Advancing a Natural Climate Solution

SLB®
SOFTWOOD LUMBER BOARD

2021
Annual Report

Building a Sustainable Future with Wood

Dear Investors,

I am pleased to report that, for the 10th consecutive year, the SLB and its program partners—the American Wood Council (AWC), Think Wood, and WoodWorks—delivered year-over-year growth in demand and impact for the softwood lumber industry, generating more than 1.8 billion board feet (bbf) of incremental demand. Since 2012, the SLB and its partners have cumulatively generated more than 9.8 billion board feet in demand; this equates to an estimated $4.9 billion of incremental revenue and an average return of $39.82 for every $1 invested. And since 2014, the SLB's efforts have created a net carbon benefit of more than 25 million metric tons of avoided carbon dioxide emissions. This success would not be possible without the contributions of our talented SLB team who have raised the professionalism and sophistication of our organization and its initiatives. We are very fortunate to benefit from their diverse perspectives, passion, and commitment to our goal of transforming the built environment into a carbon sink by switching from carbon intensive products to wood.

We continued to target our investments across our key program areas of codes, communications, conversions, education, and innovations and research. Key accomplishments include:

- The AWC secured major advances for the industry in the 2024 IBC, including a provision to allow for fully exposed mass timber ceilings in buildings up to 12 stories tall. This change will accelerate the use of mass timber building systems in the 7-12 story segment which represents an incremental opportunity of 1 bbf per year.
- Think Wood grew its lead generation and nurturing efforts, increasing its marketing engagements by more than 129%, adding more than 27,000 new contacts, and increasing its sales qualified leads by more than 600% year-over-year.
- WoodWorks influenced 1,700 projects to build with wood, 79% of which were light-frame projects. Collectively these projects represent 789 million board feet of incremental softwood lumber consumption.
- The SLB expanded the installer and construction-management training initiatives and increased university-level wood education so that capacity is in place to design and build with wood.
- The SLB strengthened its relationship with the USDA by entering into a new Memorandum of Understanding focused on collaborative initiatives to grow the demand for softwood lumber products.
- The SLB contributed match funding to five USDA Wood Innovations Grants to support research and implementation of mass timber solutions that will pave the way for more similar projects.

In 2021, we also marked the SLB's 10th anniversary. I want to extend again my sincere thanks to all who have served on our Board and provided guidance and leadership as Chairs, Committee members, and mentors to those of us tasked with executing on the industry's vision of what the SLB could achieve. Your efforts directly correlate to the SLB's success in delivering on its mandate to protect and grow markets for softwood lumber to the degree that we could not have envisioned when this all began.

While we have accomplished much, there is more to come. Our programs, initiatives, and focus areas will continue to evolve to address the opportunities and challenges that are most impactful for the industry and offer the best return on our investment of time, talent, and treasury. We are assessing the role the SLB can and should play in terms of broader sustainability goals, leveraging our products' value proposition by bringing solutions to the affordable housing crisis, and taking a leadership role in welcoming diverse views to our organization and supporting under-served communities in the markets we target. In doing so, we aim to achieve a quadruple bottom line of increased wood demand and consumption; sustainable forest production that serves as an engine of economic development and jobs in rural communities; reduced carbon emissions; and a high-performing, sustainable, and beautiful built environment.

On behalf of the SLB Board and our partners nationwide, I thank you for your continued commitment and engagement with the SLB, and I look forward to working with you as we continue to advance our common goals.

Sincerely,

Cees de Jager

President and CEO, Softwood Lumber Board

In 2021, the SLB:

Generated **1.8 billion board feet (bbf)** of incremental demand.

Helped the softwood lumber industry to support over **775,000 lumber harvesting and manufacturing jobs** and 546 mills in 45 states.

Think Wood's lead nurturing program generated **35 new projects** totaling an estimated **2.8 million square feet** of project space.

WOODWORKS DIRECTLY CONVERTED

352 light-frame and 96 mass timber buildings, and influenced a total of **1,700 projects** to choose wood for their design, performance, and sustainability needs.

AMERICAN WOOD COUNCIL

The American Wood Council (AWC) supported **13 NEW JURISDICTIONS** to enact or advance adoption of the 2021 International Building Code allowing for taller mass timber buildings.

108,000 virtual and in-person hours of education delivered to architects, engineers, designers, developers, and code officials.

THINK WOOD®

Think Wood educational materials and resources were downloaded nearly **65,000** times to inform and inspire specification of wood.

By facilitating wood use, helped to avoid **4.9 MILLION METRIC TONS** of carbon dioxide emissions, which amounts to taking **1,040,600 cars off the road** for a year.

THINK WOOD finished the year with **626 SALES QUALIFIED LEADS (SQLS)** that were sent to WoodWorks for project support or further nurturing.

Building On 10 Years of Growth

Dear Fellow Investors and Industry Colleagues,
It is my pleasure to share with you the SLB's 2021 Annual Report. What a year it's been! Against the backdrop of the ongoing pandemic and global supply chain challenges, the SLB and its funded programs—the American Wood Council (AWC), Think Wood, and WoodWorks—again delivered on our mission to grow and protect markets for softwood lumber, resulting in the 10th consecutive year of growth in incremental demand. Stronger markets support stronger communities, and the increases in demand created by our investments generate value for all members of our industry, from forester and millworker to manufacturer and dealer to investor.

