



Forestry Innovation Investment®

FORESTRY INNOVATION INVESTMENT

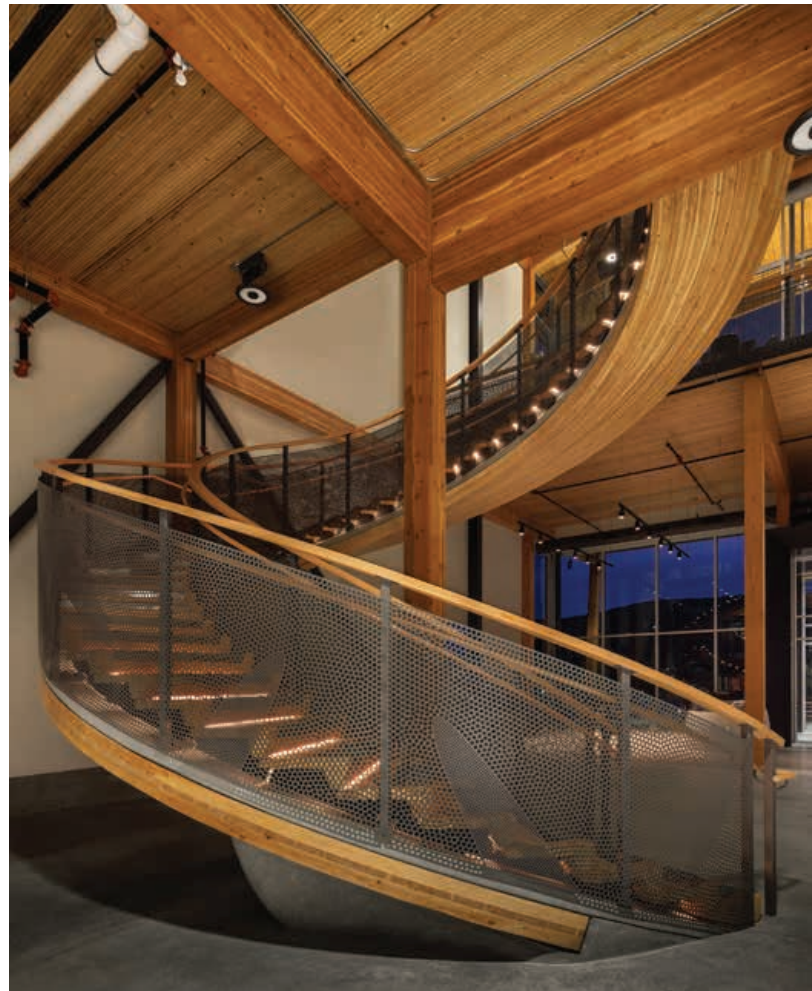
YEAR IN REVIEW

2022/23

KF Aerospace Centre for Excellence

The KF Aerospace Centre for Excellence is a non-profit exhibition and conference centre designed to celebrate the Okanagan's 50-year history of aviation while delivering a memorable and immersive experience. The project showcases made-in B.C. wood products and expertise from its innovative structural design to its locally sourced and prefabricated mass timber components.

To learn more about this project and the many other innovative wood buildings across B.C., visit naturallywood.com/projects.



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Message from the Minister

British Columbia's forests are at the heart of our Province, a resource that makes B.C. one of the world's best places to live, work and play. Indigenous Peoples, who have been here since time immemorial, and the industries and communities that have grown up around our forests help define who we are. The foundational role they have played in our past is equally true of our future.

Our government knows that the forestry industry is in a period of transition, faces challenges from the drop in lumber prices, the end of the beetle kill harvest and years of record wildfires; with this year's the most destructive in our province's history. Our hearts go out to forestry workers around the province whose lives and livelihoods have been affected by these challenges. Our adoration also continues to all those brave individuals who are fighting the fires.

It is clear we need to do more with less—and create more jobs for every tree harvested. This is why our government has launched new measures to protect and renew our forests. We're co-developing forest landscape plans with First Nations and local communities to better care for and protect B.C.'s oldest and rarest forests, ramping up investments in innovation through the BC Manufacturing Jobs Fund, and helping mills transition to manufacturing more high-value wood products here in the province.

We are further supporting this transition by announcing the Value-Added Manufacturing Program that will make additional fibre available for companies producing products such as mass timber, plywood, panelling and flooring. Together with enhanced collaboration with First Nations, these new investments will support growth in value-added manufacturing by increasing access to fibre and helping primary producers retool to more value-added production.

Forestry Innovation Investment will continue to play a key role in supporting forest sector diversification by expanding opportunities for B.C. forest products at home and abroad – maintaining a diversified market portfolio is more important than ever to the vision of a strong and vital forest-based economy in B.C. As part of our Trade Diversification Strategy, FII is helping to position B.C.'s forest sector and its sustainably produced products as part of the global climate solution. To expand how we build with wood here at home, FII is supporting the advancement of low-carbon wood products and mass timber building solutions—bringing greater economic, social and environmental value from our forest resource and supporting government priorities for climate action, innovation, housing affordability and helping to protect the industry from market volatility.

I look forward to continuing to support the work of FII and its partners in industry and government to grow markets for our innovative and sustainable wood products at home and abroad.

A stylized, handwritten signature in white ink, reading "Brenda Bailey".

Honourable Brenda Bailey

Minister of Jobs, Economic Development and Innovation | Government of British Columbia



Message from the CEO

British Columbia's forest sector is in a period of transition, driven by a diverse set of factors—from a changing climate and evolving fibre supply, to fluctuating commodity prices and shifting geopolitical dynamics. As a consequence, the B.C. forest industry faced substantial volatility during the last year, with a retraction in forest product exports following record high demand and prices in 2021.

Despite the challenges facing the sector today, the forest industry remains a critical component of the province's economy and a key player in global forest product markets. And, as B.C. moves toward a new future through First Nations reconciliation, we will see a strengthened, inclusive forest sector that brings meaningful involvement, economic opportunity and benefits to Indigenous communities.

Across the year, FII worked with government and industry to advance wood innovation here in B.C., positioning the province as a global leader in sustainable wood use and low-carbon building solutions. This recognizes the rapidly growing global demand for products that can reduce carbon emissions from the built environment—an area where wood products from B.C.'s sustainably managed forests can play an important role.

FII also supported efforts to create more value from the forest resource and transition the industry toward greater value-added production. To this end, FII's activities included working to advance the use of mass timber alongside the Government's Office of Mass Timber Implementation (OMTI), and—through supporting research, training and demonstration projects—increasing the knowledge and capacity here in B.C. to build more complex structures with wood.

In international markets, FII and its partners in industry and government focused on diversifying markets for B.C.'s forest products; in particular, addressing the demands of global customers seeking certified and sustainable wood products. Efforts concentrated on both existing markets for B.C. exports such as the U.S., Japan, South Korea and China, and rapidly growing emerging markets in India and Vietnam.

FII remains committed to ensuring that the market development programs we support are innovative, effective and forward-looking. In all aspects of our work, we place a priority on considering the diverse needs of our staff and stakeholders, promoting and advancing accessibility, diversity, inclusion and equality.

We are proud of the accomplishments over the past year, and we welcome and appreciate your views and comments on any aspect of this report or our programs.

Michael Loseth
President & CEO | Forestry Innovation Investment



Forestry Innovation Investment

Strengthening and diversifying markets
for B.C. forest products

Forestry Innovation Investment (FII) is British Columbia's market development agency for forest products. As a Crown corporation, we help maintain, create and diversify markets for B.C. forest products to ensure the forest sector continues to be a key contributor to the provincial economy.

FII works in collaboration with the forest industry, research institutions, the federal government, B.C. government, Indigenous organizations and other stakeholders to deliver innovative, forward-looking programming that responds to today's market dynamics as well as tomorrow's challenges and opportunities. We do this by delivering and co-funding a mix of research and capacity building, as well as market development and promotional activities.

FII acknowledges and appreciates the opportunity to live, learn and work in the traditional territories of the xʷməθkʷəy̓əm (Musqueam), səliłwətał (Tsleil-Waututh), and Sḵwxwú7mesh (Squamish) Nations.

University of British Columbia's forest research dedicated land, Maple Ridge, B.C.

FII Programs



Reforestation in Sayward Forest on Vancouver Island, B.C. | Photo: Brudder Productions



Wood-frame construction house in Chennai, India | Photo: FII India



1 Lonsdale Avenue Commercial Building, North Vancouver, B.C. | Photo: KK Law

MARKET OUTREACH

PROMOTING B.C. FORESTS AND PRODUCTS AROUND THE WORLD



The Market Outreach program expands opportunities for B.C. forest products by positioning wood as an environmentally friendly, preferred building material and by highlighting B.C. as a reliable supplier of quality products from sustainably managed forests. Through providing credible, fact-based information, FII ensures that audiences in B.C. and globally understand that using wood from B.C.'s sustainably managed forests can help to address climate change and advance low-carbon innovation.

MARKET INITIATIVES

DIVERSIFYING MARKETS IN ASIA AND NORTH AMERICA



The Market Initiatives program encourages the development of export markets and new market segments, particularly in fast-growing Asian economies. This helps to diversify the sector, reduce market risk and open new opportunities in higher-value segments of the forest economy. Market Initiatives also focuses on growing market segments in North America, such as the multi-family, mass timber/tall wood and value-added sectors.

WOOD FIRST

BUILDING INNOVATION AND CAPACITY IN B.C.



The Wood First program collaborates with B.C.'s design and construction industries and government to advance wood construction technologies and expertise in B.C. FII then leverages this leadership to promote B.C. internationally as a leading source of technology, products and expertise for the use of wood in construction, interior design and daily living.

FII's Core Objectives



PROMOTING THE MERITS OF B.C. FOREST PRACTICES AND PRODUCTS

Position wood as a preferred building material and B.C. as a leading supplier of world-class environmentally responsible forest products.



FOSTERING LEADERSHIP IN WOOD USE

Expand wood technologies and building systems, advancing B.C.'s leadership in wood innovation.



EXPANDING GLOBAL MARKETS

Create and diversify global demand for B.C. forest products in new and emerging markets.



MAXIMIZING EFFECTIVENESS

Collaborate with industry and government to provide efficient and strategic support for B.C.'s forest sector.

FII's Commitment to Diversity, Equity and Inclusion

FII recognizes that our work impacts our stakeholders, partners and employees in different ways. We aim to identify and mitigate the barriers that diverse groups may experience in accessing our information, programs and services. We acknowledge our shared responsibility amongst all levels of the organization to ensure that our work considers the diverse needs of the populations we aim to serve.

Diversity. Equity. Inclusion. They are more than just words for us. They are the hard-and-fast principles guiding how we build our teams, cultivate leaders and create an

organization that's the right fit for every person inside of it. We have a global, multicultural presence and we want to reflect that inside our walls.

Together, we continue to build an inclusive culture that encourages, supports, and celebrates the diverse voices of our employees. It fuels our innovation and connects us closer to our partners and the communities we serve. More importantly, creating an environment where everyone, from any background, can do their best work is the right thing to do.

Partners in Market Development

Working together to deliver innovative programs in B.C. and around the world

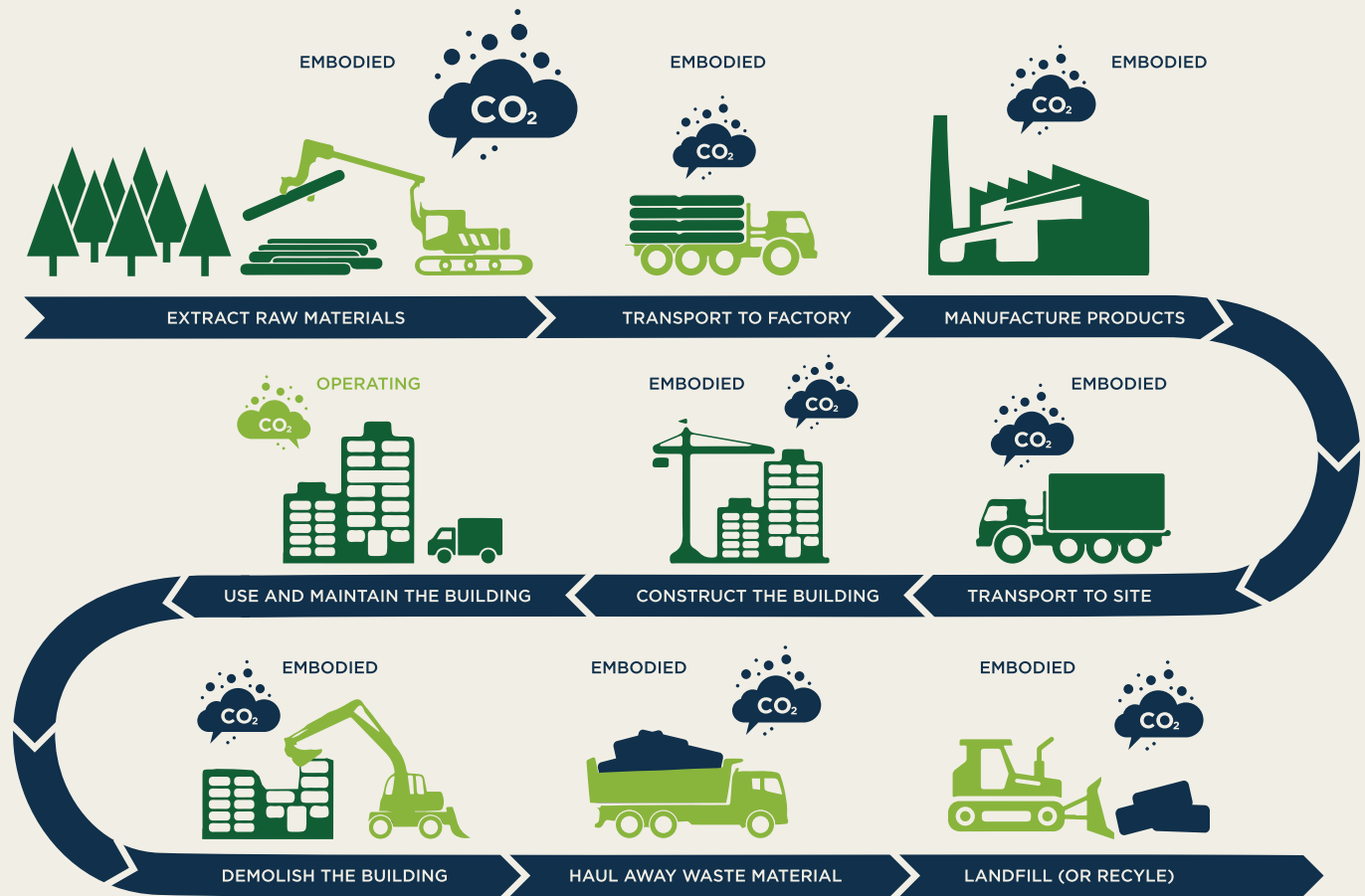
\$1=\$3.43

Every dollar invested by FII is supported by an additional \$2.43 in funding from industry, Natural Resources Canada and other partners. This year, FII's \$8.3 million investment in cost-shared programming was leveraged with partner contributions to deliver a total market diversification program of \$28.44 million.

FII works collaboratively with the federal government, B.C. government ministries and agencies, industry partners and other stakeholders to deliver programs that support the growth and development of the provincial forest sector.

Through coordinating efforts and drawing on resources and expertise from different segments of the industry and government, FII is able to maximize the effectiveness of its programs and distinguish B.C. as a leader in innovation and market development.





Wood's Role in Reducing Carbon in the Built Environment

FII is committed to leveraging wood's role in the built environment to combat climate change through embodied carbon reduction.

The increasing global recognition of climate change impacts is driving the adoption of low-carbon solutions to reach net-zero targets by the middle of the century. With governments around the world aiming to achieve a net-zero carbon built environment, regulations and assessment of emissions need to take a life cycle approach that considers both materials' embodied and operational emissions.

Building and material use efficiency, as well as reducing the carbon intensity of materials, are key approaches to address embodied carbon.¹ These considerations can be applied through building concept and design stages, material and product procurement, manufacturing, construction and waste management.

FII's investment objectives around embodied carbon are customized to reflect the unique circumstances in each jurisdiction where market development programs operate. The goal is to position B.C. and advance government and industry understanding of the role of wood in carbon reduction and the environmental impacts of materials throughout a building's full life cycle—from resource extraction, production, installation and use through to end-of-life recycling, re-use or disposal.

To contribute to that goal, FII has been actively promoting awareness and fostering knowledge about embodied carbon among key stakeholders in the forest industry, government bodies, building design, and construction professionals in B.C., Canada, and other key global markets.

¹ Embodied carbon is the sum of greenhouse gas emissions released during the following life-cycle stages: raw material extraction, transportation, manufacturing, construction, maintenance, renovation, and end-of-life for a product or system.



