

Investing in Softwood Lumber's Future Through Education

The SLB is expanding its education offerings to ensure that wood is the material of choice in the built environment—now and in the future. In addition to growing existing platforms like the Wood Institute, the SLB also recently launched several initiatives to reach targeted audiences within the design and building ecosystem.



Mass timber installation training at the Southwest Carpenters Training Fund training center in Buena Park, CA. Courtesy: WoodWorks

In May, the SLB led its first-ever [Timber Design Faculty Development Workshop](#) in partnership with Clemson University's School of Architecture and Wood Utilization + Design Institute. The four-day, hands-on workshop helped 20 architecture faculty members from 18 schools to identify ways to better integrate timber design and construction into their programs, which together reach about 2,400 architecture students annually. Participant feedback was positive, and the SLB is now working on repeating this model with other universities and disciplines.

The SLB was the sole sponsor of the three-day [National Civil Engineering Department Heads Conference](#), held at Portland State University in June. The conference welcomed nearly 100 leaders of accredited engineering schools and focused on fostering innovation in curricula, including in areas related to wood construction. Concurrently, WoodWorks joined an initiative led by Michigan State University to integrate mass timber curricula into postsecondary architecture, engineering, and construction (AEC) programs nationwide.

The SLB also continues to expand mass timber installation and construction management training. WoodWorks added six new training centers as partners in the first half of 2022, bringing the total to 16. Notable among these, the Carpenters International Training Fund in Las Vegas serves as the train-the-trainer program for all U.S. carpenter training centers nationally as well as the regional training center for the Las Vegas metro area.

The SLB expects education to be critical for ongoing and new investments in the coming years. The Installation Training component of the WoodWorks Construction Management Program plans a five-year approach to increase trained labor availability for the safe and efficient installation of mass timber on commercial, multifamily, industrial/warehouse, and institutional projects. From 2023 to 2027, the program will deliver 2,200 workers, which is sufficient to add and staff 75 installation crews per year, and will add installation crew capacity for over 400 additional projects annually. This training trajectory aligns with expected project growth and enables these construction teams to respond to and complete mass timber projects across the United States.

Q2 HIGHLIGHTS

526 MILLION BOARD FEET
OF INCREMENTAL DEMAND
GENERATED IN Q2 2022



THE CARBON BENEFIT
FOR 2022 Q2 REPORTED PROJECTS

was 1.4 million metric tons of
carbon dioxide emissions.



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Creating Market Opportunity With Tall Steel-Timber Hybrid Construction

The SLB continues to build the case for high-rise steel-timber hybrid construction via its ongoing two-year research project, The Future Potential of Steel-Timber Hybrid Buildings, which is led by the [Council on Tall Buildings and Urban Habitat \(CTBUH\)](#) and co-funded by the World Steel Association's [constructsteel](#) program.

In its first year, the project conducted an initial market audit that indicated there is a significant global market opportunity for steel-and-timber hybrid structures for high-rise buildings. This information dovetails with past SLB analysis that indicated hybrid building systems will account for 470 million board feet in incremental lumber consumption by 2035.

The project also profiled numerous existing steel-timber projects—some of which will form the basis for data-driven case study development—and began to incorporate the profiles and hybrid messaging into presentations and panel discussions that were delivered around the globe.

The partners also hosted the two-day Steel-Timber Hybrid Buildings Conference in May in Chicago. The conference convened leading international experts in steel-and-timber design and construction to explore how the benefits of each can be used to advance tall steel-timber hybrid buildings; more than 250 building professionals attended.

“The steel-timber hybrid project being facilitated by the CTBUH on behalf of constructsteel and the Softwood Lumber Board aims to bring out the best of both steel and timber in future sustainable buildings and to share these benefits with the wider construction community.”

Terrence Busuttill, Director, constructsteel

In the coming months, CTBUH will work to conduct life cycle and cost assessment analyses to elaborate the full potential for high-rise steel-timber hybrid structures in advance of producing a peer-reviewed technical guide by June 2023. The technical guide is expected to serve as a precedent-setting reference to support the development of steel-timber hybrid buildings.

The SLB's partnership with World Steel is a prime example of how allies of two materials can find common ground and work together to benefit both. In the years ahead, the SLB is eager to explore other collaborations that leverage the competitive benefits of wood to add value to and complement other products, such that all parties—and the built environment as a whole—achieve their goals.

“It is fantastic to bring both the mass timber and steel industries together for this important research project.

With experts from around the world presenting at the initial conference, we were pleasantly surprised to see the advances that have already been made with completed steel-timber hybrid buildings. The research project will now build off that, gleaming the best practice of these two materials in symbiosis, and conducting a thorough LCA, amongst other initiatives.” said Dr. Antony Wood, RIBA, President at CTBUH.