2021 was particularly significant in that it marked the SLB's 10th anniversary. I am grateful that many of us could gather in Denver to reflect on the tremendous progress the SLB made in its first decade. By working together under the umbrella of the SLB, we modernized codes to increase acceptance of wood to heights we never imagined; converted thousands of building projects to wood; and improved knowledge of and trust in wood's value proposition among the design, construction, and code communities. And since 2014, the SLB's efforts have created a net carbon benefit of more than 25 million metric tons of avoided carbon dioxide emissions. We and our staff have much to be proud of as these results make us one of the most successful checkoff programs operating today.

We are committed to building on the solid foundation laid during the SLB's first decade to continue to expand opportunities for wood in light-frame and hybrid construction, defend market share, and ensure that lumber-based building systems are recognized as an effective solution to decarbonize construction immediately and for the long term. In 2021, we were especially pleased to sign a new Memorandum of Understanding (MOU) with the U.S. Department of Agriculture (USDA) to continue our effective partnership to expand wood markets and use, as well as deliver a much-needed natural climate solution to the built environment. Concurrently, we are also working to broaden and refine how we measure impact, appreciating that it goes beyond board feet to include market share, carbon, and the industry's contributions to sustainable forestry, among other measures.

We have 10 years of evidence that proves we accomplish more together than we ever could separately. I thank you for being a part of the SLB, while we look forward to continuing our work to advance our common goals of unlocking markets and promoting the economic and environmental benefits of building with wood.

Sincerely,

Caroline Dauzat
SLB Board Chair
Owner, Rex Lumber

CELEBRATING 10 YEARS

2008 - 2010
Blue Ribbon Commission formed to **support the development of a Softwood Checkoff.** Concurrently, a U.S. Endowment for Forestry and Communities study affirms feasibility of Canadian and American producers pursuing a unified check-off.

2011
The SLB formally launches, directs strategic investments toward codes, communications, and conversions.

2013
The SLB launches special initiatives focused on tall mass timber research and development and appearance applications in residential segments.

2014
First Mass Timber Competition launched.

2014 - 2015
The SLB and USDA formalize partnership, focused on market development and innovation.

2015
The SLB tallies more than **1 bbf of incremental demand** attributable to its programs and investments.

2018
Industry stakeholders **overwhelming vote to renew the SLB** for another five-year term.

2019
Research and outreach, undertaken by the SLB in partnership with the U.S. Endowment for Forestry and Communities, Binational Softwood Lumber Council, and the AWC, underpin 2021 International Building Code changes allowing for timber buildings up to 18 stories.

2020
The SLB's programs generate more than **7 bbf of incremental demand** since inception and **average 1.2 bbf in new annual demand** between 2015 and 2020.

2021
The SLB and USDA renew their partnership with a focus on net-zero carbon construction and resilient forests.

Forging a Future With Wood

Dear Colleagues,

Despite challenging global events, the SLB and its program partners continued to exceed their goals and operate effectively and efficiently on behalf of our industry, carefully stewarding every dollar invested toward increased softwood lumber opportunity, demand, and consumption. Major achievements in 2021 included:

Codes – The AWC facilitated three major wins for the industry in the 2024 International Building Code, including a provision to allow for fully exposed mass timber ceilings in wood buildings up to 12 stories tall—changes that would increase demand by an incremental 26 to 74 million board feet annually in 2035. The AWC also provided the fiber sourcing data that would advance industrywide efforts to improve carbon accounting and support environmental product declarations on par with competing industries.

Communications – Think Wood increased its marketing engagements by over 129% year-over-year, adding more than 27,000 new contacts to its database and increasing its number of sales qualified leads by more than 600% year-over-year. Lead nurturing generated 35 new projects, totaling an estimated 2.8 million square feet of construction.

Conversions – WoodWorks influenced 1,700 projects to build with wood, which represent 789 million board feet of incremental softwood lumber consumption and 88 million total square feet of projects constructed.

Education – The SLB operationalized new partnerships to expand installer and construction management training and increase university-level wood education. It also continued to expand the reach and offerings of the Wood Institute as a pre-eminent provider of professional wood-focused education.

Innovations & Research – In partnership with the USDA, the SLB contributed match funding to five Wood Innovations Grants—leveraging our investment by nearly 3-to-1—to support research and implementation of mass timber solutions that will pave the way for more similar projects.

Cumulatively, the SLB's programs and investments led to more than 1.8 billion board feet of incremental demand in 2021. SLB investments have generated 9.8 billion board feet of demand for the industry since its start back in 2012. In carbon terms, the potential carbon benefit of 25.4 million metric tons equates to removing more than 5.3 million cars from the roadway for a year.

These results are attributable in part to the SLB's ongoing, tireless efforts to understand its audience and track market trends. Our market surveys and research indicate that higher involvement with the industry is associated with higher wood use—and that connection grew even stronger in 2021. Our latest survey showed 80% of respondents reporting that their firms increased wood use based on access to industry learning, up from 52% in 2015. The SLB and its programs are vital in creating opportunities for meaningful and sustained involvement with designers, developers, and code officials alike.

In 2022, the SLB will strategically grow its core programs to increase impact. New efforts and additional investment include bolstering the industry's climate-related corporate governance and carbon accounting efforts and contributing to fire-design standards development in partnership with the AWC; supporting Think Wood to tell wood's story in ways that address key barriers to specification and leverage wood's carbon value proposition; supporting WoodWorks to scale its technical assistance and project conversions through new efforts to influence developers; extending education offerings and reach among postsecondary institutions, students, and faculty and contractor training nationwide; and developing new public and private partnerships, including a collaboration with the steel industry to develop a hybrid construction manual.