Photo: Wade Comer Photography, courtesy naturallywood.com



British Columbia/Canada

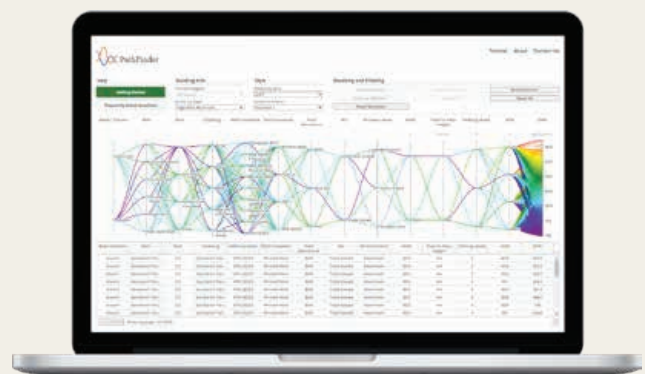
FII funded a range of initiatives to build awareness of wood's role in reducing the carbon impact of the built environment. Priorities included:

Knowledge Exchange – FII is a contributor to the Zero Emissions Building Exchange (ZEBx), Canada's first Centre of Excellence focused on decarbonizing the building sector. Its evolving suite of resources and educational events are aimed at B.C. architects, engineers, general contractors, sustainability consultants, material suppliers, building owners and policymakers to increase industry capacity to design and construct infrastructure and buildings that mitigate embodied carbon.

Training – FII facilitated a remote-based micro-credential program with the British Columbia Institute of Technology (BCIT), equipping design practitioners with essential knowledge and skills in life cycle analysis.

Tools – FII supported the creation of tools like the Athena Impact Estimator for Buildings and the Embodied Carbon Pathfinder, which help assess embodied carbon implications in early design stages. These efforts demonstrate the carbon benefits of mass timber and inform wider adoption of lifecycle assessment in building design and policy making.

B.C.-specific Data – FII commissioned the Athena Institute to conduct life cycle assessments (LCA) and develop environmental product declarations (EPDs) for five B.C. wood products: softwood lumber, plywood, glulam, cross-laminated timber, and trusses. The EPDs, which represent industry average results for products made in B.C., were verified and registered with ASTM International and will be incorporated into the next release of the Athena Impact Estimator for Buildings, as well as the upcoming Canadian national database for low-carbon construction.





Key Global Markets

Across its major international markets, FII funds initiatives that position wood and wood-based construction as a solution to meeting carbon reduction goals. This builds on B.C.'s own climate commitments and highlights how the use of wood from B.C.'s sustainably managed forests can help the construction industry in other jurisdictions meet their own sustainability objectives.

United States

In the United States—B.C.'s largest export market—efforts led by WoodWorks are helping position wood products as the go-to solution for mitigating climate change in the construction sector. This includes providing transparent information on the life cycle benefits of wood products and buildings, and establishing a library of resources that address the embodied carbon of building materials and the importance of considering the entire carbon footprint of those materials in sustainable design.

Japan

In Japan, where wood construction is key to meeting the country's commitment to carbon neutrality by 2050, Canada Wood Japan is helping the construction sector accelerate its use of low-carbon building solutions. This includes taller and larger wood buildings and, increasingly, the use of innovative mass timber products and building systems pioneered in B.C.

China

In China, an unprecedented commitment to decarbonization and a more sustainable development of urban and rural areas continues to lay the foundation for the development of wood construction. FII is working directly with China's national and key regional governments to influence construction initiatives around low-carbon, energy efficiency, prefabrication and green construction with the objective of extending opportunities for wood building systems and the use of B.C. wood products.

Raising awareness and taking action on embodied carbon holds significant importance in mitigating greenhouse gas emissions within the global construction industry. FII remains dedicated to supporting research and disseminating valuable information and insights regarding the role of wood products in embodied carbon. This commitment extends to partner communities and a network of funded program delivery partners, spanning across our domestic market, the U.S., and crucial markets in Asia.



British Columbia

While B.C.'s forest products are exported to markets internationally, rapid advancements in building design are creating new demand at home. Over the past year, FII has collaborated with partners in industry, government and the research community to expand and promote opportunities for wood use. By ensuring B.C. is an early adopter of advancements in wood construction, such as mass timber, FII and its partners are supporting regulatory change, stimulating job growth in the forest and building sectors, and showcasing these advancements globally.

Photo: Bryce Byrnes, courtesy naturallywood.com

Growing Awareness through Digital Media



To highlight the benefits of building with wood and wood innovation, FII curates and develops a wide variety of online resources including technical tools, guides, research reports, project profiles, and case studies. These are shared via the naturally:wood communications program.

Last year, FII focused on raising awareness and sharing knowledge with core audiences on topics including mass timber, building taller and larger buildings, wood in schools, biophilia, embodied carbon and the circular economy, and B.C.'s sustainable forests. Aimed at professionals in architecture, engineering, construction, wood manufacturing, and all levels of government, FII shares this content across multiple channels including e-newsletters, articles in trade publications, podcasts, social media, and FII's global network of strategic partners.

Throughout the year, FII's steady cadence of digital content profiling B.C.'s leadership in wood construction and sustainable forest products generated a 37 percent increase in PDF downloads, video views, podcast listens, and virtual tours. These efforts pushed nearly 11.7K referrals to other industry websites that provide information on wood construction and over 33K referrals to B.C. manufacturers profiled in the naturally:wood Supplier Directory.

Naturally:wood.com has become a voice of authority on wood construction and forestry management practices in B.C.:

↑30%
website visits

↑37%
content downloads

41K+
referrals to B.C.
manufacturer,
association and related
partner websites

FII and its Partners Return to In-person Promotion

Following a two-year pandemic-induced pause, 2022/23 saw a welcome return to in-person trade events. During a busy fall trade show season, FII and naturally:wood exhibited at three partner events: *BC Wood's Global Buyers Mission*; *Building Transformations' Timber in the Digital Environment*; and the *Canadian Wood Council's Wood Solutions Conference*. Over 1,000 attendees participated across the three events, from international forest product buyers at the Global Buyers Mission, to building industry specifiers who joined all three events. At the shows, FII staff fielded enquiries related to the Mass Timber Demonstration Program, Wood First-funded tools and resources and the naturally:wood Supplier Directory.

In February 2023, FII returned to BUILDEX as part of the B.C. Wood Pavilion which included Wood *WORKS!* BC, BC Wood and value-added wood product manufacturers. The show recorded almost 10,000 attendees with the naturally:wood display experiencing a high volume of traffic over the two days of the show. New to the B.C. Wood Pavilion was a mass timber product display which attracted significant attention from the design and construction communities.



Photo: BC Wood Specialties Group

"The GBM remains the premier event of its kind to generate new international business for manufacturers of Canadian wood products. The fact that architects and engineers also attend adds another element to the mix which serves to benefit the industry both at home and abroad."

- GBM Participant

Global Buyers Mission Welcomes the World

BC Wood welcomed over 600 delegates from around the world to the 19th Annual Global Buyers Mission (GBM), held from September 8 - 10, 2022, in Whistler, B.C.

Delegates of the 2022 GBM included international buyers from Australia, Belgium, Canada, France, Germany, India, Indonesia, Japan, Mexico, Netherlands, Nigeria, Pakistan, South Korea, Taiwan, the United Kingdom, and the United States. Many were attending for the first time, providing opportunities for Canadian manufacturers to develop new business.

A variety of site visits and factory tours provided pre-qualified buyers with the opportunity to visit production facilities in the Lower Mainland and meet participating GBM manufacturers, building future business relationships with B.C. companies.

Knowledge Mobilization

Knowledge mobilization (KMb) refers to the flow and uptake of knowledge in order to facilitate informed decisions around policy, innovation or events. As applied to the wood industry, KMb helps to create positive impacts for wood use, technology, and sustainability. To advance KMb in the wood sector, FII developed and shared a wide variety of resources including technical tools and construction guides, project profiles, and other technical information, all of which highlight the benefits of building with wood and showcase examples of wood innovation and lessons learned by early adopters from across B.C.



Photo: Michael Elkan Photography, courtesy naturallywood.com

Why Wood is Good for Schools

Historically, the construction materials for schools have followed the predominant construction method of the day, with wood-frame schools giving way to brick and later concrete and steel structures. The larger and more complex the project, the less wood was used—especially for structural elements. In the last 15 years, there has been a conscious shift back to timber-built public buildings, including B.C. schools, and for good reason: school districts, school administrators and the design community are discovering the growing list of functional, performance, and biophilic benefits of using wood in schools.

To better position wood as a preferred material in school construction, FII supported Thinkspace and Fast+Epp to prepare the Wood Use in British Columbia Schools report, published in October 2022. The report addresses topics such as wood use in 3-4-storey design, the role of biophilic design, opportunities for mass timber, carbon reduction, and earthquake-resistant design options.

To help disseminate the new research, FII developed a range of materials, including a blog, fact sheet, brochure, podcast, and trade media, amassing over 12,000 visits to content over a 6-month period.



WOOD USE IN BRITISH COLUMBIA SCHOOLS

A PRACTICAL REPORT FOR SCHOOL DISTRICTS,
ADMINISTRATORS, AND DESIGN PROFESSIONALS

thinkspace Fast+Epp



Photo: Michael Elkan Photography, courtesy naturallywood.com

Building Community and Capacity

B.C.'s wood industry thrives on innovation and expertise. Through education, collaboration, and support, professionals and organizations in the sector continue to enhance their skills, embrace sustainable practices, and position themselves as leaders in construction. Through the Wood First program, FII funds initiatives that position B.C. as a hub for wood product innovation, ensuring the industry remains at the forefront of sustainable building solutions.



Photo: UBC - Centre for Advanced Wood Processing

Next Generation Education: Timber in the Digital Environment

In October 2022, Building Transformations organized a “Timber in the Digital Environment” event, which brought together experts from British Columbia and innovators across the country to explore the integration of design and construction in the digital realm, with a particular emphasis on DFMA. Participants discussed the advancements in the manufacturing sector, the benefits of DFMA in terms of productivity and environmental sustainability, and its potential impact on timber projects.

A Design for Manufacturing and Assembly (DFMA) workshop held in February 2023—organized by UBC’s Centre for Advanced Wood Processing (CAWP) in

collaboration with the university’s Department of Wood Science and its School of Architecture and Landscape Architecture (SALA)—focused on the design of mass timber projects with a strong emphasis on manufacturing and assembly efficiency. By bridging the knowledge gap among industry stakeholders, DFMA improves project success rates while reducing time, waste, cost, and labour. Participants engaged in hands-on exercises and gained insights into the latest manufacturing technologies and digital tools, enabling them to optimize their design and construction processes. Attendees described how they were able to overcome unique challenges faced in the projects they worked on by collaborating with others to integrate collective knowledge and apply hardware, software and material-based technologies available to them to realize a solution.

Build United

Launched in 2022, Build United grew from Construction Foundation of BC’s Skills Ready and Indigenous Skills initiatives. In response to the need for career exploration activities



in B.C.’s K-12 system, it represents an approach to applied learning that considers how to use everyday tools on a jobsite to create connections between learners, explore core curriculum, and encourage collaborative problem solving.

Build United’s projects and processes promote applied learning, delivering workshops for youth and train-the-trainer opportunities for teachers. The initiative represents an opportunity to explore social and

cultural themes through interactive, engaging, and hands-on projects; especially those made from wood.

Collaboration continues to strengthen, including 12 formalized partnerships between CFBC and First Nations communities and organizations for ongoing programming and educators across B.C. engaging with the project website, resource guides and idea books to integrate wood-related activities into their teaching practices.

Strengthening Collaboration

Collaboration and knowledge sharing play a crucial roles in the capacity building efforts of B.C.'s wood industry. The Wood Innovation Group (TWIG) serves as a platform for professionals, researchers, artisans and manufacturers to connect and foster collective innovation. In 2022/23, TWIG organized events and programs that promote multidisciplinary cooperation, encouraging participants to explore new ideas and approaches to address industry challenges. By providing access to resources, expertise, and prototyping opportunities, TWIG supports the development and implementation of innovative wood-based solutions.

twig

For upcoming TWIG events, go to: twigbc.ca

Manufacturer Support

In 2022/23, CAWP worked closely with companies to establish new product development procedures and protocols, offering assistance throughout the entire development process from design and engineering to prototyping and testing, enabling companies to improve existing products and processes or develop new ones. This support enhanced the competitiveness of B.C. manufacturers and their ability to respond to market opportunities. Additionally, BC Wood Specialties Group offered marketing support for small- to medium-sized wood companies. Recognizing that these companies might lack in-house marketing expertise, BC Wood offered tailored projects to improve their competitiveness, such as management training and marketing and sales coaching. By building internal capacity, BC Wood helped companies strengthen their market presence and grow their businesses.

"[Our company] has heavily relied on TWIG to help establish our company, from forming strategies, establishing a network or sourcing materials. If a TWIG member does not know an answer to a question, they probably know who does. It is an easy forum to share ideas and be inspired by others' efforts in showcasing the value of B.C. wood."



Photo: TWIG

"CAWP provided me with key design advice for my wood product prototype. The fundamental changes enhanced the original design allowing for a better user experience and additional product opportunities, and provided a solution not currently available in the marketplace."



Photo: UBC - Centre for Advanced Wood Processing

"It is fantastic that the approach is teaching and giving us the tools to do what is necessary as opposed to just hiring someone to do it for us."

"This [program] enabled our staff to get the necessary training for the new Enterprise Resource Planning system we are migrating to. This [program] is fantastic for growing technology in the industry."

"We hired a new sales team, with no direct industry experience. This [company project] was part of their training in long distance and solution selling. Our team was expected to sell within six months of receiving leads. Two of four have already closed their first deals three months ahead of schedule."

Mass Timber Innovation and Leadership



The Exchange | Photos: Jason Harding, courtesy naturallywood.com

Mass Timber Creates New Opportunities

The future of the construction industry is high-tech and efficient. Prefabrication, automation, virtual design and 3D modelling are coming to the fore as government and businesses seek better use of resources, faster builds, lower costs and reduced on-site waste. For B.C.'s mass timber and advanced building products, this means opportunities both at home and abroad. Wood—particularly mass timber—enables a highly integrated way to construct modern buildings.

Working alongside B.C.'s Office of Mass Timber implementation (OMTI), FII is leveraging evolving building codes and regulations to encourage the use of wood, demonstrating mass timber to build taller, larger buildings that urban densification and affordability demand.



Construction of Man6 - CLT panel placement | Photo: Wade Comer Photography, courtesy naturallywood.com



Alliance Francaise Vancouver | Photo: Arkitek Creative, courtesy naturallywood.com



Alliance Francaise Vancouver | Photo: Arkitek Creative, courtesy naturallywood.com

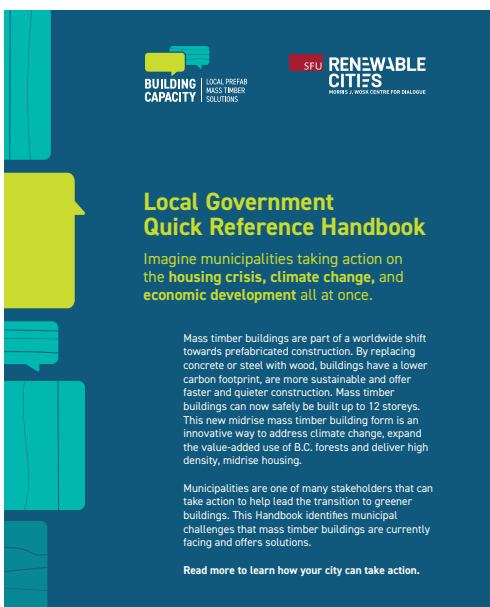
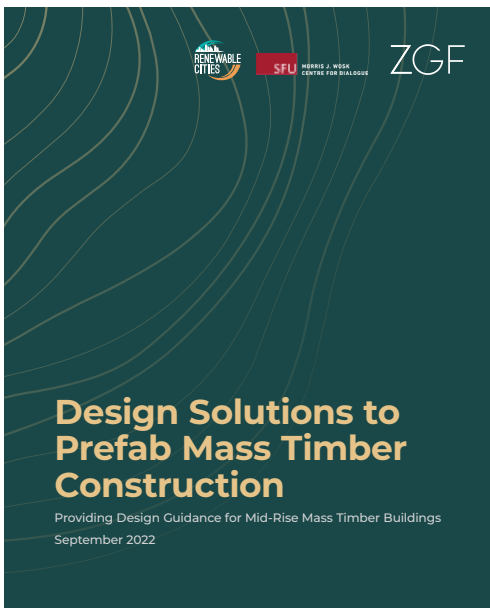
Addressing Barriers to Mass Timber

Innovations in structural wood products such as cross-laminated timber and glulam, other engineered wood systems and wood frame six-storey construction have advanced significantly over the past decade. This has opened new markets for wood beyond traditional low-rise buildings to include more complex, larger and taller mid-rise structures (7-12 storeys) built with prefabricated mass timber. Despite the potential for these buildings to provide significant environmental, economic and community benefits, barriers do exist for large, complex prefabricated wood buildings. Among the most commonly stated concerns are local government planning and building policies that can inadvertently block innovative new building systems through zoning restrictions, and a lack of available financing for new construction systems.



The Exchange | Photos: Jason Harding, courtesy naturallywood.com

Breaking the Log Jam: Municipal Permitting and Policy Innovations to Advance Prefabricated Wood Construction



Funded by FII's Wood First program, in collaboration with the Office of Mass Timber Implementation and BC Hydro, SFU's Renewable Cities assembled an interdisciplinary team of over 230 architects, developers, municipal planners and building officials. The result was a suite of guides addressing key land use barriers, including zoning omissions explicit to 7- to 12-storey buildings, lack of specific mid-rise designations in official community plans and community design guidelines that are incompatible with cost-effective mass timber construction. The *Building Capacity: Local Prefab Mass Timber Solutions Guide* also addresses permitting and inspection processes, typically designed for traditional on-site construction, which can obstruct newer building systems and construction processes.