For more information, visit ctbuh.org/steel-timber-hybrid.

New Carbon Accounting Tools Near Completion

The American Wood Council (AWC) is in the final stages of developing and launching three new tools to fill carbon-accounting data gaps across the wood products value chain, in collaboration with the U.S. Endowment for Forestry and Communities and with funding from the SLB.

The new A4 Transportation Tool is complete and, following technical reviews by the USDA Forest Products Laboratory, CORRIM, and the University of Washington, has fully transitioned to the AWC's management. The A4 tool makes an average CO₂ equivalent transportation-to-site metric available for each region—based on product origin, transportation modes, and distances. The AWC is now working with whole building and life cycle assessment tool providers to incorporate the A4 methodology's default values into their tools.

The online Fiber Sourcing Transparency Tool is fully operational and has been transferred to the AWC for finalization and ongoing implementation. The tool dynamically links mill grade-stamp codes to fiber-supply information—detailing percentages of legal, responsible, and certified sourcing; landownership patterns; and other relevant sustainability data. The tool website is scheduled to launch in 2023.

The National Council for Air and Stream Improvement and Dr. Edie Sonne Hall have drafted a peer-reviewed article that outlines a methodology for the Woodshed Carbon Balance tool. The USDA will integrate the tool into its Carbon Online Estimator, and the AWC and others will use its outputs when updating environmental product declarations.

Separately, WoodWorks launched a collaboration with the University of Colorado Boulder to develop mass timber structural designs for Department of Energy building prototypes. The structural designs will be used to calculate wood's embodied carbon to inform the Department of Energy's Building Energy Codes Program. In addition to co-financing, WoodWorks is contributing to building designs and helping to ensure all materials use equivalent design criteria.

Each initiative will help the industry confirm and communicate the comparative carbon benefits of building with wood.

WoodWorks Helps Make Case for Successful Five-Over-One Wood Building

Sam Aslanian Architect contacted the WoodWorks help desk in 2017 with technical questions regarding its first five-story wood-frame project. When it emailed WoodWorks again early this year, it was about an altogether different issue: Because of high lumber prices, a project owner was pushing Aslanian to redesign SOFI—a 138-unit apartment building in Los Angeles’s North Hollywood Arts District—with metal studs. Aslanian was looking for assistance to convince its client to stay the course with light-frame wood construction.



WoodWorks supplied Aslanian with a copy of a paper from the AWC on lumber demand and pricing trends, including a graph showing that lumber prices had already dropped significantly. In making the case for steel, the owner had raised other concerns with light-frame construction—including steel’s size advantages and termite risks. WoodWorks clarified that, for R-2 occupancies, Type II-A and III-A construction had the same allowable height, number of stories, and area. WoodWorks also shared ICC Building Valuation Data demonstrating that wood costs less and provided a copy of WoodWorks’ paper, [Effective Termite Protection for Multifamily and Commercial Wood Buildings](#), to allay those concerns.

Armed with WoodWorks’ data and information, Aslanian convinced its client that five stories of light-frame construction over a concrete podium was an optimal choice for the project. The 100,000-square-foot SOFI project is currently under construction and will use nearly 1.4 million board feet of softwood lumber.

Big Lumberyards’ Buys Mark Big Shift for Truss Plants

Guest column by Craig Webb

The attention given to the rise of mass timber and off-site manufacturing has obscured a trend that may ultimately be just as significant to the lumber industry: big lumberyards’ investment in truss and panel plants.

Since 2020, nearly 100 truss and panel facilities have changed ownership or had newly created openings—that’s as much as 5% of all truss facilities operating in the United States. Roughly 20 of these facilities figured in deals executed this year, most notably when Builders FirstSource acquired New England’s National Lumber Co. and when US LBM purchased Texas-based Foxworth-Galbraith Lumber Co. Meanwhile, 84 Lumber revamped its operations in Richmond, Virginia, to accommodate a new truss plant and converted a once-shuttered yard in North Carolina into a truss facility.

What’s behind this? Profit and opportunity. Manufactured products carry higher profit margins than commodities, and interest in them has grown as builders consider alternatives to materials assembled on site by hard-to-find labor. The biggest lumberyards increasingly see themselves as manufacturing partners to homebuilders—and they’re investing in this prospect. Companies are upgrading their truss facilities and automating previously manual processes to achieve more output with fewer people.