I look forward to working with you in 2022 as we continue to create positive outcomes for our industry, the built environment, and society.

Sincerely,
Brian Luoma
SLB Research and Promotion Programs Committee Chair
President and CEO, The Westervelt Company

Museum of Fine Arts, Houston, TX
480,000 Board Feet
Credit: Peter Molick

The Byway, Wood Village, OR
1,517,143 Board Feet
Credit: Diego Diaz

Creating New Opportunities for Wood

The AWC continued its works as the leading technical authority advancing the inclusion of sustainable wood building products in U.S. building codes and standards. In 2021, the AWC converted several years of research and outreach to code and fire officials into critical wins for the industry when the 2024 International Building Code and International Fire Code adopted provisions to:

- Allow for fully exposed mass timber ceilings in wood buildings up to 12 stories tall, compared with the 20% permitted in the 2021 IBC. Introduced by the AWC, the provision was based on the outcomes of previous AWC-led, USDA-funded fire research and will create significant cost savings for mass timber structures up to 180 feet tall.
- Delay the installation of noncombustible floor toppings on cross laminated timber (CLT) floors during construction, which is expected to reduce construction costs without increasing fire risk.
- Enable gypsum wallboard ceilings to contribute to fire-resistance ratings of exterior walls, which will maintain a platform as a viable framing technique. The previous, overly restrictive code interpretation had added unnecessary cost and complexity to large, multifamily wood-frame construction.

These three code wins are indicative of the AWC's ongoing efforts to refine and optimize codes to both solidify wood's acceptance and leverage past success to create additional efficiencies and improvements in codes and standards, which support increased opportunity for wood use.

"The AWC's presentations are now sought after, and they have become a trusted resource among fire officials because of their proactive efforts to engage on trainings and education."

– Richard Mikutsky, New Jersey Director, Division of Fire Safety and State Fire Marshal

In 2021, the AWC also sharpened its focus on sustainability by mobilizing industry actors to improve data collection and reporting to generate environmental production declarations and carbon accounting; working consistently to develop fiber supply and A4 transportation tools to help sustainability-minded professionals as they select product; and positioning wood products for inclusion in six forthcoming ISO Circular Economy standards, which are being developed by UL with technical input from the AWC.

The AWC also added technical staff to deepen its reach among building code officials at state and local levels nationwide, proactively look for opportunities to expand markets, and aggressively counter challenges to wood use.

"The AWC's proactive outreach to code and fire officials is making a vital difference in creating and expanding support for wood construction and acceptance of bigger, bolder wood applications in jurisdictions nationwide."

– Eric Cremers, AWC Chair, and President and CEO, PotlatchDeltic

2021 AWC By The Numbers

- **85** (78% of 2020) — Educational Events
- **28** (147% of 2020) — Fire Service Trainings
- **39,079** (91% of 2020) — Contact Hours Provided
- **26,492** (96% of 2020) — Education Attendees
- **13** (160% of 2020) — Jurisdictions Advancing 2021 Code Adoptions

Luxor Club Clubhouse, Jacksonville, FL
121,714 Board Feet
Credit: Harvey Smith Photography

Lubber Run, Arlington, VA
256,000 Board Feet
Credit: Tom Holsworth

Compelling Communications, Tailored Resources Steer Design Professionals to Wood

Think Wood continued to increase its year-over-year effectiveness in identifying, nurturing, and converting leads into satisfied and consistent users of wood for one- to eight-story building projects while protecting the single-family home decking and outdoor segments. In 2021, Think Wood's lead nurturing program generated 35 new projects, totaling an estimated 2.8 million square feet of project space. Think Wood also played a vital supporting role in nurturing contacts on 168 WoodWorks-led projects, including 31 that went to construction that consumed 39 million board feet of softwood lumber, and an additional 137 projects that may be constructed.

"It is hard to underestimate the value of Think Wood's impact in helping specifiers to know and trust wood products and building systems to meet their and their clients' needs."
– Ray Ferris, President and Chief Executive Officer, West Fraser Timber

Think Wood identified and nurtured architect, developer, and contractor contacts by producing a steady stream of high-quality outreach, social, multimedia, and educational content for distribution on its and partners' channels, including numerous series designed specifically to move a contact from developing awareness to taking action to design and build with wood. Because all content is grounded in up-to-date research and analytics on audience insights and trends, it is highly responsive to audience interests and needs, lending to its effectiveness.

Mass timber content was the largest driver of net new contacts for the year, with pieces such as the *Mass Timber Design Manual* and *Mass Timber Digest* proving particularly valuable for design professionals. Think Wood also found notable success with its *Best of 2021 LookBook*, which spotlights groundbreaking mass timber and light-frame projects and generated significant engagement from new and existing database contacts alike.

Think Wood's continuing education courses were also critical in generating new contacts. Nearly 30,000 Think Wood continuing education units were completed in 2021, and courses touching on low-carbon construction, climate resiliency, evolving codes, multifamily, wood schools, and biophilic design were among the most popular.

To help satisfy growing demand on the part of designers and builders for information on low-carbon construction, Think Wood published a video series that documents wood's sustainable supply chain story featuring those who know it best—the foresters, manufacturers, and building professionals responsible for producing, designing, and building with sustainable wood products.