Mass Timber Demonstration

The Mass Timber Demonstration Program (MTDP) is supporting a range of demonstration and technical research projects and advancing mass timber use in a variety of building types across the province.

With first projects reaching completion in 2023, a wide range of content is being developed to share information and lessons learned—supporting articles, case studies, technical bulletins, videos and other materials available on **naturally:wood.com**.

In 2022/23,
mass timber
content on
naturallywood.com
generated

OVER
75K
page views

with project profiles
garnering

8,500
page visits

Research

Research priorities in 2022/23 aligned with B.C.'s objectives to reduce the environmental footprint of the built environment and to grow the use of wood in taller and larger construction across the province.

Additionally, research was commissioned on the biophilic properties of wood, embodied carbon, and fire and acoustic performance, to analyze 18-storey mass timber building codes, exploring the transferability of U.S. codes to B.C. and Canada. This work led to an innovative pan-Canadian approach to harmonize mass timber code provisions across the country and to pursue options for taller wood buildings.

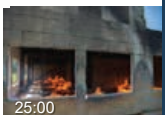
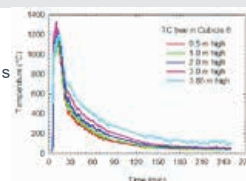
Costing analyses were conducted for mass timber building archetypes in B.C., providing insights into energy efficiency strategies aligned with the BC Step Code. FI and the Office of Mass Timber Implementation created the *Mass Timber Navigator* tool, simplifying access to this information for developers, designers and policymakers in the early design stages.

FI also collaborated with Natural Resources Canada, National Research Canada, and provincial governments on mass timber fire demonstrations and tests. These tests yielded crucial data on mass timber fire performance, safety at construction sites, and the impact of exposed mass timber on fire severity and duration. These fire test results will be used to educate key audiences and inform future building code cycles.

Test 5 (cont'd)

Fire dynamics

Flame impinged ceiling at 3 min 40 s
18-min full burning
Visible flaming ceased by 30 min
Continuously cooling down





United States

The U.S. is B.C.'s largest export market for lumber and value-added products, with wood products playing a prominent role in both residential and non-residential construction.

While the single-family home segment remains the primary market for B.C. wood products in the U.S., a demographic shift from single-family homes to multi-family living is underway. This is opening a wide range of new opportunities for softwood lumber, particularly in the multi-family/multi-storey residential and non-residential construction segments. With building code changes now allowing for taller and larger wood buildings, the adoption of engineered wood and mass timber products and building systems is presenting additional opportunities for B.C.'s value-added manufacturers.

During the year, FII's priorities in the U.S. market focused on emerging opportunities for wood-frame and mass timber systems in mid-rise residential and non-residential markets, as well as taking advantage of emerging niche, value-added opportunities and outdoor living applications.

Through its recipient funding programs, FII continues to work with partners to provide promotion, technical support and education aimed at the U.S. construction and design community with the goal of expanding wood use in these segments.

Construction

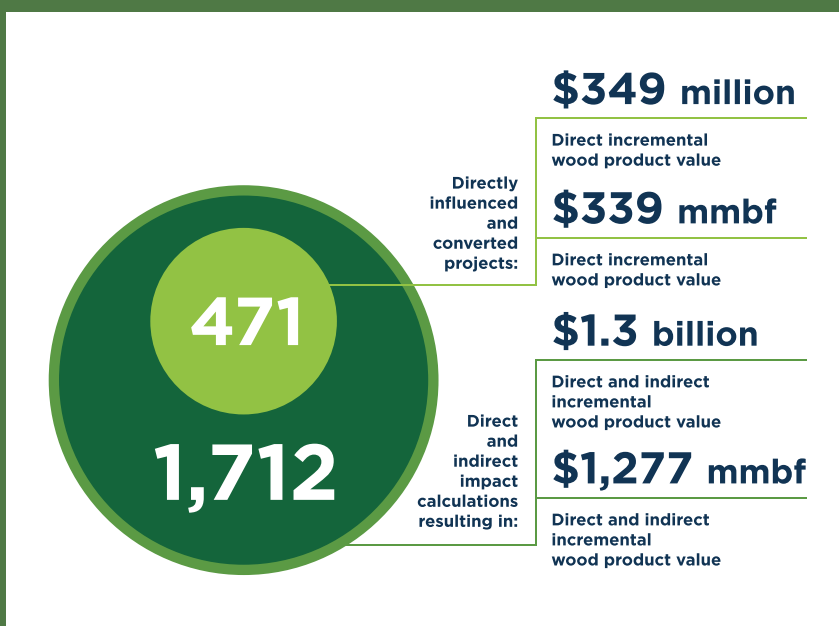
Market development efforts in the multi-family/multi-storey and non-residential construction sectors in the U.S. are delivered by U.S. WoodWorks, with cost-shared funding support provided by FII, the Softwood Lumber Board, and other organizations. The WoodWorks program focuses on increasing the consumption and market share of softwood lumber and related products, including mass timber, in commercial and multi-family buildings in the U.S. It does this by providing a suite of education and technical support programs related to design, engineering and construction.

The goal is to stimulate a shift within design and construction firms such that practitioners elect to choose wood over alternative materials. This is achieved by encouraging the use of wood in building designs, providing education on the benefits and technical aspects of wood construction, and supporting design teams that choose wood for their projects. By helping to ensure that wood is viewed as a preferred solution across a broad spectrum of building types, the program is strengthening wood's overall market position and supporting long-term stability for wood consumption in the U.S.

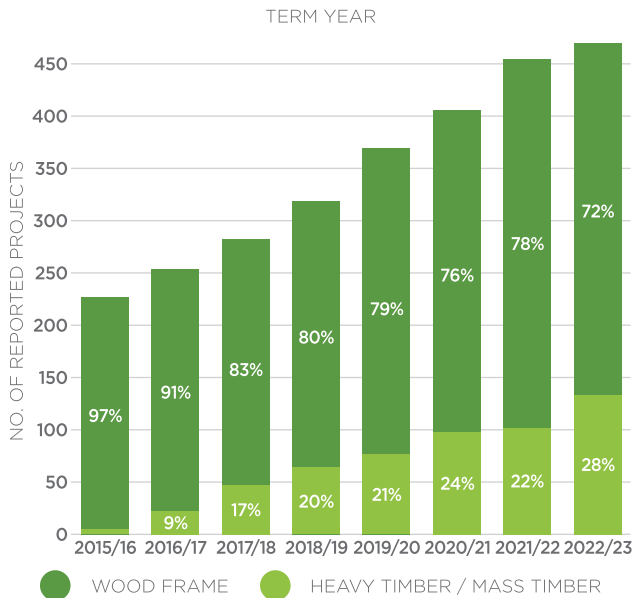
Project Influence and Conversion

In 2022/23, the WoodWorks program directly or indirectly influenced the conversion to wood use in 1,712 separate building projects¹. This represented 1.28 billion board feet of incremental wood product use, \$1.3 billion in incremental wood product sales, and 3.5 million metric tons of avoided greenhouse gas emissions. Of these, 471 building projects received direct technical support from WoodWorks. The total number of influenced projects was up from the previous year despite supply chain disruptions that slowed construction on many projects, and rapidly rising interest rates that made financing more challenging while dampening overall construction during the period.

Of note, the share of influenced projects involving mass timber jumped to 28 percent of all projects supported by WoodWorks in 2022/23, an increase from 22 percent in 2021/22.



¹ US WoodWorks reports direct project numbers (buildings having gone to construction), but also applies an "indirect factor" to generate an estimate of the number of buildings indirectly influenced by the USWW program. The objective is to better capture the downstream impact of the WoodWorks program on construction across the U.S.



Mass Timber

Mass timber is a family of products that includes cross-laminated timber panels (CLT), nail-laminated timber panels (NLT), dowel-laminated timber panels (DLT), glue-laminated timber panels (GLT), and glue-laminated timber beams and columns (glulam). They are mostly manufactured from softwood lumber and all of these examples except glulam are relatively new. Because of this, their characteristics, features, and usage are undergoing rapid evolution. In fact, over the next 10 to 15 years, mass timber represents the largest growth opportunity for the use of softwood lumber in the U.S.

Growing Interest in Tall Wood Translates into Projects

The combination of interest among developers and design teams, adoption of tall timber code provisions in the 2021 International Building Code (IBC), approved adjustments to the 2024 IBC, and availability of project support from WoodWorks, is translating into real building projects; an increasing number of these are now tall wood buildings (7+ storeys of wood).

Ongoing education and outreach to the architectural, engineering and contractor communities continue to solidify WoodWorks' position as the tall wood/mass timber experts in the U.S.

11 tall wood projects already under construction or built.

Carbon 12
Portland, OR
8 stories mass timber

Ascent
Milwaukee, WI
25 stories – 19 mass timber

11 E Lenox
Boston, MA
7 stories mass timber

Heartwood
Seattle, WA
8 stories mass timber

Bakers Place
Milwaukee, WI
15 stories – 12 mass timber

80 M Street
Washington DC
10 stories – 3-story mass timber vertical addition

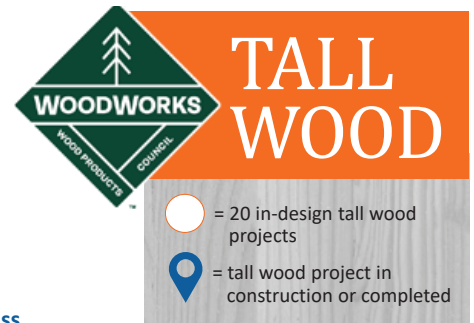
Minnesota Places
Portland, OR
8 stories – 7 mass timber

INTRO
Cleveland, OH
9 stories – 8 mass timber

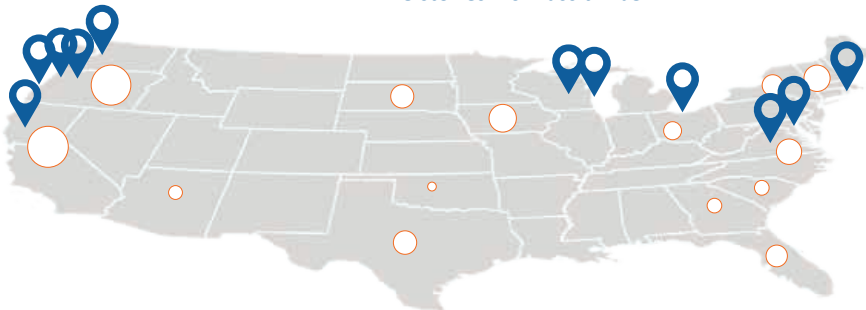
Apex Plaza
Charlottesville, VA
8 stories – 6 mass timber

TimberView
Portland, OR
8 stories mass timber

1510 Webster
Oakland, CA
18 stories – 16 mass timber



WoodWorks is supporting 208 tall wood projects



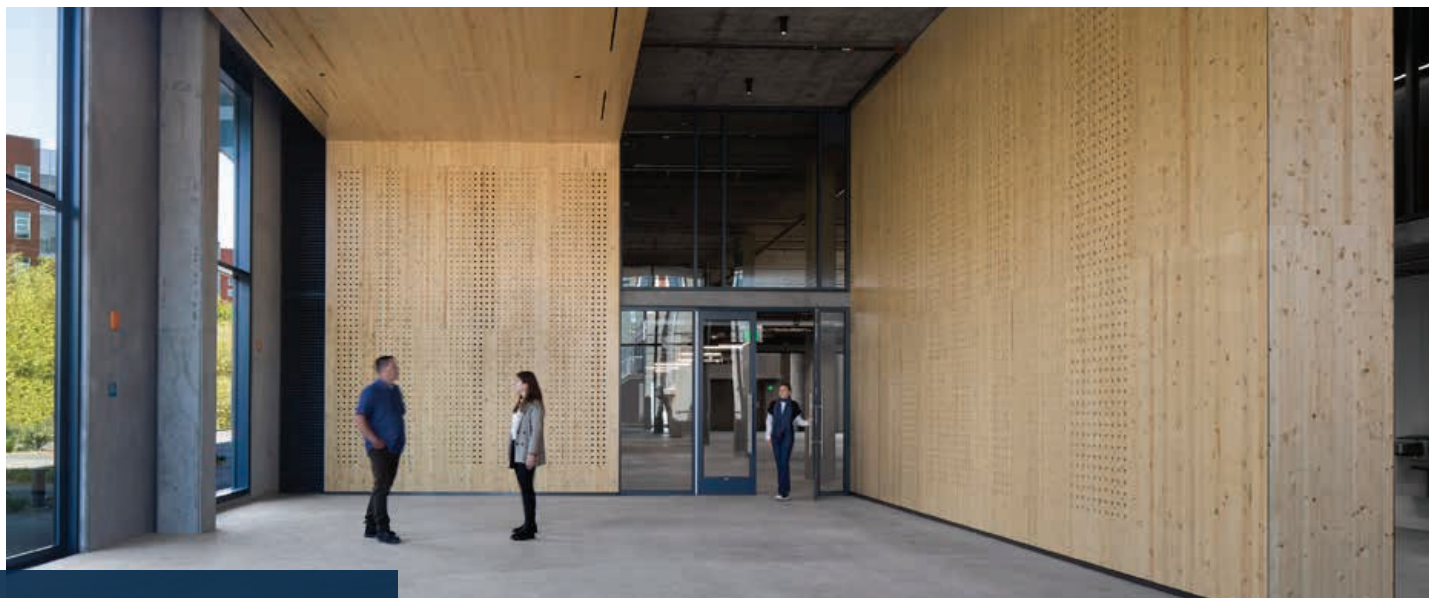
2024 International Building Code Boosts Mass Timber

Tall mass timber construction got a major boost in 2022 with key amendments approved for the 2024 IBC. The amendments build on new construction types introduced in the 2021 IBC—IV-A, IV-B and IV-C—which allow mass timber buildings up to nine, 12 and 18 storeys respectively. Changes to the 2024 IBC will allow for nearly 100 percent exposed mass timber ceilings in Type IV-B construction, up from the current 20 percent. The new provision eliminates the requirement for two layers of gypsum board over most of the ceiling area, reducing material and labor—and by extension both cost and embodied carbon of the structure.

In addition to allowing the beauty of wood to be more widely displayed, the change makes switching to mass timber more financially attractive for developers.



INTRO / Harbor Bay Ventures | Hartshorne Plunkard Architecture | Fast + Epp |
Photo: Nick Johnson, Tour D Space



Architect: Perkins&Will | Structural engineer: DCI Engineers | Contractor: Hathaway Dinwiddie Construction | Developer: SKS Partners | Photo: David Wakely

Emerging Trends in Building Conversions to Wood

During 2022, multi-family construction made up 50 percent of new projects assisted by WoodWorks. This included several projects focused on converting three-storey light-frame multi-family buildings to Type III structures that feature five storeys of wood over a single storey of concrete.

2022 also saw WoodWorks help more factory/industrial building projects incorporate more wood in their designs than in 2021. While it's early to draw conclusions, this uptick in factory/industrial projects supports the findings of a 2023 FEA forecast which found that wood construction in the warehouse and distribution centre category is experiencing unexpected growth. Taken together, the evidence suggests that wood is beginning to compete with traditional materials in the segment.

Paving the Way for Mass Timber Insurance

Factors such as general insurance industry volatility and a lack of historical data for mass timber buildings have made insurance companies reluctant to provide coverage for mass timber structures. This presents a significant barrier to the wider adoption of mass timber building systems in the U.S. WoodWorks is taking a lead role in addressing the issue by providing the building industry with education, technical resources and one-on-one support. Examples include:

- A dynamic web page that answers common questions and provides current research and testing related to mass timber's performance
- A paper co-authored with an insurance broker experienced with mass timber buildings
- A webinar hosted by a global insurance broker
- Presentations and panel discussions on the subject at key events

In addition, WoodWorks is providing direct support to project teams, helping them prepare packages that address insurance industry concerns. These include:

- A Mass Timber Project Questionnaire for Builder's Risk Insurance—an editable form that construction, development and design teams can fill out to aid in collecting project-specific information to share with their insurance team
- A three-part video series addressing challenges that mass timber projects are facing with respect to builder's risk insurance

Construction Management and Mass Timber Installer Training

When WoodWorks launched its Mass Timber Construction Management Program in 2019, there was a critical gap in knowledge and skills among contractors and installers. Developers and building designers were eager to use mass timber for its carbon, biophilia and other benefits, but most contractors were unfamiliar with the materials. As a result, budgets and estimates were skewed high to cover the unknowns, and many projects failed to go forward. Since then, WoodWorks has developed educational and technical content tailored to the needs of project managers and estimators, as well as field team leaders and installers. The goal is to facilitate competitive pricing and help ensure that a growing pool of qualified workers is available.

Building on the success of the Mass Timber Construction Management Program, WoodWorks launched 10 mass timber installer training modules in January 2023. Intended for use by contractors, subcontractor erectors, training centres, community colleges, and workforce development programs, the modules complement efforts to ensure qualified workers are available to construct mass timber projects. Response to the launch has been very strong with over 3,500 downloads of materials in the first week alone.