These production gains are sorely needed as truss plants nationwide have struggled to meet recent surging demand. Home Innovation Research Labs estimates that pre-manufactured trusses are used in about 60% of all single-family homes and 75% of all multifamily buildings. Ironically, Home Innovation’s recent surveys indicate that builders have faced so much pressure to put up homes that some have returned to building trusses onsite. But as demand softens and new truss plants boost their output, trusses’ share of market is expected to rise again. And increasingly, those trusses will be produced by lumberyards—not independent truss makers.



Craig Webb is president of Webb Analytics, a data and research consultancy that helps the construction supply industry spot and respond to trends, threats, and opportunities. Learn more at webb-analytics.com.

Q2 PROGRAM HIGHLIGHTS

Code:

American Wood Council

- During ICC Group B Hearings, the AWC submitted comments on 12 proposed changes affecting wood, including fire-resistance ratings for two-family dwellings, prescriptive fastening options for sheathing to sawn-lumber framing, and field-applied coatings to improve wood's fire performance.
- The AWC joined a new working group formed by California's Office of the State Fire Marshal to promote the adoption of the International Wildland-Urban Interface Code.
- The AWC sponsored five regional TimberStrong Design Build Competitions, engaging over 125 students from 20 universities in wood design and construction.
- The AWC conducted outreach to fire services via 24 education events and meetings with services in Massachusetts, Missouri, and Kansas and with the National Association of State Fire Marshals.

Communications:

Think Wood

- Think Wood's lead nurturing program generated three new projects in Q2, equating to 615,000 square feet of construction. As of Q2, 25 marketing assisted projects were converted (a 70% increase year over year), accounting for 45 million of the 228 million board feet of incremental lumber consumption reported by WoodWorks.
- Think Wood transitioned 1,335 individuals to marketing qualified leads and 80 individuals to sales qualified leads, of which 66 requested project assistance.
- The *Mass Timber Design Manual, Vol. 2*, co-published with WoodWorks, was Think Wood's most downloaded resource, generating 54% of new contacts. Media partnerships generated the second-largest number of contacts for the quarter.
- Think Wood and the SLB hosted a press event at the AIA Conference on Architecture to announce the winners of the \$2 million 2022 Mass Timber Competition: Building to Net-Zero Carbon.



Educational
Events



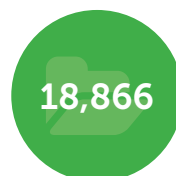
Education
Attendees



Contact Hours
Provided



New
Contacts



Resource
Downloads



Marketing
Qualified Leads

Heartwood, Type IV-C, 1,507,500 board feet.
Courtesy: atelierjones

Wilson Forest Park Townhomes, Type V-B,
76,393 board feet. Courtesy: Jones Media





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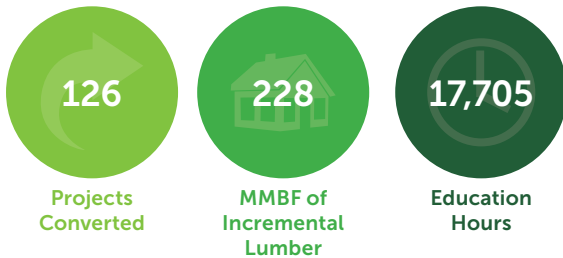
Construction and Conversion:

WoodWorks

- In Q2, WoodWorks directly and indirectly influenced and converted 458 projects, resulting in 24.5 million square feet of construction and 228 million board feet of incremental lumber consumption. Of reported projects, 64% were multifamily.
- Through Q2, WoodWorks provided technical support to 473 new projects, a 12% increase year over year.
- WoodWorks added 225 new projects to its pipeline: 48% were multifamily, 20% commercial, and 6% hospitality.
- Year to date, WoodWorks has supported 282 mass timber projects, compared with 177 at this point last year. Mass timber projects represent 59% of WoodWorks' new project workload year to date.
- Since its launch, the *U.S. Mass Timber Construction Manual* has been downloaded over 3,000 times and led to six projects.
- WoodWorks published two technical and three mass timber business case studies.

Education:

- The AWC provided nearly 6,000 contact hours and reached nearly 6,700 building professionals through training events.
- Over 3,600 Think Wood continuing education units were completed.
- WoodWorks delivered over 17,700 practitioner education hours.
- WoodWorks and Think Wood co-developed a new course, "2021 IBC: Building Bigger and Taller with Low Carbon Wood."
- The WI course catalog grew to 186 courses; added over 400 new users (>30% of which are engineers); and registered nearly 700 course completions. WoodWorks-produced material continues to be the most widely accessed.