TIMBER SUSTAINABILITY:
Seedlings to Sawmill to Site Video Series

2021 Think Wood By The Numbers

1.6MM	27,034	29,469	64,951	22,359
(129% to EOY Target)	(133% to EOY Target)	(165% to EOY Target)	(144% to EOY Target)	(103% to EOY Target)
Total Marketing Engagements	New Contacts	CEU Tests Taken	Resource Downloads	Marketing Qualified Leads

Detroit Eco Homes, Detriot, MI
200,571 Board Feet
Credit: SmithGroup

Hotel Magdalena, Austin, TX
2,200,000 Board Feet
Credit: Casey Dunn

Expert Assistance Leads to More and Larger Wood Buildings

Throughout 2021, WoodWorks continued to effectively position wood as the preferred building solution, support its innovative application, and tackle key and emerging challenges that may limit the use of wood.

"WoodWorks is an incredible asset to the building and design industry. Whether it's covering the basics on light-framing or providing advanced technical assistance with mass timber, they will help anyone choose wood with confidence." *– Tim Gohkman, Managing Director, New Land Enterprises*

WoodWorks influenced 1,700 projects nationwide that went to construction in 2021—448 projects that benefited from direct technical support and 1,252 projects that were indirectly influenced. These 1,700 projects combine to represent more than 789 million board feet of incremental lumber consumption; 88 million square feet of project construction; and more than 4.9 million metric tons of avoided carbon dioxide emissions, which equates to removing 1,040,600 cars from the road for a year. WoodWorks also initiated support on 796 new projects, which will be formally reported when they go to construction.

WoodWorks' support extended to every state in 2021 and reached across both primary and secondary markets. Nearly 80% of WoodWorks-supported projects were light-frame, and almost 60% were multifamily. Average project size and heights of both light-frame and mass timber projects are steadily growing year-over-year. In particular, both the number of WoodWorks-assisted light-frame building projects and the average size of those projects have doubled since 2015, including more five/six-over-twos. These trends suggest that architects and engineers are growing more comfortable with and confident in wood products, including for use in larger buildings.

Strong relationships and an established reputation for outstanding technical support continue to open doors to new project leads. In 2021, 21% of WoodWorks' leads came from an educational event where WoodWorks demonstrated technical knowledge, and another 21% came from specifiers who were aware of WoodWorks but had never before reached out for project-specific support. The largest source of leads, 33%, came from clients who had existing relationships with WoodWorks and sought out assistance as they embarked on different building types and new wood applications.

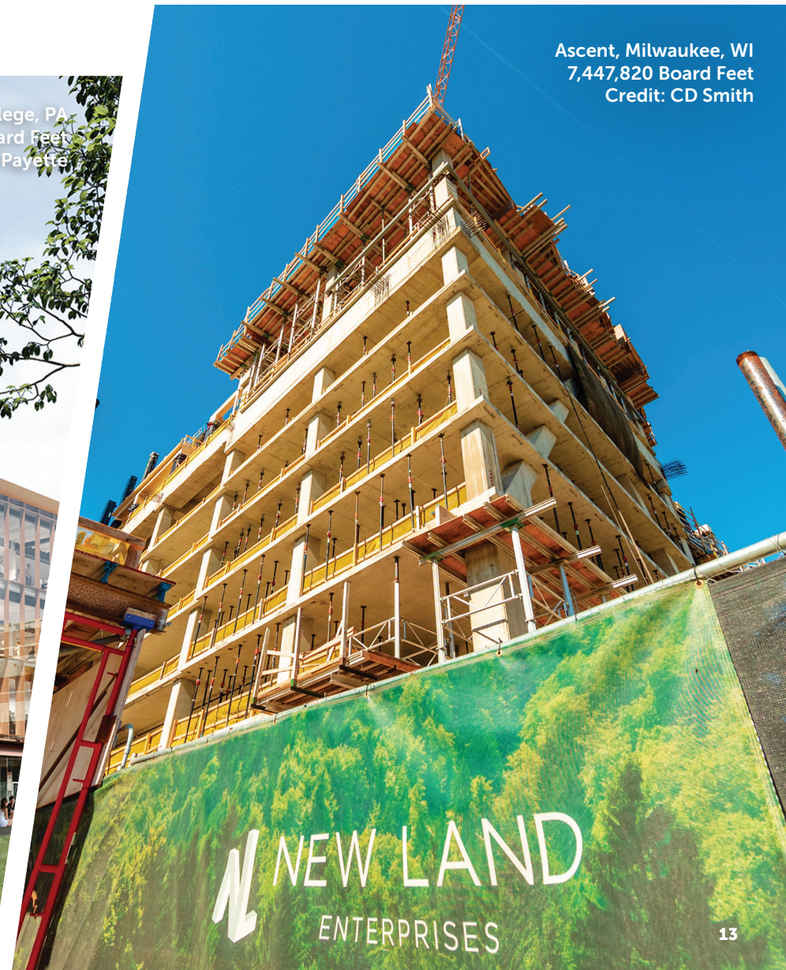
Concurrently, WoodWorks produced an array of technical and training resources to overcome knowledge gaps that slow wood's expansion. WoodWorks delivered nearly 40,000 practitioner education hours through 282 WoodWorks and third-party-hosted events, and expanded university-level mass timber construction management training and installer training to eight Carpenter Training Centers nationwide. WoodWorks also worked to mitigate barriers to insurance for mass timber by producing and marketing outreach materials to insurers, participating in risk-focused events, and providing project-specific assistance.