12,128
hours of installer
training

530
people
trained*

17
training
sites

* Equivalent of 66 new installation crews that could erect 450 buildings annually.

Addressing Barriers to Growth: Mass Timber Insurance and Construction Training

As an organization that works closely with developers and design/construction teams, WoodWorks is uniquely positioned to identify and address barriers that can stop wood projects from going forward. The following stories highlight how WoodWorks is mitigating concerns where unfamiliarity with mass timber had led contractors to increase bids and insurance professionals to increase premiums to cover perceived risks.



Hickok Cole | Photo: Ron Blunt

National Webinars Draw Large Audiences

79,750

Number of practitioner
training hours delivered by
WoodWorks in 22/23

WoodWorks national webinars continue to draw large audiences eager to learn about all aspects of wood construction. For example, four national webinars were hosted between January and March 2023, drawing a total of 9,084 attendees. Two light-frame topics—Type III Construction for Multi-Family: Best Practices and Detailing for Success; and Shrinkage and Vertical Movements in Multi-Story Wood-Frame Structures—attracted nearly 3,000 participants each.

The success of the national webinars confirms that the architectural and engineering community is looking to WoodWorks for both light-frame and mass timber education and finding value in online opportunities.

"This is exactly the information I have been looking to have, all in one presentation. The topics discussed are all the probable conditions we face in Type III construction with detailed solutions. Very happy that the younger staff members in my office were able to have this information so neatly packaged". —Architect participant



Carbon Mitigation— Overcoming Knowledge Gaps

Wood products should be seen as the go-to solution for mitigating climate change in the construction sector, but competitive building material interests have been trying to shift discussion of the science in their favour. To balance this, WoodWorks has been taking steps to provide transparent information on the life cycle benefits of wood products and buildings. Among other undertakings, they have produced a series of expert tips and are investigating how design teams can approach material estimation. This is helping to lay the foundation for a standardized approach to Whole Building Life Cycle Assessment and improved, widely available tools for design and developer communities that account for wood's benefits.

WoodWorks' new resources on biogenic carbon are addressing an important knowledge gap for designers—the embodied carbon of building materials and the importance of considering the entire carbon footprint of those materials in sustainable design. As of late spring, their library of new resources has already garnered 9,440 views and is facilitating new conversations about the sustainable benefits of wood in construction.

Outdoor Living

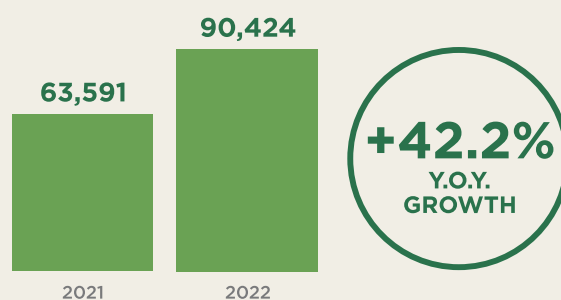
The Western Red Cedar Lumber Association (WRCLA) has developed a comprehensive and strategic advertising and outreach program designed to build awareness of the western red cedar (WRC) value proposition, and expand market opportunities for WRC products in the U.S.

The program functions to build awareness of WRC through ads, social targeting and influencers with the goal of engaging consumers and then guiding them to realcedar.com via inspirational content, education and training. Through realcedar.com, consumers are ultimately encouraged to find a retailer on the retailer locator page.

Despite a market that is seeing increasing competition from composite products, the Real Cedar advertising and outreach program continues to mitigate and minimize market erosion and has fostered growth in key areas.

Social Media Strategy Reaches Target Audiences

Despite price fluctuations and unsettled market conditions in 2022, realcedar.com experienced a 42.2 percent increase in Find-a-Retailer visits over 2021, a result of improved demographic and geographic ad targeting and messaging.



Cedar Book XV



The Cedar Book remains a key marketing asset for the WRCLA, with the submission process serving as an effective outreach tool for the architectural community, and the featured architects in turn acting as influential ambassadors for Real Cedar.

This year's Cedar Book highlights 13 exceptional projects that showcase Real Cedar's versatility and beauty, and feature content and quotes from architects that will be repurposed for social media, enhanced blog posts and newsletters, as well as helping generate sales leads for WRCLA field representatives.

Created in partnership with the Softwood Lumber Board, and with funding support from FII, the Cedar Book XV uses print-on-demand technology, is download-ready, and will be available in hard copy for field representatives and architects.

Value-added

\$1.18B

of value-added wood products were exported to the U.S. in 2022 from B.C.

BC Wood's Resilient Success in Hawaii's Hospitality Market

BC Wood has played a significant role in supporting sales opportunities for British Columbia's value-added wood manufacturers. With a focus on expanding into the U.S. market, BC Wood has implemented various initiatives to connect local manufacturers with potential buyers, particularly in regions where B.C. has a competitive advantage. One such market that has experienced growth is Hawaii.

An example of BC Wood's efforts to forge links between B.C. manufacturers and light-commercial and hospitality-based construction firms can be seen in the island of Kauai. Notable firm, Layton Construction, was introduced to B.C.'s value-added industry during the Global Buyers Mission. This initial connection led to subsequent meetings with select B.C. companies, including Fraserwood Industries, during a value-added mission to Hawaii prior to the pandemic. Despite the pandemic's challenges, BC Wood continued facilitating ongoing discussions between Layton Construction and Fraserwood through video conferences, allowing them to explore a resort project—the 1 Hotel Hanalei Bay.

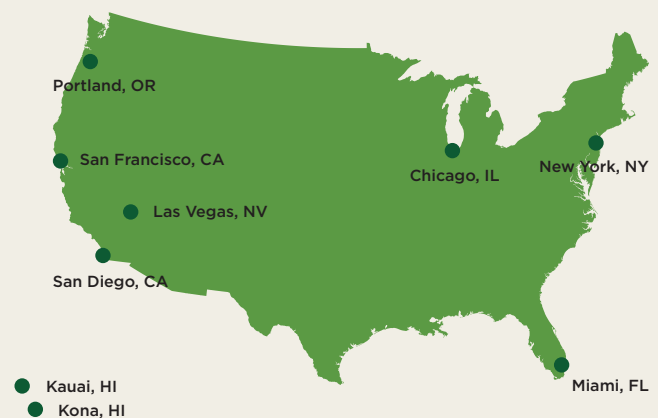
Thanks to BC Wood's efforts, a long-term relationship between Layton Construction and Fraserwood Industries developed, resulting in \$1.8 million worth of heavy timber products being procured for the hotel project. Despite the limitations imposed by the pandemic, BC Wood's facilitation of virtual interactions enabled negotiations to continue and the project to be completed. Fraserwood designed and supplied the engineered product for the porte-cochere and lobby of the hotel. The successful outcome underscores BC Wood's impact in connecting value-added wood manufacturers with sales opportunities.

Opening Doors to the U.S. Market for Value-Added Manufacturers

Support provided by BC Wood through organizing value-added manufacturer participation in trade shows has paved the way for companies to successfully enter the U.S. market. As the U.S. is often the first export destination for value-added companies, BC Wood's well-planned marketing activities significantly mitigate risks and enhance the potential for B.C. industry to thrive in the market.

Focusing on selecting trade shows that specifically attract key buyers and decision makers from across the country, BC Wood ensures excellent exposure and cost-effective means to connect with targeted buyers. BC Wood specifically focuses on areas where value-added manufacturers have a competitive advantage; this includes the Western United States, Texas, and Hawaii, which have well-established shipping routes and convenient accessibility, as well as participation in key national-level events.

BC Wood provides invaluable market development services and support to the value-added industry while also facilitating direct connections between buyers and sellers, effectively closing the sales cycle. In 2022/23, there were more than 56 participants across the suite of events, generating over an estimated \$35 million in new business.





Japan

By value, Japan is B.C.'s second largest market for wood products outside North America. B.C. and Canada have a long-standing presence in the Japanese market and are widely recognized as leading players in supplying wood products to Japan's construction sector. Japan is a key customer for B.C. wood products and building systems and, increasingly, for high-quality, environmentally sourced biomass.

Canada Wood, with ongoing financial support from FII, leads the market development strategy in Japan, where sustaining market share by protecting the strong Canadian brand and moving to expand wood use beyond traditional segments remain the primary objectives. Over the past decade, Japan's aging population has meant downward pressure on housing starts and reduced demand for wood in the residential sector. In response, the Canada Wood program in Japan has increased its focus on new opportunities for wood in the growing segments of hybrid, multi-family/multi-storey and non-residential construction as well as increasing the use of mass timber and engineered assemblies.

Other key priorities for the program include working with in-market stakeholders to remove barriers to the use of wood in construction, and increasing capacity in the Japanese construction sector to build and design with wood. At the same time, the program continues to support B.C. value-added manufacturers in accessing niche markets related to the resort, non-residential and reform/renovation sectors, and helping B.C. biomass producers tap opportunities in Japan—the world's fastest-growing major market for wood pellets.

Tokyo University of the Arts International Exchange Center | Photo: Canada Wood

Pushing the Envelope: Momentum Grows for Wood Use in the Non-Residential, Institutional and Industrial Segment

In recent years, a key element of the strategy for wood products in Japan has been to move beyond the single-family market by expanding wood use in new, high-potential areas, including the multi-family, multi-storey residential segment where changes to fire codes have opened new opportunities for wood use.

Today, other exciting opportunities for wood are emerging in Japan's non-residential, institutional and industrial segments where research suggests that between 25 and 30 percent of total floor area could be built with wood, up from the current 10 percent. Increasing lumber use to this segment could raise structural wood demand in Japan by as much as 1.4 million m³ annually.

The potential for expanding wood use is particularly strong in mixed residential, agricultural, medical, elderly care and social welfare projects where the use of wood and mass timber in larger structures builds on mass timber advancements in Canada and elsewhere around the world.

While wood currently holds an 8.5 percent share of overall non-residential construction (by floor area), the share has grown to 25 percent in the medical, elderly care and social welfare sub-sectors. Through an integrated R&D and promotion program, Canada Wood is focused on further extending the success of wood's market penetration in the elderly care and social welfare construction areas to other high-potential non-residential segments such as agricultural, hospitality and low-rise commercial buildings.

These efforts are now paying dividends with new and innovative non-residential projects being built across Japan at an accelerating pace. The examples that follow highlight just a few of the many exciting new projects directly influenced by the efforts of the Canada Wood program in Japan.



Canvan Sign Maker Factory Office & Warehouse | Photo: Canada Wood

Mass Timber Milestone Achieved through New Collaboration



Newly built Tokyo University of the Arts International Exchange Center is a five-storey hybrid steel and wood frame building with a total floor area of 1,494 m². The structure incorporates steel frame construction with elements of wooden post and beam and, in a first for Japan, nail-laminated timber (NLT) infill floor assemblies used in the third through fifth storeys.

This project was originally going to use cross-laminated timber (CLT) made from Japanese domestic wood; however, through a combination of market outreach and technical assistance, Canada Wood Japan was able to convince Maeda Corporation, the project's general contractor, to specify use of S-P-F 2x6 NLT floor assemblies on the third, fourth and fifth storeys. As a result, approximately 90m³ of Canadian S-P-F 2x6 J-Grade was used in the building's NLT floor assemblies. Happy with the outcome of this first NLT mass-timber project, Maeda, a company with 4,000 employees and USD \$4.5 billion in annual sales, has provided supporting testimonials and incorporated NLT into its in-house promotional materials with a view to quoting on future projects.



Tokyo University of the Arts International Exchange Center | Photo: Canada Wood

Until recently, Japan's mass timber market was limited to CLT produced from domestic species—use of Canadian species in CLT manufacturing has been constrained by Japanese product standards which act as non-tariff barriers. To overcome these non-tariff barriers, Canada Wood Japan led a multi-year research initiative to acquire code recognition for S-P-F NLT assemblies. In 2020, this milestone was achieved when COFI Japan secured Ministerial Approvals for S-P-F NLT floor and roof assemblies.



Pan Akimoto Bakery | Photo: Canada Wood

In March 2022, staff of the APA-The Engineered Wood Association and Canada Wood member COFI visited Pan Akimoto Bakery, a new 2x4 wood frame conversion project.

New Bakery Project Converted to Canadian Wood

Pan Akimoto Bakery in Tochigi Prefecture north of Tokyo has been in business for over 60 years. The firm is famous for its fresh baked goods and for canned bread which was developed in response to food shortages after the Great Hanshin Earthquake in 1995. The company's canned bread has even been to space aboard the Space Shuttle Discovery.

The bakery's new two-storey 1,958 m² building was initially planned as a steel building before the architect, with technical support from COFI Japan, convinced the owner to convert the project to wood. The now completed platform-frame construction (PFC) project includes a variety of S-P-F dimension lumber products as well as Canadian Oriented Strand Board (OSB) sheathing—9 mm (3×9) for walls; 12 mm (3×6) for the roof; and 15 mm (3×6) for the floor.



Sakura Hospital | Photo: MITSUI HOME CO., LTD.

New Wooden Hospital Serves as a Prototype for the Future

There are not many examples of hospitals being built with wood; however, Sakura Hospital in Chiba Prefecture is a prototype for wooden hospitals of the future.

Opened in November 2022, the facility is one of the largest hospitals in Japan to be designed and built using the 2x4 construction method and roof trusses. The three-storey hospital (33 beds) has a total floor area of 2,677 m² and incorporates over 400 m³ of structural wood products, including S-P-F dimension lumber and engineered wood joists and floor beams. The structure's carbon storage equivalent is estimated at 474 tonnes of CO₂.

The owner chose a 2x4 wood structure to create an environmentally conscious, safe and comfortable environment that accommodates the health needs of patients and staff, while offering innovative building solutions to tackle climate change.

Sakura Hospital is an excellent example of how Canada Wood/FII-funded programs and activities are fostering strong relationships with designers, engineers and contractors; partnerships that are essential to expanding opportunities for Canadian wood products beyond traditional markets.



Sakura Hospital | Photo: MITSUI HOME CO., LTD.



Nursing Home Nakano Nukumori no Sato | Photos: MHS Planners, Architects & Engineers Ltd.

Hybrid Design Expands Possibilities for Large-scale Buildings

With its unique, Japanese-inspired building design and cost-effective hybrid wood frame structure, “Nursing Home Nakano Nukumori no Sato”, stands as a wonderful example of how post and beam and 2x4 construction methods can converge to expand the design possibilities and advantages of wood construction in large-scale buildings.

Built in Itami City, Hyogo Prefecture, this Wafu, meaning “Japanese-styled” elderly care project, is comprised of five interlinked buildings (four one-storey buildings and a three-storey structure) for a combined floor area of 3,230 m².

Introduced by Canada Wood to the benefits of building elderly care facilities with wood, the project’s design team chose a wooden hybrid structure to reduce the construction period and building costs while keeping the decorative elements that define traditional Japanese design; specifically, the warming and soothing effects of exposed wood.

The project incorporates approximately 600 m³ of structural wood products of which just over half is Canadian S-P-F dimension lumber (360 m³).



Nursing Home Nakano Nukumori no Sato | Photos: MHS Planners, Architects & Engineers Ltd.

Annual Forest Sector Trade Mission Returns to Japan After Pandemic Pause



Photos: Canada Wood

Following a two-year pandemic-related halt on trade missions, the annual forest sector mission to Asia resumed in November 2022 with a visit to Japan, B.C.'s highest-value market in Asia. The mission was led by former B.C. Minister of Forests, Katrine Conroy and included a delegation of 40 senior-level representatives from B.C. forest companies and trade associations, First Nations, the Province of B.C. and the Government of Canada.

The mission focused on reaffirming B.C.'s commitment to the market, reinforcing trade relationships with key Japanese stakeholders and customers, and communicating B.C.'s leadership in sustainable forest management. The delegation also explored new avenues to advance wood use across emerging applications, including non-residential, mid-rise, and mass timber construction.

After the traditional visit to Tokyo, the delegation for the first time traveled to Osaka, the commercial hub at the centre of the Kansai region and a strategic base for key stakeholders of Canada Wood Japan, including major wood product importers, distributors and processors.

The mission underscored the clear alignment between Japan's sustainable development goals and B.C.'s own climate commitments and highlighted how the use of wood from B.C.'s sustainably managed forests can help the Japanese construction industry meet its own sustainability objectives.

First Nations Participation

The 2022 visit featured strong participation by First Nations representatives, led by Chief Jerry Jack with the Mowachaht/Muchalaht First Nation. Representatives explored avenues for a joint approach to forest sector market development as well as opportunities to further Indigenous participation and programming on future missions.



Photo: Canada Wood

Minister Katrine Conroy and First Nations delegation visiting Maeda Corporation's ICI Center

Partner Recognition Awards

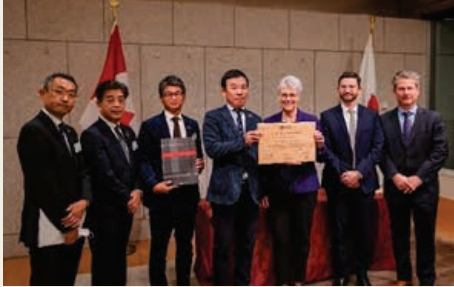


Photo: Canada Wood

During the visit to Tokyo, Minister Conroy highlighted the importance of relationships in Japan by presenting recognition awards to three long-time Canada Wood partners, Daito Trust, Maeda Corporation and Taihei Housing for their leadership in advancing 2x4 and mass timber construction in the country.

