton Coated is committed to sustainable practices within our operations and to making sustainable products available and affordable to our customers. The company is a leader in the industry in offering a broad range of products containing post-consumer recovered fiber, maintains ISO 14001 certification for its environmental management system, and has been recognized by the World Wildlife Fund for its environmental transparency by participating in the Environmental Paper Company Index. Appleton Coated is also a Green Tier II company, recognized by the Wisconsin Department of Natural Resources as having exceptional environmental management systems in place.

Appleton Coated proudly employs 630 people, with about 445 being members of United Steelworkers Local 2-144. The manufacturing facility has an annual production capacity of 400,000 tons on three paper machines and a coating and finishing complex with processing capacity of 284,000 tons. Its corporate headquarters is also located at the mill site in Combined Locks.

KIMBERLY-CLARK

Neenah



For nearly 150 years, Kimberly-Clark has transformed ideas into trusted household products. The company's global brands include Kleenex, Huggies, Kotex, Depend, Viva, Scott and Cottonelle. Its products are available in more than 175 countries, and nearly one-quarter of the world's population purchases its products every day.

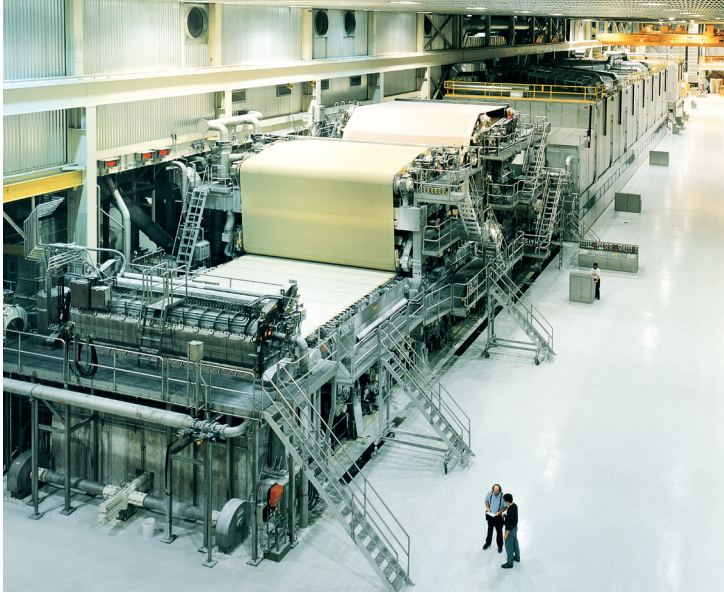
The company was founded in 1872 in Neenah, where its North American consumer products division is still based. Over the years, the company pioneered many innovative products, including the first paper towels, facial tissue, sanitary napkins and industrial wipes. Its Kimberly-Clark Professional business works to create effective and efficient product solutions to help safeguard businesses by keeping people healthy while they work, protecting employees and their environments, and enabling businesses to operate more efficiently. It is also a leader in the industrial and scientific wiping segments, and also manufactures a wide range of safety products to protect employees, their environments and valuable work processes.

In 2015, Kimberly-Clark had more than \$18.6 billion in global sales, with 43,000 employees working at manufacturing facilities in 37 countries. The company has received numerous awards for its sustainability practices, corporate social responsibility, community involvement, and its support for employee wellness and equality in the workplace, and contributed more than \$35 million in cash and products to charitable causes in 2014.

FOREST PRODUCTS COMPANIES

MARTH WOOD

Marathon, Peshtigo, Athens



Marth Wood Shaving Supply Inc. began manufacturing clean animal bedding from wood industry by-products in 1958. The benefits to animal health of high-quality bedding may seem obvious in hindsight, but at the time it was a real innovation utilizing what was previously wasted.

In the decades since, the company's innovative approach to creating value from wood residuals has led to the development of an expanded variety of animal bedding products, as well as entirely new product categories, such as wood flour used as industrial fillers and wood pellets for use as clean-burning fuel.

As the company's network of suppliers and customers grew, it led to an expansion into transportation services. Founded in 1984, Marth Transportation Inc. was initially a private fleet that hauled wood shavings to farmers throughout Wisconsin and northern Illinois. Today, it is a common and contract carrier with the ability to ship in 48 states and a fleet of trailers large enough to handle almost any need.

Materials made by Marth Manufacturing Inc. are used in the construction of automotive interiors, composite deck boards, desks, explosives and many other applications. Because all of these products are made from our forest's renewable resources, the company is promoting jobs and economics while helping to reduce the carbon footprint of every industry, company, and individual that works with Marth.

WHOLETREES

Madison



Paul McMahon/Heartland Images

Round unmilld timber is about 50 percent stronger than milled timber—in fact, it is as strong as steel. But unlike steel, round timbers are renewable, using much less energy to process. Sourcing abundant round timber from previously low- or no-value cullings holds promise for sustainable forest management, rural job creation and architectural aesthetics.

Founded in 2007, WholeTrees Architecture & Structures develops the technology and manufacturing to take small-diameter trees and fabricate them into structural building systems. The company started out with a focus on residential construction, but has since moved into the commercial construction market with projects nation-wide including the Minnesota, Cleveland and San Diego Zoos, as well as the new Festival Foods in Madison, which features repurposed Madison Parks ash trees for columns, some of which support nearly quarter-million-pound loads.

WholeTrees' proprietary manufacturing process uses patented structural components and trade secrets based on research conducted with the U.S. Department of Agriculture (USDA) Forest Products Laboratory and funded in part by more than \$1 million in Small Business Innovation Research grants from the USDA. In 2012, the company became certified as a Qualified New Business Venture, making its investors eligible for a 25 percent tax credit on the amount they invest. In 2014, they received a \$170,000 Technology Development Loan from the Wisconsin Economic Development Corporation to help them continue their expansion. WholeTrees won the 2015 National Forest Foundation Barrett Business Concept Challenge, and was named a "Force for Positive Change" by the Morgridge Foundation.

The Wisconsin Economic Development Corporation (WEDC) leads economic development efforts for the state by advancing and maximizing opportunities in Wisconsin for businesses, communities and people to thrive in a globally competitive environment. WEDC provides resources, operational support and financial assistance to companies, partners and communities in Wisconsin. WEDC achieves its mission through initiatives driven by five strategic pillars: business development; community and economic opportunity; strategic economic competitiveness; state brand management and promotion; and operational and fiscal excellence. Working with more than 600 regional and local partners, WEDC develops and delivers solutions representative of a highly responsive and coordinated economic development network.

Visit **InWisconsin.com** to learn more.