Southwest View Surgery Center, Type V-B, 91,429 board feet. Courtesy: Hart Gaugler + Associates

Founders Hall, Type IV-HT, 1,894,286 board feet. Courtesy: LMN Architects

The AWC Tests Prototype High-Strength Wood-Frame Shear Walls

With input from a designer task group, the AWC embarked on a test program to provide resistance data for a new one-sided, high-capacity wood-frame, wood structural panel (WSP) shear-wall system. Currently, higher capacities can only be achieved by applying sheathing to both sides of the framing, which can negatively affect sound ratings and a wall cavity's ability to house insulation and utilities. Many designers are interested in a viable one-sided solution, especially for multistory applications that require high-capacity shear wall systems.

The testing was conducted at Weyerhaeuser's accredited test facility in Federal Way, Washington, and investigated the use of double 2x6 bottom plates, multistory boundary details with continuous threaded rod hold-downs, and WSP sheathing on one side attached with double rows of nails. The results showed promise—the new method increased the system's strength over the current limit by more than 30%. The AWC's Subcommittee on Structural Design will now take up the results for further discussion and planning.

The AWC Foils Attempt to Change Load Requirements in ASCE 7-22 Supplement

Provisions of ASCE 7-22 are specifically referenced in the building codes and serve as an important interface to the AWC's wood design standards. During recent balloting to put forward supplements to ASCE 7-22, the AWC swiftly thwarted an attempt to change the load-combination requirements for all designs that use the Allowable Stress Design (ASD) methodology. More than 90% of wood buildings are designed using ASD; if the change had been successful, the impact on wood design would have been both disruptive and costly.

The AWC expects that opponents will again try to re-introduce the issue at the next update cycle for the 2027 version of ASCE 7, and the AWC will be ready to defend wood's interests proactively and swiftly.

Think Wood Mobile Tour Draws Over 10,000

The Think Wood Mobile Tour completed five stops in Q2, starting with the April International Mass Timber Conference in Portland, Oregon. The conference hosted approximately 2,000 mass timber enthusiasts, including designers and manufacturers. Tour staff and co-exhibitor WoodWorks fielded inquiries about the state of domestic CLT manufacturing capacity and engineering solutions, and the tour itself served as a fitting backdrop for the release of the [Mass Timber Design Manual, Vol. 2](#).

Following the conference, the tour made multiday stops at Washington State University in Pullman, Washington; California Polytechnic State University in San Luis Obispo, California; and the NewSchool of Architecture & Design in San Diego, California to interact with architecture and construction management students. CalPoly alone drew over 3,000 students to the tour.

The tour then headed to the AIA Conference on Architecture in Chicago in June—arguably the year's most important trade show for Think Wood—drawing an estimated 12,000 architects. The tour saw steady traffic and conversations about comparative material costs, seismic performance of wood buildings, and CLT. During the conference, tour staff produced a press event and reception to celebrate the announcement of USDA and the SLB's \$2 million [2022 Mass Timber Competition: Building to Net-Zero Carbon](#) winning projects.



Next up, the tour will make stops at the [Florida Forestry Foundation Annual Meeting](#) in Amelia Island, Florida; the [ICC Conference and Expo](#) in Louisville, Kentucky; and the [American Society of Landscape Architects Conference](#) in San Francisco.

The Think Wood Mobile Tour is sponsored by the SLB, the U.S. Forest Service, and the U.S. Endowment for Forestry and Communities. Next year's tour dates will be announced in late 2022; USDA Forest Service has committed an additional \$100,000 to support the tour in 2023. Keep track of the schedule at thinkwood.com/tour.

Customized, Responsive Content Increases Engagement

Think Wood’s lead nurture program drives engagement by sharing targeted content with the over 94,000 architects, developers, and residential contractors in its ever-expanding database. The program qualifies leads to design and build with wood in commercial, multifamily, and single-family home applications; generates requests for project support that are shared with WoodWorks (known as sales qualified leads [SQLs]); and drives peer-to-peer content sharing to expand its network of influencers.