Largest-ever Female Participation

The 2022 forest sector mission saw the largest female representation on the mission to date, a positive step toward the goal of greater female representation in the sector and on the annual missions.



Photo: Canada Wood

Left: Minister Conroy (fourth from left) and female delegates of the 2022 Forest Sector Mission to Japan.

Canada Wood Signs R&D Agreement with Leading Developer

Canada Wood has concluded a memorandum of understanding with Seiwa Corporation to develop a taller, high-performance Midply shear wall assembly that will allow wood construction to expand into Japan's three-storey and higher multi-family construction market. Signed in November 2022 during the annual forest sector mission, the MOU formalizes the technical collaboration between the two organizations.

While Seiwa, a large, established developer, previously focused on building with steel and reinforced concrete, the company is increasingly shifting towards 2x4 construction. Currently, Seiwa builds approximately 50 platform-frame apartment complexes (750 apartment starts) annually; wooden platform frame construction now represents about one-fifth of the company's annual starts.

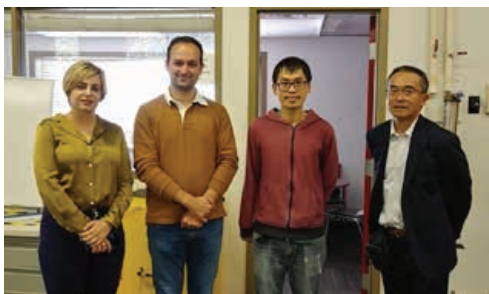
With recent performance based building code revisions designed to encourage greater wood use, multi-family residential construction offers significant new opportunities for wood, particularly for 2x4 platform-frame construction.

Canada Wood Japan's technical team has been in discussions with Seiwa Corporation's design department with the goal of supporting the company's adoption of a taller Midply high performance shear wall design for three-storey and higher apartments in dense urban settings. The company hopes to integrate the new system into its designs in order to expand wood use in its midrise projects.



Photo: Canada Wood

WPAC Accelerates Post-pandemic Engagements with Japan



Photos: WPAC

WPAC members toured Japan's largest, most-advanced-in-its-class and highly efficient power station, Kanda Biomass Energy in Kanda town, Fukuoka prefecture.

"Our members were proud to pay respect to the important relationship between our two nations, and our shared commitment to making the world a better place today and for future generations."

*Gordon Murray,
WPAC Executive Director*

Renewable energy is considered indispensable to Japan's pledge to decarbonize. As part of its goal to become carbon neutral by 2050, the country is accelerating its use of biomass, a move that makes the Japanese market increasingly important to B.C.'s wood pellet exporters.

The significance of Japan to Canada's wood pellet producers was highlighted this fall when the Wood Pellet Association of Canada (WPAC) was able to host its first visitors from Japan in over two years and then joined government, industry and First Nations partners on B.C.'s first post-Covid trade mission to Japan.

Visitors from Japan's Forestry and Forest Products Research Institute and the Japan Wood Bioenergy Association travelled to B.C. in October 2022 to tour the University of British Columbia's Biomass and Bioenergy Research Group Laboratories. WPAC hosted the group which was interested in learning more about Canada's leading approach to wood pellet certification (ENplus), wood pellet standards setting, and ISO wood pellet testing. The visitors also toured WPAC member pellet plants to gain a better understanding of quality production and certification.

Only a few weeks later, WPAC reunited with the group in Japan for a tour of that country's largest, most advanced power station, Kanda Biomass Energy in Fukuoka prefecture. The plant uses high-durability Canadian wood pellets in combination with palm kernel shells from Malaysia and Indonesia and Japan's locally produced wood chips. The new, highly efficient power plant has a capacity of 75 megawatts providing electricity to 170,000 households annually. The plant consumes about 170,000 tonnes of wood pellets per year, while generating approximately 670,000 tonnes of GHG savings compared to a similarly sized coal power station.

Over the past decade, Canadian wood pellet exports to Japan grew eighteen-fold from 76,000 tonnes in 2013 to 1.4 million tonnes in 2022. 2022 saw an increase of 27 percent over the previous year.

Wood pellet sales to Japan are a significant and important success story for B.C. as approximately 72 percent of Canadian pellet shipments to Japan originate in B.C.

B.C. Pellet Exports to Japan by Value

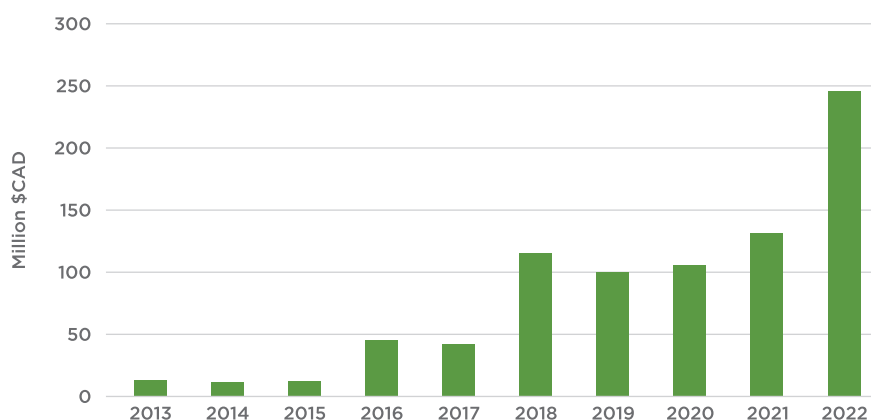




Photo: BC Wood Specialties Group

Re-opened Borders Bring B.C. Value-added Producers Rushing Back to the Japan Home & Building Show

"The Japan Home Show is a strategic event for showcasing our wood products in Japan. At the Canada Pavilion, BC Wood does a very good job of managing the event and targeting a wide range of companies that understand the importance of value-added wood manufacturing. This allows for serious inquiries and meaningful discussions that will not only provide opportunity to increase your customer base but also cement relationships with existing customers."

Silva Timber Products Ltd.

Since BC Wood opened its Japan office several decades ago, national trade shows at Tokyo Big Sight have been the association's main venue for bringing together Canadian suppliers with Japanese buyers. Many value-added manufacturers plan their sales trips and promotions around these shows and Japanese customers know that they can meet new suppliers in the Canadian pavilion. As a result, the COVID-19 border closures created a significant barrier to BC Wood's marketing efforts in this key market.

Despite border closures, the BC Wood Japan office continued to exhibit on behalf of Canadian industry at every national trade show, utilizing Zoom and other online tools to directly connect Canadian and Japanese companies.

Estimated sales
generated from
trade event:

\$7.12
MILLION

Entry restrictions were lifted in October 2022, just in time for the signature Japan Home & Building Show. After being away for almost three years, seven B.C. value-added manufacturers attended the event for the opportunity to re-connect with clients face-to-face. The Canadian Pavilion once again stood out demonstrating Canada's commitment to the market, with Japanese clients eagerly coming out for pre-arranged meetings with exhibiting B.C. companies.

With close to 40,000 professionals attending the 2022 show, traffic was even greater than before the pandemic, demonstrating the very high level of interest in seeing business in the home sector return to normal.

"As always, the event provided an excellent opportunity to showcase our products, meet with new and existing clients, and build our business within Japan. From visually attractive booths and professional translators to local logistics and support, Jim Ivanoff and the staff at BC Wood's office in Tokyo consistently ensure we have everything needed to put our best foot forward."

"Our business in Japan has been fortunate to gain significant traction in recent years, and attendance at the JHS has been a cornerstone of our strategy to make this happen."

Rauvin Manhas, Pan-Abode International Ltd.



Photo: BC Wood Specialties Group



South Korea

South Korea has a long tradition of building with wood; however, the country is only able to supply about one-quarter of the lumber needed to meet its annual market demand. Leveraging South Korea's need for lumber, particularly construction grades, has made the country a small but important market for the B.C. and Canadian forest sector.

Government policies promoting green building, energy efficiency and carbon reduction are benefitting wood, as are ongoing societal preferences for low-rise, healthy housing that uses wood in structural and aesthetic applications.

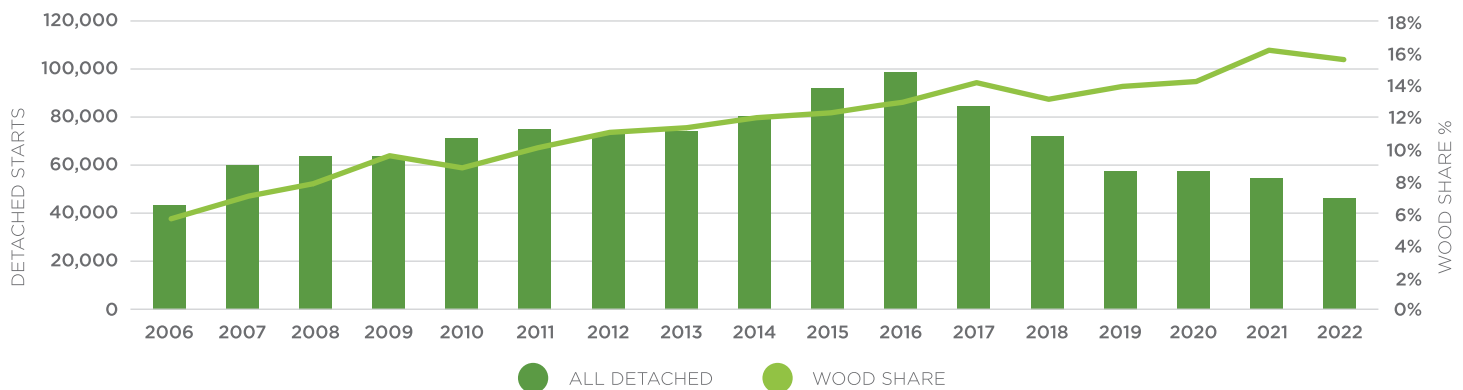
Led by Canada Wood Korea, market development efforts focus on expanding wood use in single-family and low-rise residential construction; influencing government policy in support of wood use in industrialized construction; removing constraints for wood use in codes and standards; capacity building in the wood construction industry; and advancing net-zero energy wood-frame construction. Efforts are also ongoing to support B.C.'s value-added manufacturers in tapping opportunities in South Korea's high-quality home and furnishing segments.

Chuncheon Local Food Market | Photo: Wan Soon Park

The Single-Family Market

Growing Wood Share in the Detached Home Market

Over the last 15 years, wood has become increasingly common as a building material in South Korea's low-rise housing segment, particularly detached single-family homes. This has happened for a combination of reasons: builders and homeowners are realizing the benefits of wood construction, South Korea's national decentralization strategy is conducive to wood-frame construction, and societal preferences for healthy homes built with wood, rather than concrete or steel, are trending upwards. Looking forward, the trend towards working from home may shift demand to single-family dwellings from condominiums, while the transition to a carbon neutral economy will promote more green building products, like wood.



MORE THAN
134,295

HOMES USING 2X4
CONSTRUCTION HAVE
BEEN BUILT SINCE
THE START OF THE
PROGRAM

Since 2006, the Canada Wood marketing program has focused much of its effort on the single-family residential market and the results have been impressive. Although the pace of growth in single-family housing starts has slowed in recent years, the share of the market held by wood construction has grown to 15.5 percent, up from only two percent in 2001. Combined with significant progress in advancing regulatory approvals for wood, these successes are now leveraging expansion into new markets, including energy efficient buildings, multi-family construction and industrialized construction.

Government Policy on Energy Efficiency Drives Wood Use

Since adopting a building energy standard in 2004, the Korean government has continued to promote energy efficiency, including through financial incentives and low-interest loans for projects that meet energy efficiency targets.

Promoted through the Korea Wood Construction Association and the Korea Institute of Building Construction with support from Canada Wood Korea, the Canadian Super-E® building system gives developers a turn-key solution to take advantage of the government's energy efficiency programs. Government requirements that all new public buildings meet a net-zero standard is creating even more opportunities for advanced Canadian wood systems in the market.

Building Capacity

The rapid increase in the wood-frame housing market has created a need for architects, structural engineers, builders and carpenters who can design and build with wood. Because the construction sector has traditionally focused on concrete and steel construction, the industry's ability to teach these skills has been limited. Canada Wood Korea has closed this gap with an ongoing training and accreditation program.

2022/23

**8 BUILDERS FULLY
SUPER-E®-CERTIFIED**

Formally certified by Canadian authorities to build homes to the Super-E® energy efficiency standard as set out by the Super-E® office on behalf of Natural Resources Canada.

**89 PROFESSIONALS RECEIVED
CANADA WOOD TRAINING
CERTIFICATION**

Canada Wood designation for participation in a Canada training seminar designed to familiarize participants with Super-E®.



HOT2000 Energy Simulation Workshop | Photo: Canada Wood Korea

Software Tools and Training Strengthen Energy Performance in Low-rise Buildings

The South Korean government aims to reduce carbon emissions by 37 percent by 2030 as part of the Paris Climate Accord. To meet these targets, South Korea plans to enhance energy standards for new buildings and promote “green” remodeling in existing structures.

To help designers and builders meet the new energy certification requirements, Canada Wood Korea introduced HOT2000—an energy simulation package developed by Natural Resources Canada and optimized for wood frame low-rise residential structures. HOT2000, along with Canada Wood Korea’s Energy Efficient Technology (EET) training, improves the capacity of professionals to construct wood buildings that meet Korea’s Net-Zero Energy (Ready) standards.

In 2022/23, Canada Wood Korea organized a four-day HOT2000 Energy Simulation Workshop for 20 architects and builders, teaching them the basics of energy simulation. Additionally, a five-day EET training session was conducted for 70 architects and builders, focusing on high-performance home and building sciences, including applying building science fundamentals to energy-efficient building design in Korean climate zones.



Nowon-gu Library | Photo: KICT (Korea Institute of Civil Engineering and Building Technology)

Net-zero Wood Demonstration Projects Promote Sustainability

Korea's goal to achieve full net-zero carbon emissions by 2050 requires significant changes in its construction sector. To help lower the sector's carbon footprint, the Korea Institute of Civil Engineering and Building Technology has launched two net-zero demonstration projects. The two projects will demonstrate the innovative application of mass timber in architectural design and highlight the significant role wood can play in reducing carbon emissions.

The low-rise, non-residential projects—a library building located in Seoul, and an office building in Jinju City—both feature cross-laminated timber (CLT) and glulam. The Korea Wood Construction Association (KWCA) is providing consulting support to both projects to ensure that the buildings meet the KWCA's 5-Star Construction Quality Certification program, the highest industry quality standard. The 5-Star program was developed by Canada Wood Korea and now functions independently under the KWCA.

When completed, the projects will provide unique educational opportunities for industry professionals and play a leading role in promoting sustainability efforts in Korea.



KWCA's 5-star inspectors at the site of Nowon District Library, one of the certified public building projects | Photo: Korea Wood Construction Association



KWCA's 5-star inspectors at the site of Gaho-dong Annex Building | Photo: Korea Wood Construction Association

Quality Certification Program Builds Confidence in Wood Construction



KWCA's 5-Star Program celebration ceremony held in front of 300th certified home | Photo: Korea Wood Construction Association

The 5-Star Quality Certification program, developed by Canada Wood Korea and now administered by the KWCA, marked a milestone in 2022 with the certification of its 300th home.

Launched in 2009, this voluntary quality certification program is structured on a set of comprehensive standards addressing all critical areas of building integrity, including air tightness, energy efficiency, moisture control and soundproofing. The program has established itself as an essential tool to promote and enhance quality construction of wood buildings in Korea.

The combined impact of construction quality legislation and demand from homeowners for more comfortable and durable homes has led to government agencies, municipalities and Korean building research institutes to increasingly recognize the 5-Star program. Initially geared for the single-family home segment, the program has since expanded into the public and non-residential building sectors with nine projects now certified.

Canada Wood-trained Architect Designs Forest Cooperation Centre

Canada Wood-trained architect Seung Hee Kang utilized glulam (glue-laminated timber), CLT (cross-laminated timber) and wood-frame infill walls to design the Cheorwon Inter-Korea Forest Cooperation Centre, a 2-storey, 1,250 m² wood-concrete hybrid building located near the border between North and South Korea. This glulam post-and-beam superstructure includes light-wood-frame infill wall panels of Canadian spruce-pine-fir. Abundant use of wood in the design offers a physical connection between visitors and nature.

A prominent attendee of Canada Wood training and mission programs, Mr. Seung has been a pioneer in the use of wood for over a decade and has been heavily involved in previous Canada Wood demonstration projects.

Multi-Family, Multi-Storey and Non-Residential Markets

To remove barriers to wood use in Korea's construction sector, Canada Wood has been working with local authorities on regulations restricting building height and floor areas in wood; and successfully completing tests and acquiring the necessary government certificates for fire resistance and sound insulation of wood assemblies.

While much of this effort takes place behind the scenes at research centres and testing facilities, and in industry and government committee rooms, without these code changes, approvals and certificates, wood would not be permitted in many of the construction applications where it is found today.