New in 2021, WoodWorks led a research project to better understand how whole building life cycle assessments (WBLCAs) are being used by developers and design and construction professionals. Preliminary data shows many specifiers are unfamiliar with current carbon accounting tools and approaches, and there is a general need for consistent, accurate benchmarking to inform material decision-making. The SLB, WoodWorks, and their partners will advance knowledge solutions that help demonstrate the superior environmental benefits of wood throughout 2022.

2021 WoodWorks By The Numbers

282	39,768 (110% to EOY Target)	448 (100% to EOY Target)	789 (108% to EOY Target)	88 MM (104% to EOY Target)
Education Events	Education Hours	Projects Converted	MMBF of Incremental Lumber	Square Feet of Impacted Project Construction

Penn State West 2 Building, State College, PA
1,140,000 Board Feet
Credit: Payette



Ascent, Milwaukee, WI
7,447,820 Board Feet
Credit: CD Smith

Education Investments Prep Current and Next Generations to Build with Wood

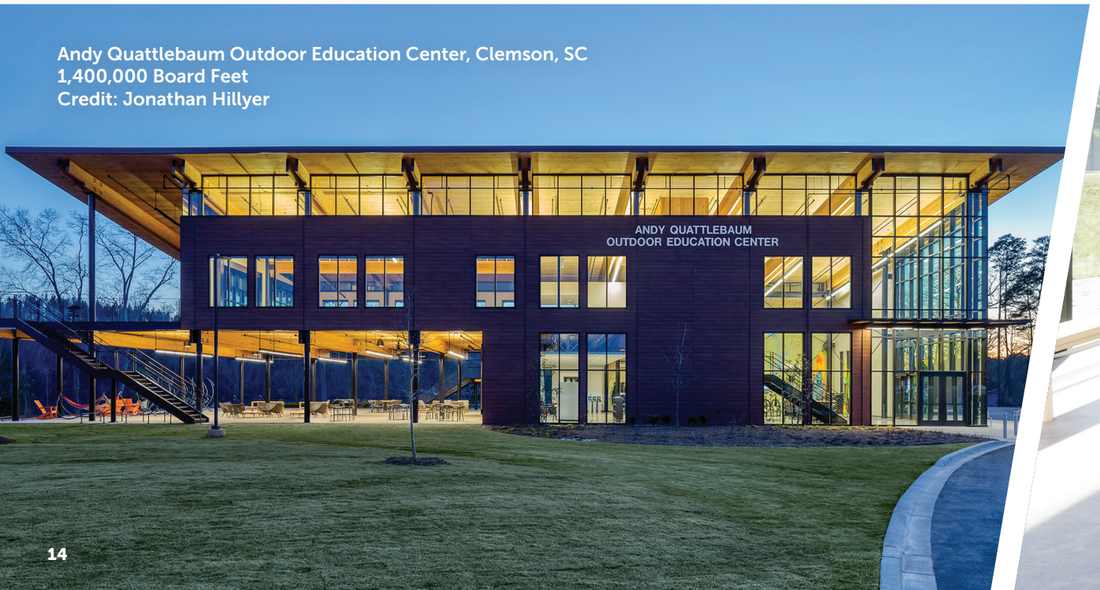
In 2021, the SLB continued to expand its investment, educational offerings, and reach as a key intervention toward creating an enabling environment for increased wood use.

In its first full year of operation, the Wood Institute provided learning opportunities to more than 1,200 design and building professionals, who completed more than 4,300 courses, totaling 6,492 education hours. Just over 60% of the Wood Institute users were architects, with code officials and engineers rounding out key membership. WoodWorks' course offerings were the most highly subscribed, and top courses covered structural and architectural requirements in light-frame and hybrid wood buildings, sustainable wood construction, and the benefits of mass timber design.

The SLB also made new, notable investments in postsecondary education, including by sponsoring the Timber Education Prize in partnership with the Association of Collegiate Schools of Architecture (ACSA). The goal of the prize was to recognize effective, innovative curricula that create an environment for learning about timber as an ideal building material. Five winners were selected out of a pool of 29 submissions, and these vibrant courses will be taught at architecture schools across North America in the coming years.

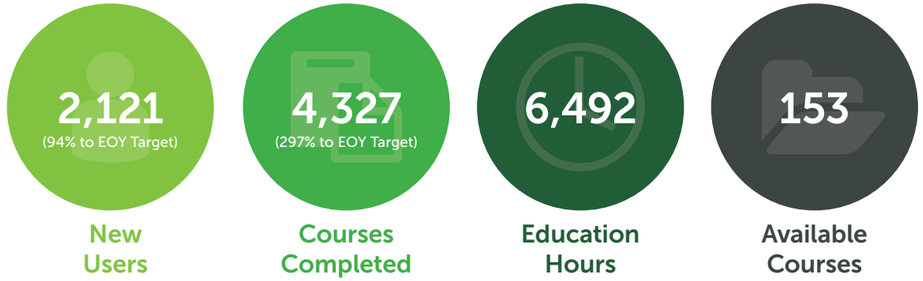
In partnership with the ACSA, the SLB also supported the fourth installment of the Timber in the City: Urban Habitats design competition, which engages students and faculty advisers to reimagine how existing cities can be transformed using sustainable construction and renewable resources, including new and traditional wooden materials. In the summer of 2022, $40,000 in prizes will be awarded to winning submissions. The SLB also funded the first-ever development workshop for architecture faculty, hosted by Clemson University's Wood Utilization + Design Institute. The initiative, which will go through the spring of 2022, aims to increase architecture faculty's capacity to lead wood-based curricula and instill a solid working knowledge of mass timber design and construction in their students.