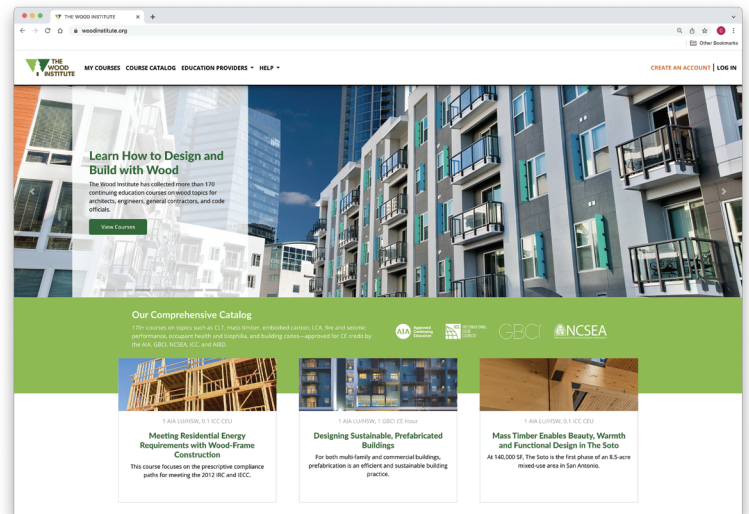
In Q2, Think Wood refined lead nurture efforts to include customized and responsive segmentation based on self-identified areas of interest. For example, the final email in Think Wood’s popular Welcome Series invites users to self-select their next series of topics—choosing among mass timber, decarbonizing the built environment, and biophilic design. This method has yielded engagement levels that are six times higher than industry benchmarks.

In June, Think Wood also launched a pilot behavioral targeting campaign. As part of this campaign, database contacts are sent an email within 24 hours of visiting Think Wood’s website with content tailored to the pages they visited—demonstration projects, mass timber, and performance/codes were the top performers in the pilot’s first month. Initial results point to the power of customization—email click-through rates reached as high as 43%, nearly four times the industry benchmark of 11%.



The Wood Institute Grows Into Central Source for Wood Education

The SLB’s funded programs regularly produce high-quality, accredited professional education as a key way to disseminate information on sustainable wood design and construction among the AEC community. In 2020, the SLB launched the Wood Institute (WI) as a singular repository for the professional education materials created by the AWC, Think Wood, and WoodWorks, as well as third-party sources. In just two years, the WI’s catalog has grown to more than 185 courses, making it among the largest online collections of such material on wood. Thus far in 2022, the WI has seen 840 new accounts created and over 1,500 course completions.



The SLB recently introduced a new layout and technical upgrades to the WI to make it easier than ever for users and course providers to engage and benefit from the site’s resources. The redesign also enables the development of a wider array of content beyond courses, including blog posts, recorded webinars, articles, and guides targeting architecture and engineering students and faculty.

In addition to their activities on the WI, the AWC, Think Wood, and WoodWorks also frequently publish their online courses on trade media websites, including ARCHITECT and *Architectural Record*, to good effect. For example, in the second quarter this year, Think Wood’s courses were taken by nearly 3,500 individuals on digital properties other than the WI. This multichannel approach increases visibility and helps to ensure that AEC professionals have no difficulty finding high-quality, relevant wood-related education courses.

New Analysis Cools Outlook on Timber Bridges

Forest Economic Advisors (FEA) delivered its final analysis and recommendations on the market potential for wood use in U.S. bridges in Q2. FEA concluded that, under current conditions, the market share for timber bridges is low: If wood were to penetrate even 10% of all bridge decking and superstructures built in the United States annually, the volume opportunity would range from 6 million to 133 million board feet per year. This opportunity is significantly less, for example, than the volume opportunity identified by developing the mass timber market, which is expected to top 4.9 billion board feet through 2035.

Timber bridges were one of several areas identified for renewed investigation by the Programs Working Group to ensure that the softwood lumber industry is equipped with the latest data and analysis when deciding where to direct its investment to deliver the highest return.

Partnership Program Offers High Visibility, Economies of Scale

The SLB's Partnership Program continues to offer an important, cost-efficient vehicle for regional and wood species associations to increase visibility for their products in the residential and commercial building community. Following a year of virtual events, association partners are once again creating in-person opportunities at major trade shows. For example, the [Southern Forest Products Association](#), [Western Wood Products Association](#), and [Western Red Cedar Lumber Association](#) joined Think Wood at the [2022 AIA Conference on Architecture](#) to exhibit their products to the more than 12,000 specifiers in attendance. By year end, partners will have co-exhibited with Think Wood and WoodWorks at other medium and large events, such as the [International Builders' Show](#), [JLC Live](#), and the [American Society of Landscape Architects Conference](#).

Association partners add a distinct value to Think Wood and other industry exhibits by providing stellar expertise regarding their products, species characteristics, material sourcing, and unique applications. This expertise enables much more detailed and precise conversations with specifiers than could be offered by communications staff alone. In return, association partners leave trade shows and events with valuable contacts, leads, and prospective projects to influence. By working together through the association partnership program, each member can achieve greater economies of scale and reach than would be possible if acting alone.



About the SLB

The Softwood Lumber Board (SLB) is an industry-funded initiative established to promote the benefits and uses of softwood lumber products in outdoor, residential, and non-residential construction and to increase demand for appearance and softwood lumber products.