Breaking the Sound Barrier: New Rules Pave the Way for Wood in the Multi-family Sector



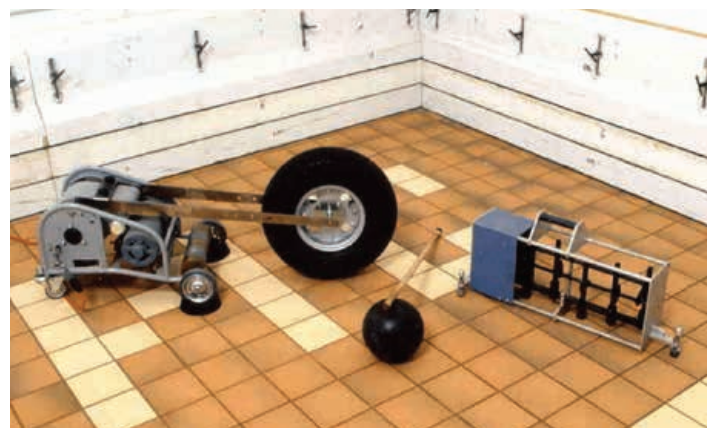
The Wooden Architectural Policy Forum | Photo: Canada Wood Korea

Multi-family housing technology has gained attention in Korea as developers seek to improve the efficiency of their existing building portfolios and meet the growing demand for urban housing; however, until recently, barriers to wood use in multi-family housing construction had effectively blocked its uptake.

For the past 30 years, floor impact noise in multi-family wood frame houses in Korea has been evaluated using the “(big) bang machine”. The impact force of this tire drop machine is well above the range of typical impact forces found in residential housing and the testing method had long been criticized by the Korean wood construction industry.

In August 2022, years of technical work and submissions by Canada Wood and industry researchers paid dividends when Korean authorities announced that the impact ball—an alternative acoustic test that allows lighter wood-frame floor assemblies to meet performance requirements for sound mitigation—was replacing the bang machine.

Combined with earlier revisions to the Korea Design Standards that abolished total floor area and height limits for wood buildings, the new sound regulations are a game changer for the use of both light timber and mass timber construction in South Korea's multi-family housing market.



Tire Drop “Bang” machine (left) has been replaced by a 2.5kg rubber impact ball dropped from a height of one metre in sound testing for floors in Korea.

Nail-laminated Timber (NLT) Showcased in Public Buildings

South Korea sees wood as a key material in its drive to meet carbon neutrality targets, including the use of mass timber systems in larger public buildings. To capitalize on the opportunity, Canada Wood Korea pivoted its demonstration program to showcase the advantages of NLT in public buildings and to help the Korean construction industry build capacity in the design, manufacturing and installation of NLT systems.

The inaugural NLT project, a community building in Jinju city, won the 2021 Korean Design Award. Building on this success, the Jinju government funded a second demonstration project in Seugsan Village, a historic settlement featuring traditional wooden dwellings. The new building draws on learnings from the initial demo and incorporates design elements that improved the manufacturing process and lowered overall construction costs.

Together, the two demonstration projects have helped position Jinju city as a leader in South Korea for the use of wood in public construction.



Seugsan Village Guest House for Artists-in-Residence Project | Photo: Canada Wood Korea

Benchmark Set with Wood Infill Wall Demo

The Cheonan Social Care Service Center in Cheonan city is Canada Wood Korea's latest wood infill wall demonstration project. The four-storey building features a combination of concrete with wood infill walls and partitions spanning a floor area of approximately 1,400 m².

The center was built in response to the increasing demand for care services in Korea. When completed, it will become the largest independently operated social center in the country.

A key feature of the center is the use of wood infill walls, which contributes to the indoor aesthetics and enhances the health and comfort of the center's residents.

The Cheonan project has garnered attention from social enterprise officials across the country, who have given positive evaluations on the use of eco-friendly wood in concrete buildings. The center serves as a shining example of the potential of wood infill walls in social service spaces, and it is expected that this solution will be widely adopted in the future.



Cheonan Social Care Service Center Project | Photo: KSPNC

Industrialized Construction

Industrialization (the prefabrication of building components) is a government initiative in South Korea to address growing labour shortages arising from an aging population, and to improve the overall quality of construction in the country.

Industrialization is a broad term that encompasses pure wood and hybrid products and a wide range of components including walls, partitions, floors, roof trusses and precut mass timber.



XiGEIST's demo home construction site | Photo: XiGEIST

Expansion of XiGEIST Demonstrates Exciting Future for Prefabrication

GS Engineering and Construction Group (GS E&C), a top builder in South Korea, believes that factories can build houses faster, cheaper and better than traditional homebuilders. Conditions are right in Korea for prefabricated construction to take off, due to a shortage of construction workers and a housing affordability crisis.

The company has already made inroads into the prefabrication construction market through the acquisition of key modular home companies in Poland, Britain and the U.S. It has now established a Korean subsidiary, XiGEIST, to operate a new automated wood prefabrication plant with which it aims to achieve a 30 percent reduction in construction time.

To promote prefabricated housing products for the B2B market, GS E&C completed two sample houses near Seoul and Busan. They also introduced a custom-ordered detached home product for the broader home market, targeting middle-income buyers with affordable prices. A promotional video of the first demonstration house in Changwon, Gyeongsangnam-do Province attracted over 210,000 viewers in a month.

Canada Wood collaborates with the Korea Institute of Building Construction to encourage the penetration of wood construction into Korea's mainstream construction markets. Canada Wood Korea has also been providing technical and training support to XiGEIST and driving the use of Canadian wood in XiGEIST's prefabrication process.



XiGEIST's demo home construction site | Photo: XiGEIST



China

Advancing wood's environmental benefits to leverage China's decarbonisation commitments

As the world's second largest economy and a leading consumer of wood products globally, China remains an important market for the B.C. forest industry.

FII China and Canada Wood continue to assess the market development program against evolving geo-political dynamics, realities of post-pandemic recovery and market volatility. China's unprecedented commitment to decarbonization and a more sustainable development of urban and rural areas are laying the foundation for the advancement of wood construction in the country.

With China's urbanization policy now focused on the sustainable development of smaller and mid-sized cities, a growing demand for lower-rise buildings is creating new opportunities to position wood construction as a solution to meeting China's carbon reduction goals. FII and Canada Wood work with national and regional governments to influence Chinese construction initiatives around low-carbon production, energy efficiency, prefabrication and green construction to expand opportunities for B.C. wood products and building solutions.

Areas particularly well suited to the use of wood products in construction include the culture, tourism, wellness and elderly care sectors as well as prefabricated and hybrid buildings where there is potential to incorporate energy-efficient wood walls and other wood-based systems.

In manufacturing, market development efforts are concentrated on leveraging B.C.'s environmental pedigree to penetrate China's vast furniture sector, which faces increasing requirements from global buyers to source raw materials from sustainable, certified forests.

Shanghai Jiashan Business Service Centre | Photo: Canada Wood China

China Promotes Low-Carbon and Green Building Solutions

National Carbon Policies Endorse Wood Construction and Highlight Sustainable, Green Building Materials

China has established national carbon targets for a carbon peak by 2030 and carbon neutrality by 2060. Over the past year, the central government took clear steps to meet these “double carbon” targets by having ministries and regional authorities define carbon reduction strategies in the targets laid out in their five-year economic development plans from 2021 to 2025. Momentum in these areas has been seen over the last couple of years with the release of new guidelines, action plans and climate adaptation strategies.

Most important for the construction sector was the plan for achieving peak carbon targets in urban and rural development, which was jointly announced by the Ministry of Housing and Urban-Rural Development (MOHURD) and China's National Development and Reform Commission (NDRC). The plan sets out the specific measures to reach carbon targets, including improving energy efficiency in buildings, increasing waste resource utilization, and improving the quality of new projects. Of particular significance, wood construction was endorsed in the plan as a viable solution for the development of green and low-carbon cities and villages.

The past year also saw another key policy development with the Ministry of Industry and Information Technology (MIIT), the Ministry of Ecology and Environment (MEE), NDRC and MOHURD jointly publishing *The Implementation Plan for Carbon Peaking in the Building Materials Industry*. This plan sets out five key tasks for national and regional authorities: controlling total emissions, promoting alternative materials, transforming energy structures, accelerating innovation, and promoting green manufacturing.

Across these announcements was consistent recognition of the importance of sustainable, green building materials, and an acknowledgement of the value that wood and nature-based solutions can play in carbon sequestration. Taken together, the new policies and directives represent a significant opportunity to promote the use of higher-value Canadian wood products in China's construction sector.

Shanghai Moves to Implement National Carbon Policies — Recognizes Wood as a Low-carbon Solution

In October 2022, the government of Shanghai, in conjunction with six municipal authorities, published a new carbon reduction policy focused on promoting carbon reduction innovations to position the city as a model for achieving national carbon targets.

The plan establishes specific tasks including research and development on low-carbon systems in the areas of energy, industry, construction, and transportation; and the development of demonstration projects. To encourage green and low-carbon construction in urban and rural areas, the plan promotes the development of technologies for carbon reduction throughout the life cycle of buildings, with a focus on the integration of low-carbon building solutions. This includes structural systems that incorporate natural materials that can sequester carbon, including wood.

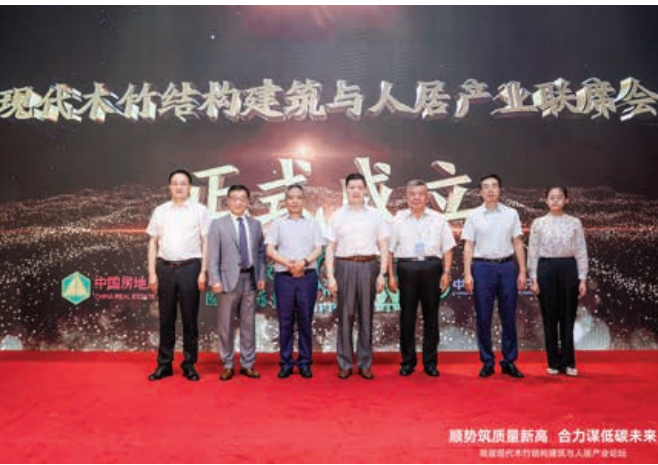
This was the first time that wood has been highlighted as a solution to help the city meet green and low-carbon targets. Securing this official recognition is helping to increase awareness among local government stakeholders of the carbon advantages of using wood in construction.

Collaboration with the China Real Estate Association (CREA)

Wood's advantages as a low-carbon, sustainable and industrialized solution for construction is an appealing message for influential industry associations such as the China Real Estate Association (CREA). With support from FII and Canada Wood China, the CREA established a new Joint Committee in July 2022 to accelerate the application of forest products in residential construction.

The Joint Committee builds on the success of previous collaboration between the CREA and FII China and includes leading industry associations covering the full life cycle of wood construction: the International Centre for Bamboo and Rattan, the China National Forest Products Industry Association, the China Wood Protection Industry Association, and the Institute of Wood Industry of the China Academy of Forestry. The Committee will focus on creating greener habitats and residential areas by leveraging influential industry platforms to promote the use of natural building materials and advance modern wood and bamboo construction.

The Joint Committee mechanism, with support from FII China and the endorsement of China's most influential industry platforms, provides a strong domestic voice for industries seeking to increase the use of wood. The work of the committee leverages the synergies between natural building solutions and sustainable human habitats. By working more closely with these partners, FII has a significant opportunity to promote high-quality, sustainably harvested Canadian lumber products to the most influential stakeholders in China's construction industry.



The launch of the Joint Committee for Modern Wood and Bamboo Structures and Human Habitats | Photo: FII China

Canada-China Green Low Carbon Construction Exchange

From October 31 to November 2, 2022, China hosted the "World Cities Day" program, an event focused on the sustainable development of global cities, that was developed by China with the support of the United Nations. In parallel with the main program of World Cities Day, FII China organized the "China-Canada Green and Low Carbon Construction Exchange" as a roundtable that involved more than 20 high-level stakeholders. This included national and provincial representatives of MOHURD and the Foreign Affairs Offices (FAO) of Jiangsu, Hubei, and Zhejiang, along with municipal representatives from Shanghai.



Delegates from FII and government representatives at the China-Canada Green Low Carbon Construction Exchange roundtable | Photo: FII China

The roundtable explored areas for cooperation across the Yangtze River Delta, and provided insights on low-carbon construction advancements such as mass timber technologies. The opportunities for wood materials to reduce carbon emissions in the construction of sustainable cities was a central topic, with all parties agreeing to advance cooperation in this area. The invitation for FII China to host this roundtable reflects the quality of the relationships that have been established with national and local stakeholders, which creates new opportunities to advance the promotion of wood building solutions in China.

Building “Market Pull” for Canadian Wood Products

Market Forces Pull Wood Frame Construction Market Forward

Scaling up the utilization of wood in construction requires a multi-prong approach, including engagement with commercial partners that range from large state-run enterprises to smaller private firms working on innovative projects.

For opportunities in the non-residential sector, relations with government authorities are key to unlocking the market as it is essential to ensure the right approvals are in place for codes, standards and policies. To grow the market and total volume of wood consumed, work needs to be done to improve capacity and awareness among developers, designers, builders and the authorities that approve projects.

Over the years, there has been growing acceptance of wood construction in China’s building policies and related codes and standards. This acceptance is now being reflected in increased market activity. As China’s government moves to set higher standards for eco-friendly development, there is a greater “market pull” for wood use in construction coming from all levels of the industry, a dynamic that complements the “push” of the promotional programs FII and Canada Wood deliver in China.

For many commercial entities, wood construction conjures perceptions of added costs and complications. With new government policies incentivizing national, regional and local authorities to develop and promote wood-frame construction, there is momentum to improve capacity and supply chains. With the advancement of carbon standards, private companies are facing new pressures to demonstrate energy efficiency and carbon reduction methods in their projects. This makes it more important for construction companies to better understand not only the technical aspects of how to handle architectural design and structural engineering with wood, but also to understand how wood components can help new projects to meet carbon targets. This trend is increasing the market pull, with leading companies showing greater interest to collaborate on wood-based projects that demonstrate innovative practices.



Pottery Studio at Yixing Dongjiu Park | Photo: Crown Homes Builder



Douglas-fir Features in Yangtze River Delta Exhibition Hall

In December 2019, the State Council of China approved a demonstration zone for the “green and integrated ecological development” of the Yangtze River Delta. This project is part of a national program to improve the regional implementation of policies, including those focused on green and low-carbon development.

To showcase the achievements of the Yangtze River Delta integration project, a wood exhibition centre in Jiashan county, Zhejiang Province was completed in July 2022. The exhibition centre covers over 12,000 m², of which wood construction accounts for 6,100 m². Douglas-fir from B.C. is the primary wood species used in the project and Canada Wood China supplied technical support during design and construction.

The involvement of Canada Wood China in the project is a direct outcome of FII China’s regional government outreach program with key stakeholders in Zhejiang province.



Shanghai Jiashan Business Service Centre | Photos: Canada Wood China

Cooperation with Jiangsu Province Takes on a New Dimension

Infill wall system deployed at the Headquarters for Zhongyifeng Construction Group | Photo: Canada Wood China

FII China and Canada Wood China have been building a relationship with Jiangsu Province for over a decade. During this time, Jiangsu has emerged as one of the most progressive provinces in the use of wood in construction.

The past year saw collaboration with Jiangsu take on new dimensions when FII China was invited to co-organize a series of green and low-carbon development events with the Jiangsu Foreign Affairs Office. These included the Wuxi International Conference on Green and Innovation-Driven Development and the 2nd Jiangsu-Canada Green and Low Carbon Development Conference. Significantly, the year also saw provincial and municipal stakeholders in Jiangsu formally recognize wood as an important element in their plans to reduce carbon emissions in the construction sector.

By strategically engaging with the Foreign Affairs Office and leveraging local resources and industry platforms, FII China has been able to establish greater influence and credibility with Jiangsu's provincial and municipal authorities. This is an approach FII China is now looking to replicate in other regions with the potential to expand wood construction.



2nd Jiangsu-Canada Green and Low Carbon Development Conference | Photo: FII China



Canada Wood China technical team at the jobsite of Wuxi Inspur Big Data Innovation Centre | Photo: Canada Wood China

8th Sino-Canadian Wood Forum

On December 15, 2022, Canada Wood China held the 8th Sino-Canadian Wood Forum in Shanghai with the theme of “promoting the development of urban and rural buildings in the context of national carbon goals.” The Forum featured discussions on how to use wood structures to build green residential environments, and how sustainable building materials can support carbon neutrality goals.

The event attracted professionals from all areas of the construction industry, with developers, designers and builders representing projects from across the cultural, tourism and health care industries. While COVID-19 restrictions limited the Forum to 80 in-person guests, proceedings were also broadcast online, with more than 16,000 participants linking in.



The 8th Sino-Canadian Wood Forum In Shanghai | Photos: Canada Wood China



Jiuzhaigou National Park Entrance | Photo: Crown Homes Builder



Cocoon Restaurant at Gulao Water Village | Photo: Luo Studio



Jiangxi Linqun Manju Resort Homes | Photo: Jiangxi Guojin Lvjian Architecture Technology Co., Ltd.