In 2021, the SLB also joined the American Institute of Architecture Students (AIAS) as a Pantheon National Partner to help broaden Think Wood's, and especially the Think Wood Mobile Tour's, reach and exposure among undergraduate and graduate design, engineering, and construction management students. Under the partnership's umbrella, the Mobile Tour made additional stops at architecture and engineering schools in Washington, D.C. and Denver to share and promote wood's capabilities and value proposition with the next generation of building designers.



Andy Quattlebaum Outdoor Education Center, Clemson, SC
1,400,000 Board Feet
Credit: Jonathan Hillyer

2021 The Wood Institute By The Numbers



Bowdoin College, Brunswick, ME
639,619 Board Feet
Credit: HGA

UW Health Sciences Education Building, Seattle, WA
1,085,714 Board Feet
Credit: The Miller Hull Partnership

Advancing Wood as the Climate-Smart, Sustainable Solution

As all corners of the world increasingly feel the impact of a changing climate, the calls to reduce emissions and slow the rate of warming is now urgent. The building sector's emissions are high and well documented, and there is business risk—for the softwood lumber industry and our competitors alike—for failing to respond to growing consumer demand for climate-smart, low-carbon solutions.

Wood's renewable nature and its ability to sequester carbon have always been and remain unique competitive advantages. As we increase demand for wood products, we also need to take care to demonstrate the sustainability of the supply chain behind these products, from forest to mill to supplier, to assert unequivocally our product's contributions to carbon reduction.

With strong industry support, the SLB accelerated its investment into advancing credible carbon and environmental, social, and governance (ESG) data and reporting as a precursor to strengthening wood's positioning as an economic, biophilic, and low-carbon material.

In partnership with the U.S. Endowment for Forestry and Communities, the SLB funded several new carbon transparency initiatives in 2021 to fill key gaps in expertise and carbon accounting data across the wood products value chain:

- The Fiber Sourcing Transparency Tool will provide the architecture, engineering, and construction community with credible, practical, and easy-to-access sustainability and forest certification data. Tool development is underway in partnership with six lumber producers, which have voluntarily provided mill data and feedback to improve the survey process.
- The A4 Transportation Tool will make the average CO2 equivalent transportation-to-site metric (A4) available for each region based on data on product origin, modes of transportation, and distances. The methodology is being finalized, and discussions are ongoing to integrate the A4 tool into existing life cycle assessment databases and whole building LCA tools.
- The digital Woodshed Carbon Balance Tool will report growth/drain by wood supply area. In partnership with the National Council for Air and Stream Improvement (NCASI), the SLB is working to develop, peer review, and publish a tool methodology, after which the SLB and the NCASI will produce an online version of the tool and support its integration with the USDA's Carbon Online Estimator.

Once in place, these tools will provide the architecture, engineering, and construction community with reliable, sought-after data on wood products' sustainability and carbon footprints throughout their life cycles. These tools will also create greater parity between the softwood lumber industry and its competitors with regard to overall volume and quality of material disclosures.

In 2021, the SLB also commissioned Summit Strategy Group to assess the ESG performance of the U.S. softwood lumber industry. The analysis indicates that the industry can benefit from embracing ESG measurement standards and reporting practices by publicly committing to targets and disclosing progress on critical ESG issues such as climate change, biodiversity, and land management. The SLB will use Summit's findings to create a roadmap for establishing industrywide goals, improving communications around ESG achievements, and standardizing reporting by investor companies. Keeping pace with ESG standards will ensure that industry is not discounted by ESG-minded investors, ratings platforms, analysts, and customers.

"The SLB is funding these initiatives as vital steps toward addressing the built environment's impact on climate change. Wood products, and the forests they come from, are natural climate solutions that can sustainably support the buildings we need for generations to come." ***– Cees de Jager, President and CEO, SLB***

SoLo
70,114 Board Feet
Credit: Andrew Latreille

Ridgewood Residence, Austin, TX
30,821 Board Feet
Credit: Matt Fajkus Architecture, Leonid Furmansky

Preparing for the Future

Since its inception, the SLB has worked to add value to industry efforts to capitalize on emerging opportunities and combat new or potential threats to softwood lumber's markets and shares. In 2021, the SLB took steps to formalize these efforts by creating an ad hoc Programs Working Group to dive more deeply into the current opportunities and challenges facing the softwood lumber industry's many and diverse market segments.

In 2021, the Working Group explored the single-family and repair-and-remodeling segments, which represent more than two-thirds of the lumber market and are expected to grow through 2025. Although the market as a whole is growing, demand for wood is declining in several segments. Aided by commissioned research, the Working Group evaluated exterior applications, build-to-rent housing, and industrialized construction practices as key drivers that can affect wood's market share and growth potential.

Guided by data and commensurate with available resources, market potential, and the Working Group's recommendations, the SLB is taking steps to:

- Explore regional growth opportunities in partnership with wood products and other construction and design associations, and kickstart relationships with market leaders to position wood as the material of choice for prefabricated construction.
- Via Think Wood, continue to promote wood in exterior applications, as well as increase programwide efforts to tout wood's ability to deliver carbon and sustainability benefits.
- Monitor the percentage of build-to-rent and prefabricated housing entering the market annually and position wood through communications.