Wood Design Awards Highlight Timber Structures

Winners of the 5th Wood Design Awards competition were announced during the Sino-Canadian Wood Forum. This year's competition focused on the design of timber structures in the culture, tourism and healthcare sectors and was co-sponsored by the China Construction Industry Association, the China Modern Wood Structure Building Technology Industry Alliance, and Canada Wood China.

The competition attracted interest from wood building enterprises across China, with 93 applications received from 47 enterprises. Awards were divided into nine categories: vacation cabins, reception centres, service facilities, residential, exhibition centres, hotels, commercial centres, conference centres and innovative applications. Case studies featuring the winning projects are being used to promote awareness of the wide range of possibilities for engineering and designing with wood to inspire more innovation in China's wood building industry.

Canada Wood Concludes Agreement with China Forestry Group Corporation

In November 2022, Canada Wood China signed a Letter of Intent (LOI) with the China Forestry Group Corporation (CFGC), the leading national enterprise in China's forestry industry. CFGC was created in a merger of nine enterprises that were supervised by the former Ministry of Forestry, and currently operates 224 enterprises around the world. To support the realization of China's dual carbon goals, the company is committed to linking domestic and international resources, including wood products and building solutions from Canada, to support a national green development program.

The LOI was officially signed by a subsidiary of CFGC, China Forestry Epoch Wood Structure Technology (CFEWST), which has operations in most provinces and at more than 20 ports across China. Under the LOI, CFEWST intends to purchase larger volumes of Canadian wood products, with the agreement representing a value of USD \$20 million. The LOI is part of CFEWST's strategy to invest in new production facilities in the city of Zhenjiang in Jiangsu province to increase the company's capacity to produce wood-building components. Canada Wood China will work together with CFEWST to support the development of wood structures in China and promote the use of Canadian wood products.



China Forestry Group Pavilion at China International Import Expo | Photo: Canada Wood China

Positioning Canadian Species in Mass Timber—Glulam Standards Upgraded with Support from Canada Wood

The glulam market is fragmented in China, with many small-scale manufacturers producing materials of inconsistent quality owing to the absence of a recognized inspection system. Work is underway to improve product quality by revising China's glulam product standards, led by Canada Wood China, FPIInnovations and the Chinese Academy of Building Research (CABR).

Mass timber and engineered wood components hold significant potential for growth in China as more developers, designers and builders look to include mass timber elements in taller and larger structures. However, before a broader use of mass timber can occur, building standards at the national level and quality standards on the factory floor must be improved.

Through its technical input, Canada Wood is helping to improve the quality of mass timber production. These efforts help to position high-grade Canadian wood species such as Douglas-fir as preferred inputs in mass timber production.



Glulam manufacturing for Wuxi Inspur Big Data Innovation Centre | Photo: Canada Wood China



First Prize design of Sino-Canadian Solid Wood Furniture Design Competition | Photo: Wei Yumeng, Nanjing Forestry University



Canada Wood booth at the 47th International Famous Furniture Fair (IFFF) in Guangdong Province | Photo: Canada Wood China

Canada Wood Promotes Hemlock at Iconic Furniture Exhibition

On July 23, 2022, Canada Wood China hosted a pavilion promoting Canadian hemlock at the 47th International Famous Furniture Fair (IFFF) in Dongguan, one of the most important international brand exhibitions for China's furniture industry. Visitors were invited to experience the charm and natural feel of Canadian hemlock while seeing examples of furniture produced through the Canadian wood manufacturing trial program. Over the course of the five-day exhibition, the Canadian hemlock pavilion welcomed over 3,500 visitors and generated close to 100 business leads from manufacturers and designers interested in collaboration.

Canada Wood's "Canadian hemlock" marketing campaign promotes hemlock to China's furniture manufacturers and designers as the best choice for the demographic of younger families looking to purchase moderately priced solid wood furniture as an upgrade from pressed board and lesser-quality home products. As a major component of this campaign, the 1st Sino-Canadian Solid Wood Furniture Design Competition was launched in June 2022. Organized by Canada Wood China in partnership with the Nanjing Forestry University (NFU) College of Furnishings and Industrial Design, the competition was supported by the Consulate General of Canada in Shanghai, the Shanghai Wood Industry Association, the Fujian Custom Home Furnishing Industry Association, and the Interni Design Journal.

With the theme of "Green Forests and Vibrant Designs," the design competition invited students and teachers to unleash their creative talent using Canadian hemlock, a species that combines versatility and durability with a natural aesthetic. The competition received 131 design submissions, with a rich blend of innovative concepts that showcase the possibilities of hemlock in furniture design. This offers a platform to raise awareness of Canadian hemlock and help furniture manufacturers to understand the possibilities for new products featuring sustainable wood materials.



India

India is a high-potential, long-term market for the B.C. forest sector. While current exports are relatively small, India has a GDP of over USD \$3 trillion and a population of 1.4 billion. The country's economic growth is being driven by a young and expanding urban middle class with a need for housing and an interest in modern home furnishings and interiors—trends that are driving steady growth in the demand for wood.

A diminishing supply of global hardwoods and increasing demand for wood from certified, sustainable sources present opportunities for B.C. exports in India's manufacturing sector, particularly the production of furniture, doors and door frames, windows and interior finishing products. India intends to become a global hub for furniture manufacturing, supplying international consumer markets that demand sustainably sourced products. Wood construction in India remains in its infancy, however recent interest from builders and designers points to future growth potential.

FII India's market development program focuses on engaging with key audiences through in-person and digital channels; promoting interest in Canadian wood species to key audiences; undertaking product trials to showcase the possibilities of B.C. species; and leveraging brand positioning and the results of completed demonstration projects.

Photo: FII India

Product Trials



Photos: FII India



Product trials have evolved to become one of the most valuable elements of FII's market development strategy for India. As a key part of FII India's commercialization program, product trials showcase the features and benefits of Canadian products directly to India's wood manufacturers. Product trials have proven to be the best way of getting Canadian wood into the hands of potential customers.

During 2022/23, FII India's "Try Canadian Wood" product trial program continued to motivate Indian manufacturers to test B.C. softwood species in their manufacturing applications and strengthen technical skills in working with softwoods. Trials focused on encouraging furniture, door and door frame manufacturers to test the suitability of B.C. species in their applications with the objective of having them adopt B.C. wood products for full-scale production. In the last fiscal year, a total of 36 trials were conducted, resulting in customer orders and demonstrating the suitability of hemlock, Douglas-fir, western red cedar, S-P-F (spruce-pine-fir) and yellow cedar from B.C.

As these highly visible product trials are completed and promoted, the credibility of Canadian wood products in the India market continues to grow.

Highlights from the 2022/23 Product Trials Program

Sharma Industries

Sharma Industries needed to develop new furniture pieces to meet the needs of its key U.S. customer. Dining table and sideboard samples were crafted out of Douglas-fir, and the customer's satisfaction with the trial items prompted an order of the species to accommodate their new production line.



Elegant Products Pvt. Ltd and Gayathri Doors, Hyderabad

Obtaining longer lengths in local wood species had been a persistent problem for both Elegant Products and Gayathri Doors, two Hyderabad-based manufacturers of doors and door jambs. The firms were also interested in sustainably sourced wood to meet the requirements of overseas clients and identifying wood products that could offer greater stability, better machining and improved staining properties. After consulting the technical team at FII India, both Elegant and Gayathri agreed to test using hemlock “shorts” to make 45mm finger jointed and edge glued (FJEG) boards and panels which could then be used to supplement their door jamb production.

Both companies liked the FJEG panel products and, following the trials, placed orders with Canadian mills; Elegant ordered an initial trial container of hemlock shorts, while Gayathri purchased seven containers of shorts and low-grade hemlock for a new FJEG production line that will supply custom boards and panels for their door jamb assemblies.

Swaraj Enterprises

Swaraj Enterprises was interested in identifying alternative wood species to supply its furniture manufacturing business. To test the suitability of B.C. softwoods in the company's production, Swaraj, with technical support from FII India, used western hemlock, Douglas-fir and S-P-F to create a new sofa set. The company was happy with the outcome of the trial, appreciating both the workability and performance of the B.C. species. The firm has now begun accessing volumes of B.C. wood from local stockists (distributors).



Photos: FII India

Promoting Canadian Wood in India— Education, Trade Shows, and Advertising

Education on the characteristics of Canadian species and their potential applications is a necessity in India where tropical hardwoods are the norm and where, until recently, softwoods were relatively unknown. FII's education programming, including seminars and training programs, shows audiences how softwoods—and Canadian wood specifically—can be used in higher-end applications such as for doors, windows and mouldings, furniture, and in construction.

This links directly with FII's promotion and branding campaign which uses tools such as trade shows and advertising to strengthen the Canadian Wood brand in the market and build credibility for both the brand and the market development program. Across 2022/23, FII India continued to combine education and promotion to:

- position Canada as a key global supplier of sustainable wood products
- overcome existing market perceptions with regard to wood products
- differentiate Canadian products from those of competing supply regions
- carry this positioning across multiple geographic regions and user types



Photo: FII India

Strengthening Awareness and Branding: Education Seminars and Training Workshops

Education seminars and training workshops play a key role in positioning the Canadian Wood brand in India and in creating greater technical awareness of Canadian wood among target audiences.

The first large in-person seminar after COVID-19 travel restrictions were lifted, was held in Hyderabad in collaboration with MAK Projects, a builder of wood homes and a key partner of FII India, while another in-person event was hosted at the Canadian Wood display centre in Mumbai. A range of topics were covered including “Building with Wood” and “Re-manufactured Projects with Canadian Wood”. The oversubscribed seminars proved a great success, suggesting that there is a large demand in the market for this type of in-person learning.

FII India has continued to conduct both online and virtual training workshops and education seminars. These efforts, totaling 39 seminars, webinars and workshops during the year, have ensured that technical information on Canadian wood species and their applications has remained available to carpenters, contractors, institutions and other wood workers throughout India.

FII India's seminars and training workshops include an array of subjects, including Canadian wood species and their physical properties, suitable applications, and best practices in handling lumber.

Showcasing B.C. Species to India's Wood Manufacturers

In 2022/23, FII India hosted displays at two of India's premier wood and furniture trade shows: the biennial IndiaWood trade show in Bangalore and DelhiWood 2023, the country's largest and most influential wood industry show. Following a two-year hiatus due to the pandemic, the shows were a welcome return to face-to-face interaction with customers and an opportunity to once again profile B.C. species to a broader audience.

At IndiaWood, the Canadian Wood display showcased a wide range of furniture, wood interiors and outdoor applications made in India from western hemlock, Douglas-fir, yellow cedar, western red cedar and S-P-F, with each piece used to highlight the versatility and sustainability of Canadian wood.

FII India invited several manufacturers who have been working with B.C. species to help build displays in the booth using Canadian wood. The result was a dynamic arrangement that included bedroom furniture made by Kalatmak Spatial Systems; living room furniture by Angira Interiors LLP; sliding doors and windows by Kelachandra Veneers; and a pergola created by Nesca Homes.

Sundher Group and Canfor, both B.C.-based organizations, were present to exhibit and support the Canadian Wood presence.

Over the three days of the show, the Canadian Wood display was visited by over 5,000 delegates, resulting in over 770 qualified leads.

Building on this success, FII India also participated at DelhiWood 2023 where innovative and contemporary furnishings, produced by domestic manufacturers using B.C. wood species, provided audiences with a glimpse into the future of furniture manufacturing in India.

Within the Canadian Pavilion, FII and B.C. lumber manufacturers occupied a prominent space alongside the High Commission of Canada. The booth was divided into sections, each showcasing renowned Indian manufacturers and their products made from B.C. wood. From bedroom furniture to living room furniture, solid wood doors, wooden sliding doors, outdoor benches, and interior finishings, the exhibition demonstrated the exceptional creativity, design, and cutting-edge manufacturing possible with B.C. species.

Participation at these signature events effectively highlighted both the versatility and sustainability of B.C. wood species. Further, FII's engagement with customers, collaboration with manufacturers, and involvement in industry discussions helped advance the position of Canadian wood as the ideal choice for high-quality manufacturing.



Photos: FII India

Showcasing the Beauty and Benefits of Canadian Wood Species in Interior Applications

Product trials have proven to be a highly effective means of getting manufacturers to try Canadian softwoods, particularly higher-value coastal species, in new and existing applications. One approach FII India is using to showcase trial results, is to partner with leading commercial enterprises to have products made from B.C.

species incorporated into high-profile, high-traffic interior projects. During 2022/23, three projects were completed, each providing visitors with a unique and highly visual introduction to the beauty and functionality of B.C. wood species: the Felder Showroom, a sports club library and Nativ Restaurant.



"The Arch", and "The Breakout Area." | Photos: Jimmy Shroff Photography

Leveraging Connections to Create Impact: Felder Showroom

Felder, an Austrian company and global leader in the design and manufacturing of precision machines for woodworking, enjoys high credibility among wood product manufacturers, contractors and carpenters in India and around the world.

The company, which has four showrooms across India, recently completed a state-of-the-art "Experience Centre" in Mumbai that will showcase Felder equipment and serve as a knowledge hub for all things woodworking. With over 100 visitors/customers expected each month, the

Centre will play a key role in creating awareness of the equipment available from Felder, and provide a hands-on training and education centre for new customers using Felder equipment.

In a strategic collaboration with FII India, Felder chose to highlight wood in the interior and exterior of the Experience Centre to reinforce the firm's deep connection with wood. They chose Canadian wood in particular to underscore the company's message that it is a responsible corporation that promotes legally harvested and certified wood from sustainably managed forests. Western hemlock, yellow cedar, Douglas-fir and spruce from B.C. all feature prominently in applications designed to make a positive impression on visitors and to encourage them to consider sourcing Canadian wood for their own operations.

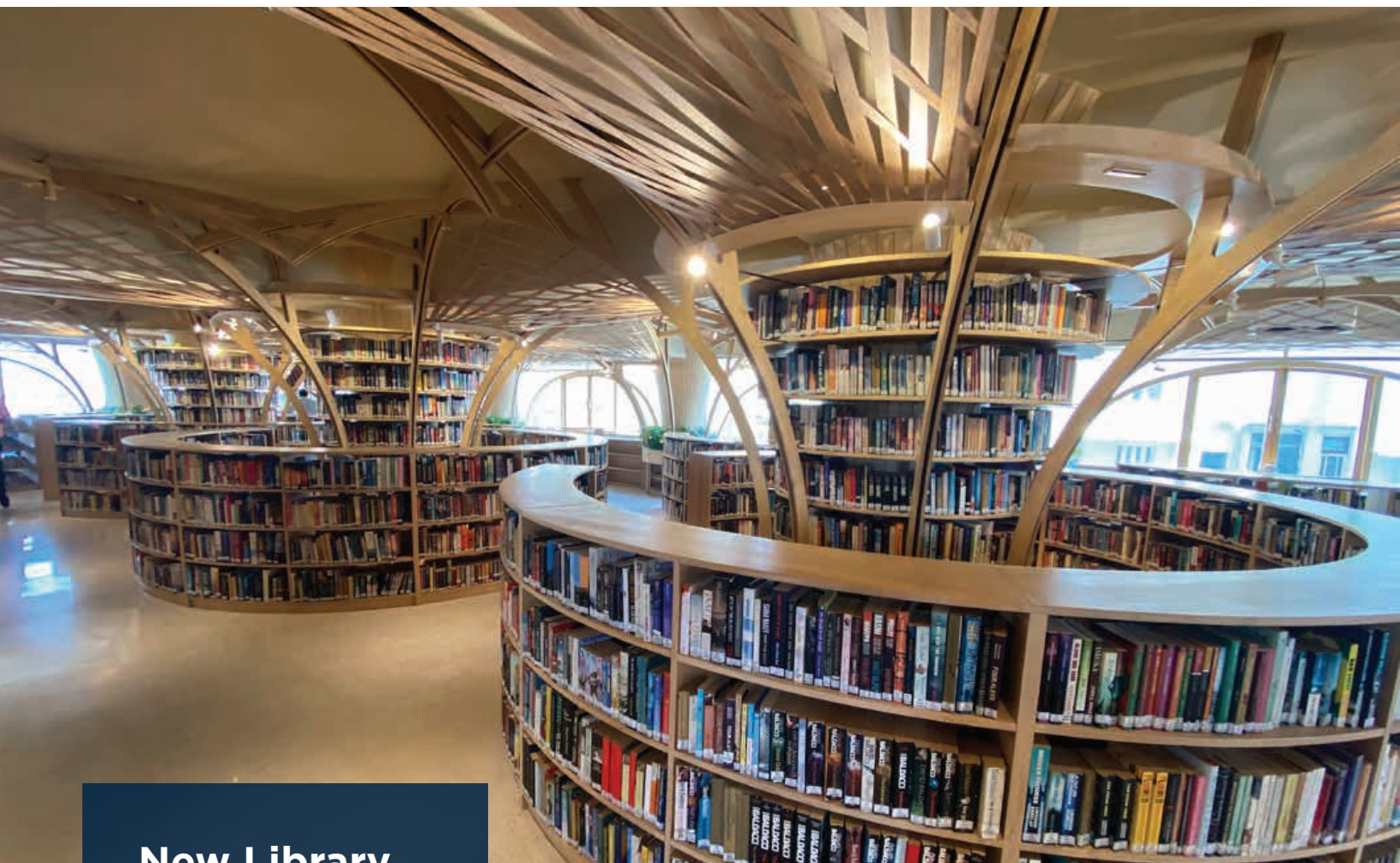


Photo: FII India

New Library Creates Visibility for Canadian Wood

A prestigious sports club in India planned to renovate its library with a more modern approach in mind—prioritizing knowledge through different platforms. This meant creating an engaging space to foster the exchange of ideas between people through activities such as author readings, book clubs, discussion groups and workshops. Incorporating wood in the interior design was intended to create a highly visual impact and give people a new reason to visit.

In consultation with FII India, Canadian wood species were chosen for the project because of their unique properties, including workability, versatility, light weight and colour, sustainability and natural beauty. Also key to the decision was the technical support provided to the design team by FII India that ensured the right species and grades for the project were sourced. Western hemlock and yellow cedar were used for furniture, doors, door frames, windows and unique interior applications that included the innovative use of wood pillars to create “knowledge trees”.

Working with the project team on the library renovation was a matter of pride for the Canadian Wood program, particularly given the project’s high visibility and referral value.

Growing Canadian Wood Use in the Hospitality Sector: Nativ Restaurant, Baner, Pune

India's hospitality sector represents a growing area of opportunity for the use of Canadian wood products in furniture and interior finishings.

To generate more awareness for Canadian wood in the sector, FII India worked with the owners of Nativ Restaurant and the project's architect on a new building design that would create a warm wood ambience. By incorporating Douglas-fir in the restaurant's table tops and indoor and outdoor seating, the design team developed a space where customers can enjoy a comfortable, natural experience with each visit. Canadian wood was an obvious choice for the owners, having been convinced that the outstanding properties of Douglas-fir, including its colour, workability, feel and structural stability, would allow them to create a warm and inviting space that elevates the dining experience for patrons.



Nativ Restaurant, Baner, Pune, Jaipur | Photos: Assad Dadan

Canadian Wood Goes Five-star at Centrum, Lucknow

The Centrum hotel and resort is a one-of-a-kind, five-star luxury facility located in the centre of Lucknow. The property, which provides a high-end hospitality experience to guests visiting the city from across the country and the globe, features 116 guest rooms on a six-acre site that also includes suites, villas, three restaurants and multiple banquet and boardroom facilities.

FII India saw involvement in the Centrum project as a high-profile opportunity to showcase and promote Canadian wood use in the growing hospitality sector.

Yellow cedar was used for soffits, wall panelling, other interior finishings and a complete fit out in the bar area, while western red cedar was used for the outdoor areas, including pergolas and garden benches. The designers chose these Canadian wood species because of their high durability, particularly the ability to perform well in conditions of high moisture and humidity.



Photo: FII India

Nesca Homes Completes Commercial and Demonstration Projects with Canadian Wood

Nesca, an emerging wood builder based in Hyderabad, has designed more than 65,000 wood houses for clients in the U.S. and Canada. Over the past few years, FII India has worked with the company to support its expansion from design-only work into construction, particularly its first steps into the use of wood-frame construction.

Since moving into the construction field, Nesca has completed five

commercial projects using Canadian wood and has collaborated with FII India on four demonstration projects including the Canadian Wood Villa, the Café Convention project and the Zojila Guest House projects completed in 2022/23.

Nesca has become a key influencer for FII India in the effort to expand the use of wood-frame construction in India.

MAK Projects' Canadian Wood Villa in BTR Greens

The Canadian Wood Villa by MAK Projects is one of the first structures in the country to combine light-wood-frame construction with mass timber and prefabricated construction technologies. Located in Hyderabad's BTR Greens Community, this two-storey, 6,000 square foot demonstration home features western hemlock glulam beams and nail-laminated timber flooring as well as a variety of B.C. species across interior and exterior design applications.

Developed as a replicable, prefabricated timber-built kit, and taking less than 12 months to complete, this project shows local developers, builders and architects the possibilities that B.C. wood products offer.

MAK Projects:

"The Canadian Wood Villa showcases the versatility, beauty, and diversity of Canadian wood species and timber products, while acting as an example of the advantages offered by prefabricated construction and the biophilic benefits of wood that is sourced from the sustainably managed forests of B.C. Canada. FII India's support was critical in utilizing the full potential of B.C. wood species on this project at our BTR Greens gated development in Hyderabad."



Photo: Anand Jaju Photography



Photo: Artius Interior Products

Café Convention, Hyderabad

A joint venture between Adi homes and Nesca homes, Café Convention is a multi-purpose convention facility that features one storey of wood construction over a single storey of concrete/masonry construction. The wood structure features eight rooms, an office, convention facilities, a full-service kitchen and a dining area. The project, undertaken with technical support from FII India, used B.C. S-P-F in a wide range of applications, including structural, interior finishings, doors, stairs and railings, decks and furniture.

Canadian S-P-F was selected for the project because it is well accepted in wood home construction in markets as diverse as the U.S., Japan and South Korea. Further, the lead builder, Nesca Homes, uses only Canadian wood in its construction projects.

Café Convention is a new vehicle for FII India to promote wood construction in the corporate hospitality segment, an area of new potential for wood in India. With the successful completion of the project, Adi and Nesca are now working to replicate the model in twenty different locations across India.

Zojila Guest House

High up in the Himalayas in the union territory of Ladakh, India, Nesca Homes has completed another wood-frame construction project; this time for the Government of India. The structure, a 5,230 square foot house built with Canadian S-P-F, stands as a testament to the potential for wood construction to meet the demands of India's harshest climates.

Nesca designed and executed the project based on its past experience with FII India and wood-frame construction, and its confidence in the performance of Canadian S-P-F in structural applications.



Photo: FII India

Nesca Homes:

"Using S-P-F in our prestigious projects has proven to be a wise choice as it has not only provided superior exceptional structural strength, but also added a warm and inviting aesthetic to the overall design, besides lending credibility to it as a project done with certified wood from sustainably managed forests of B.C. Canada."

India's First Glulam Residence Completed in Goa



Photo: FII India

Artius is a high-end manufacturer of wooden doors and windows that had historically used oak, teak and other hardwood species; however, since being introduced to Canadian wood by FII several years ago, they have adopted yellow cedar as their predominant material given its strength, performance and durability characteristics.

In recent years, Artius has been expanding into wood construction, with a focus on producing glulam and engineered products for larger, more complex wooden post and beam structures. In line with its existing focus on high-end customers for its door and window products, the company has large, high-profile developments ongoing in northern India as well as projects in Goa, all of which feature yellow cedar and B.C. Douglas-fir.

During 2022/23, Artius completed a 7,250 square foot residential project in Vagator, Goa, using glulam beams—the first residence in India to be built using glulam. The building's open concept features a single linear block composed of 11 glulam portal frames which allow for double-height ceilings and exceptional views. Douglas-fir and yellow cedar from B.C. were used in the project for structural applications, window and door systems and for cladding where durability and insect resistance were key.

Artius Interior Products:

"We are thankful to FII India for their support in (the) import of high-quality Canadian wood species like yellow cedar and Douglas-fir used by us in a variety of applications both in indoor and outdoor settings, including construction. The exceptional durability of Canadian wood lumber from B.C., Canada due to its natural resistance to termites provides us with a competitive edge."



Vietnam

From modest beginnings producing furniture for the domestic market, Vietnam's furniture products are now exported to more than 100 countries and the industry is second only to China's in the Asia-Pacific region. In 2022, global imports of Vietnamese wooden furniture was valued at \$16.8 billion.

In recent years, growth in Vietnam's wood products manufacturing has far outpaced growth of the domestic wood supply. This, combined with a shrinking availability of tropical hardwoods for import, has paved the way for Vietnam's furniture manufacturers to try alternative species, including high-quality softwood lumber from Canada. Over the past ten years, the average value growth of Vietnam's softwood lumber imports is 9.3 percent.

Vietnam's recent emphasis on using certified wood from sustainably managed forests also bodes well for positioning Canadian wood species in the market. To capitalize on these emerging opportunities, FII's strategy in Vietnam focuses on establishing B.C. as a reliable supplier of sustainable, certified softwood lumber products; introducing B.C. species and suppliers to Vietnamese importers, traders and manufacturers; and continuing research to further assess the scope of market opportunities and any barriers to entry.

FII Vietnam office | Photo: FII Vietnam

Wood In Manufacturing Showcases B.C. Species



Back in the Groove with Vietnam Furniture Trade Shows

FII Vietnam regularly participates in trade exhibitions to help expand the Canadian Wood brand and identify leads. To showcase B.C.'s sustainable wood species for use in Vietnam's furniture manufacturing sector, FII Vietnam attended four prominent furniture exhibitions in 2022/23—the Vietnam International Furniture and Home Accessories Fair (August 2022 and March 2023), VietnamWood (November 2022) and the Ho Chi Minh Furniture Export Fair (February 2023). These were the first major in-person trade events held in Vietnam since 2019 and represented a welcome return to face-to-face promotion in the market. FII was pleased to have a number of B.C. suppliers join these trade events.

Positioned under the Canadian Wood brand, FII Vietnam's displays at the shows were designed to promote B.C. wood species and their use in furniture manufacturing applications. The FII display booths featured a bold contemporary design composed of upright hemlock boards that simulated the feel of a forest. Inside the displays, the FII team created an innovative space that profiled two distinct furniture collections made from western hemlock, supplemented by sample racks displaying B.C. hemlock, Douglas-fir, western red cedar, spruce-pine-fir (S-P-F) and yellow cedar.

To respond to growing buyer interest in furniture made from legal and sustainable wood sources, information was provided on Canada's certified wood products and sustainable forest management practices, areas where Canadian lumber suppliers have a strategic advantage. FII also helped to organize visits and company meetings for participating B.C. suppliers. Together the four shows attracted a total of 1,230 exhibitors and 40,000 delegates, including manufacturers, wholesalers, designers and architects from over 50 countries, providing exceptional domestic and international exposure for the Canadian Wood brand and the FII program in Vietnam.

Increased In-market Presence

“Try Canadian Wood” Drives Awareness



Under its “Try Canadian Wood” program, FII Vietnam has been supplying small volumes of B.C. wood products to targeted local manufacturers, allowing them to become familiar with B.C. species by trying them in their manufacturing process. Key to the program is the technical assistance and support provided by FII’s in-market team, which is helping manufacturers understand the unique properties and workability of B.C. species. The goal is to build long-term, mutually beneficial business between

B.C. suppliers of softwood products and Vietnamese manufacturers.

In 2022/23, FII Vietnam completed 31 product trials as part of the Try Canadian Wood program.

These early-stage trials, leveraging approaches pioneered in the China and India programs, have led to a growing awareness and interest in using wood species from B.C. in a wide range of furniture and door applications.

Trials Highlight the Advantages of Hemlock

Vietnamese furniture manufacturers are quickly recognizing the benefits of using sustainably sourced B.C. hemlock. The species’ excellent working properties make it the first choice for mouldings and interior woodworking, and is widely used in joinery, veneered interior paneling, furniture, doors, floors, and windows.

KHANG MY

Khang My, a large furniture manufacturer in Dong Nai Province, was one of the first to notice the species’ properties which suited their manufacturing requirements. FII Vietnam provided small quantities of western hemlock for the company to trial, and the team worked with Khang My throughout the process, providing training and technical assistance to help them understand how best to work with this species. Following the trial, Khang My placed orders for hemlock, noting they were impressed by its strength-to-weight ratio and resistance to warping.

MINH CHUONG

Minh Chuong, a leading design group specializing in custom joinery and furniture pieces for retail, restaurant, resort, marine, and high-end office projects, also recognized and valued the favorable properties of B.C. hemlock. Initially intrigued by its grain pattern and color

similarity to white oak, they were further impressed by its finishing properties, which proved ideal for interior manufacturing applications. With guidance from FII, Minh Chuong utilized the species to create aesthetically pleasing and ergonomically designed rocking chairs.

THU LAM WOOD COMPANY

Prominent Vietnamese furniture maker, Thu Lam Wood Company, recently tested the use of western hemlock from B.C. as an alternative to more expensive, difficult to source hardwoods such as white oak and ash. Completed in February 2023, the manufacturing trial was part of FII Vietnam’s “Try Canadian Wood” campaign.

Easier to saw, plane and sand than traditional hardwoods, hemlock can speed up production and reduce costly equipment wear-and-tear for companies like Thu Lam Wood. Hemlock is also able to take virtually any stain or paint colour, giving the Thu Lam fabrication team exceptional design flexibility.

Following the success of the trial, Thu Lam’s owner noted hemlock’s strength, stability and relative density as well as the fact that it was able to provide a similar look and feel to hardwood in the company’s designs. Products made in the trial are slated to be sold to customers in Thu Lam’s international markets; longer-term, the company is looking to incorporate more Canadian softwoods into their product lines.

Vietnam Mandates Sustainably Harvested Wood in Manufacturing

Sustainably harvested Canadian softwoods can help wood fabricators meet requirements of Vietnam's new Timber Legality Assurance System, which requires that manufacturers source wood products only from certified forests. Canada has been identified in Vietnam as a "trusted international supplier" of legal and sustainable forest products, giving wood products from Canada a competitive advantage in the market. Canada accounts for almost 35 percent of all certified forests globally—the largest of any country worldwide.

By leveraging a growing network of partnerships of stockists and industry associations, FII Vietnam is rapidly expanding local knowledge of, and interest in, Canada's certified, sustainable forestry practices and products.



New Furniture Designs Showcase Sustainability

During the year, the FII team in Vietnam retained two highly regarded furniture designers—locally based but internationally trained—to create a suite of innovative furniture pieces made from B.C. softwood species. These exciting new pieces will be used to showcase the range of opportunities in furniture design using sustainable, certified softwoods from Canada.

Now completed, the new furniture products will be rolled out at trade shows and in a variety of other promotional events.

Hemlock furniture trials made for the "Try Canadian Wood" program / Photo: FII Vietnam

Industry Resources

Forestry Innovation Investment (FII) produces a variety of resources intended to help support the growth and development of the B.C. forest sector—all of which is available to industry free of charge.



B.C. lumber being loaded for export | Photo: Nik West

BC Research Library

The BC Research Library houses resources on a wide variety of topics relevant to the B.C. forest sector, including market and export data, sector reports, as well as product, technical, building/construction and environmental information—all of which is funded and commissioned by FII and its funding recipients.

Visit bcfii.ca/research-library



B.C. Interior forest | Photo: Michael Bednar

Image Library

Recently updated to improve accessibility and user experience, FII's Image Library has almost 6,500 images and video clips showcasing everything from B.C. forests and forestry activities to manufacturing, building and construction, as well as trade and overseas market uses of wood products. All visuals are available to the B.C. forest industry and stakeholders at no charge, resulting in \$676,508 in savings to the B.C. forest industry in 2022/23.

Learn more at imagelibrary.bcfii.ca

**We welcome your comments on any aspect of our website, resources or programs.
Please feel free to get in touch with us at info@bcfii.ca.**



Western hemlock | Photo: Kristin Charleton, Sundew Media

naturally:wood

naturally:wood is a comprehensive online information resource promoting British Columbia as a global supplier of quality, environmentally responsible forest products from sustainably managed forests. The website has over 80 fact sheets, case studies, videos and reports. naturally:wood LinkedIn, Facebook and YouTube channels also profile diverse and trending forestry, product and building innovations in B.C.

Visit naturallywood.com

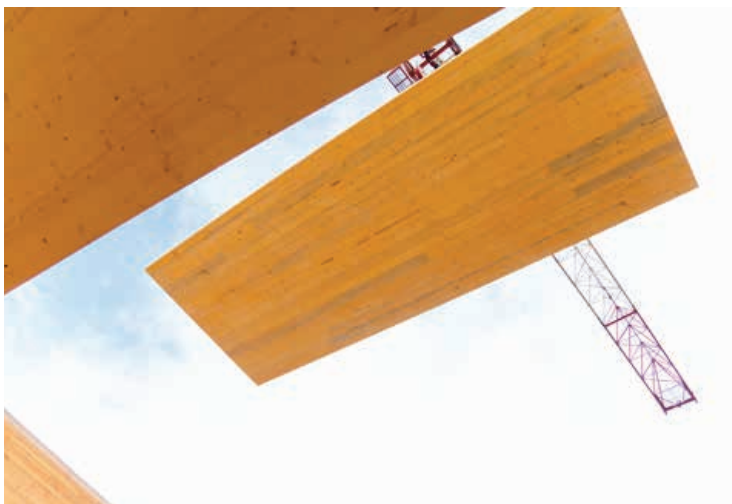


B.C. lumber stacks | Photo: Nik West

B.C. Wood Supplier Directory

The B.C. Wood Supplier Directory connects buyers with over 400 suppliers of high-quality, eco-friendly wood products, from dimension lumber, mass timber and engineered products, to furniture, doors and windows, panels, pulp, paper and pellets.

Browse the Supplier Directory and/or ensure your business listing is up to date at suppliers.naturallywood.com



Cross-laminated timber installed during construction of the Earth Sciences Building at the University of British Columbia | Photo: KK Law

Think Wood Research Library

Developed and maintained by FII, the Think Wood Research Library connects researchers and practitioners to the latest research and resources on mass timber, light-frame wood building systems (five storeys and up). The database has over 1,750 research resources, with links to download reports and information.

Visit research.thinkwood.com



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