> "By using data and paying careful attention to market share potential and relative returns on investment, the Programs Working Group and SLB are directing our strategy and resources to where we can make the greatest difference for tomorrow's softwood lumber industry."
>
> ***– Brian Luoma, Chair, Research and Promotion Programs Committee***

Looking ahead to 2022, the Working Group will explore additional opportunities and topics of industry concern and interest, including:

- 3D-Printed Homes: Currently, concrete and masonry make up less than 8% of the single-family segment, but advances in 3D-printing technology using these materials, particularly at a time of labor shortages and volatile pricing, could pose a threat to light-frame. The Working Group will explore all facets of the method, including labor needs, capital costs, code acceptance, carbon impact, and consumer satisfaction.
- Timber Bridges: The SLB originally explored the potential for wood bridges in the United States in 2014 and, at the time, estimated a market opportunity of nearly 1.2 billion board feet in annual consumption. The Working Group will lead efforts to re-evaluate the opportunity, inclusive of supply chain considerations, in advance of new federal investment in bridges under the recently passed Infrastructure Investment and Jobs Act.
- Lumber Wrap Branding: The Working Group will explore the feasibility of launching a large-scale, consumer-focused branding and advertising campaign for the lumber industry on lumber packaging. Forest certification programs, as well as competing industries such as concrete's Build With Strength campaign, offer roadmaps regarding potential reach and impact.
- Affordable multifamily housing: In particular, mid-rise light-frame projects that replace concrete cores with wood ones provide several ways reduce costs without compromising exterior design and has the potential for an incremental 1 BBF by 2035 for the industry. SLB funding of Wood Innovations Grant projects by Sustainable Northwest and Hacienda Community Development Group are demonstrating such pathways for building affordable housing with mass timber.

Across these segments, Working Group members and the SLB Board are committed to channeling the SLB's finite resources to where they can make the greatest difference to protect, grow, and promote opportunities and market share for softwood lumber.

Creating Greater Impact through Effective Partnerships

Partnerships are central to the SLB's delivery model and offer a key, cost-efficient way to reach larger audiences, seed innovation, and create impact for all segments of the softwood lumber industry.

In 2021, the SLB renewed its ongoing partnership with the U.S. Department of Agriculture (USDA) by signing a new Memorandum of Understanding (MOU) to advance our collaboration on market development, research, and technological advances that expand wood use in the built environment and as a natural climate solution. The SLB and USDA's previous MOU, signed in 2015, ushered in a wave of innovative joint initiatives and investments that measurably increased demand and use of sustainably harvested wood products.

Under the new MOU, the SLB and USDA will:

- Continue to jointly fund WoodWorks, an industry leader in converting commercial and multifamily projects to wood through free education and expert technical support.
- Promote carbon-sequestering wood to mitigate climate change.
- Deepen understanding of embodied carbon, life cycle assessments, and the connections to forest management and wood construction.
- Reach additional audiences, including corporations, developers, building owners, universities, and young professionals, to showcase how wood can achieve project and sustainability goals and to reduce barriers to specifying wood.

The SLB and the USDA Forest Service immediately operationalized the MOU by launching the Mass Timber Competition: Building to Net-Zero Carbon, a $2 million competition to showcase mass timber's innovative applications in architectural design and highlight its significant role in reducing the carbon footprint of the built environment. The competition, which is being managed by WoodWorks, will award grants of up to $500,000 to winning project teams to develop repeatable, scalable mass timber buildings, with preference given to sectors where wood and hybrid construction are unrepresented, such as healthcare facilities, warehouse distribution centers, big-box retailers, and six- to 18-story buildings. Winners will be announced in the summer of 2022.

The SLB continues to contribute match funding to select USDA Forest Service Wood Innovations Grant winners. In 2021, the SLB supported five projects, focusing on building affordable housing with regionally sourced mass timber; demonstrating the blast-resistance capability of CLT; and designing a mass timber-steel composite system for buildings six stories or higher. This program leverages the SLB's investment by nearly 3-to-1 with other public and private funding to support research and implementation of mass timber solutions that will pave the way for more similar projects. The SLB also pledged $420,000 in match funding for 2022 Wood Innovations Grant winners.

The SLB continues to invest in the stewardship and expansion of its Association Partnership Program and joined with multiple species association partners, such as NELMA, SFPA, SLMA, WRCLA, WWPA, and WWPI, in co-exhibiting at leading trade shows throughout the year. The SLB became a sponsoring partner of the North American Deck and Railing Association (NADRA) and initiated a collaboration with the Georgia Forestry Association to share knowledge on mass timber with the association's forest landowners and product manufacturers.

The SLB also continued to collaborate with the USDA Forest Service and the U.S. Endowment for Forestry and Communities to resume the Think Wood Mobile Tour. In-person stops reached approximately 7,300 current and future design and construction professionals.

"SLB funding for major trade shows such as the IBS and AIA Conference on Architecture enables NELMA to participate and have presence that otherwise would not be possible."

– Jeff Easterling, President, Northeastern Lumber Manufacturers Association

Granville1500, Los Angeles, CA
2,609,100 Board Feet
Credit: Here and Now Agency

"We're also proud to partner with the SLB… Market growth for mass timber building has helped spur 12 new timber and CLT plants in the U.S. since 2015. This has created markets across federal, state, and private land ownerships. Our scientists and at the forest products laboratories has helped lay the foundation for mass timber and building codes… The progress we've made on mass timber is nothing short of amazing."

– Randy Moore, Chief, USDA Forest Service

Tracking Market Opportunities and Challenges

The latest U.S. market analysis by Forest Economic Advisors (FEA) predicts a 7.75 bbf increase in incremental softwood lumber demand in 2025 and a 13.65 bbf increase in 2035. Single-family home construction and the repair-and-remodel markets continue to anchor softwood lumber demand in terms of overall market size, although the FEA expects that the highest compound annual growth rates in softwood lumber demand will occur in multifamily (4.9%) and nonresidential construction (3.4%).

Many factors are contributing to single-family construction's strong growth prospects in the coming five years, including low housing inventory, higher purchase and rent prices, and demographic shifts and work modalities that are prompting many would-be homebuyers to relocate to outer suburbs and beyond in search of more space and greater affordability. These same factors will make multifamily construction as well as build-for-rent increasingly important segments for lumber demand despite housing cycles. Already in 2021, WoodWorks saw tremendous growth in demand for assistance for multifamily projects.

Nonresidential construction segments are poised for steady incremental growth in demand as well. Manufacturing will be a segment of particular interest, as ongoing global supply chain challenges and associated risks are likely to prompt reinvestment in strategic industries within the continental United States. In addition, data centers, warehouses, and healthcare facilities are likely to continue as pockets of nonresidential growth. The prospects for retail and office construction, however, remain uncertain as the nation settles into new pandemic-related norms.

In addition to tracking lumber opportunities, the SLB also keeps a close eye on its competitors. In 2021, concrete block producers formally approved the creation of the CMU Checkoff to increase demand and reverse market share loss for their products. The CMU Checkoff is expected to invest more than $7 million annually in codes and standards, marketing, research, design support and education, and workforce recruitment—in other words, many of the same spaces where the SLB invests. The SLB is closely tracking the CMU Checkoff to ensure that softwood lumber maintains its markets and that overlapping audiences are clear on the value proposition of wood, including in an increasingly climate-concerned world.

Lift House, Green Mountains, VT
Credit: Birdseye, Erica Allen Studio

Freedom House, Green Bay, WI
140,571 Board Feet
Credit: Tricia Shay Photography

2021 Project Highlights

The SLB influenced wood use in 1,700 projects in 2021 and directly converted 352 light-frame and 96 mass timber buildings to wood from steel and concrete alternatives. Here is a sample of some of the most influential wood projects of the year, several of which offer blueprints for repeatable, scalable wood building solutions that we hope you will soon see in a community near you.

INTRO – Cleveland, Ohio

Located in a high-profile site across from Cleveland's iconic West Side Market, the nine-story, 512,000-square-foot, mixed-use INTRO building is the first project in the United States to be built under the 2021 IBC's tall wood provisions. INTRO features post-and-beam construction and CLT floors and ceilings and, once operational, will provide nearly 300 apartments, 40,000 square feet of retail space, and underground parking. The project is set to consume 9.2 million board feet of softwood lumber.

San Jacinto College Classroom Building – Pasadena, Texas

The 122,142-square-foot San Jacinto College classrooms project was originally conceptualized in other materials, but WoodWorks' timely support helped to steer the design team to mass timber, including mass timber elevator and stair shafts. The project is under construction and set to consume 2.1 million board feet of softwood lumber. The project's estimated 17 board feet per square foot consumption vastly exceeds the typical light-frame baseline of 8-9 board feet and shows how volume opportunity goes up when mass timber is used for a structural system. The project also is indicative of tremendous momentum in Texas for building with mass timber.

Brookview Commons – Danbury, Connecticut

A fundamental role of WoodWorks is to help architects successfully design wood buildings that are larger or otherwise more complex than projects they have designed before. This was the case with the 198,000-square-foot, mixed-used Brookview Commons Phase II project, which includes five stories of light wood-frame construction over a concrete podium. The project is the design team's first-ever large five-over-one project, and the company credits WoodWorks with guiding it to wood instead of steel. The project, now being built, is set to consume nearly 1.6 million board feet of softwood lumber.

Echo Street West — Atlanta, Georgia

The 287,449-square-foot Echo Street West complex comprises three Type III-A buildings, each with four stories of mass timber and steel construction over a three-level podium. Although the design team members had first envisioned steel superstructures, WoodWorks' expert inputs inspired and empowered them to opt for CLT floor plates, in lieu of poured concrete floors, and CLT roof systems. The project's design will feed into ongoing research, funded by the SLB in partnership with the World Steel Association's constructsteel program and led by the Council on Tall Buildings and Urban Habitat (CTBUH), to determine the full potential of steel-timber hybrid/composite structures for high-rise construction. Echo Street West is under construction and expected to consume the equivalent of more than 3.1 million board feet of softwood lumber.

INTRO, Cleveland, OH
9,200,000 Board Feet, Credit: ImageFiction

San Jacinto College Classroom Building, Pasadena, TX
2,137,905 Board Feet. Credit: Kirksey Architecture.

Brookview Commons, Danbury, CT
1,561,371 Board Feet. Credit: seventy2architects

Echo Street West, Atlanta, GA
3,120,875 Board Feet, Credit: Nelson Worldwide Atlanta

Mosaic Gardens at Westlake, Los Angeles, CA
1,466,679 Board Feet
Credit: Benny Chan

605 Cornish, Encinitas, CA
26,383 Board Feet
Credit: Pixar Pros

Outpost, Hood River, OR
456,197 Board Feet
Credit: Stephen A. Miller

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