Forestry Innovation Investment®

MARKET DEVELOPMENT SUMMARY

# UNITED STATES

*2020 Wood Design Award winner, Pike Place Marketfront, The Miller Hull Partnership, Magnusson Klemencic Associates | Photo: Lara Swimmer (top) | The Canyons, Portland, Oregon | Photo: Marcus Kauffman, Oregon Department of Forestry (bottom)*

## Why the U.S.?

- **World's largest economy with a GDP of USD $20.9 trillion in 2020**
- **Closest and most accessible market for B.C.'s exports**
- **Largest global market for B.C. lumber, value-added and western red cedar products**
- **Shared interest in advancing and adopting wood construction technologies, including mass timber and wood-concrete-steel hybrid solutions**
- **High potential to expand wood use in non-residential and multi-family/multi-storey construction**
- **Robust housing, repair and remodelling sectors**

## IMPORTANCE OF FORESTRY AND TRADE DIVERSIFICATION

British Columbia is one of the world's largest producers and exporters of wood products. Without exports, the B.C. forest industry would be approximately one seventh of its current size and employ tens of thousands fewer British Columbians than at current levels. Maintaining and developing export markets is crucial to protecting and expanding B.C. jobs, attaining higher-values from the provincial harvest and ensuring the forest sector remains a leading contributor to the provincial economy.

## SUPPORTING EFFORTS TO BATTLE CLIMATE CHANGE

Forestry exports support Canada's international action on climate change. B.C. and Canadian forest products are harvested sustainably and protect the environment, while building with wood yields a lighter carbon footprint than other construction materials and methods.

# MARKET OVERVIEW

The U.S. is the world's largest consumer of softwood lumber and the biggest market for structural wood products.

In 2020, B.C. exported 13.1 million cubic metres of softwood lumber (SWL) to the U.S., representing roughly 68 percent of all B.C. SWL exports for the year. Spruce-pine-fir (S-P-F) commodity lumber, primarily destined for the U.S. construction market, accounts for 69 percent of U.S. softwood lumber imports from B.C.

After S-P-F, the second-largest species group exported from B.C. to the U.S. is Douglas-fir at 11 percent. This is followed by western red cedar (WRC) at nine percent of lumber export volumes. Unlike S-P-F commodity lumber, WRC products are used in high-value exterior applications, primarily in repair and remodeling. The U.S. market is critical to WRC with 89 percent of B.C. shipments moving south rather than offshore.

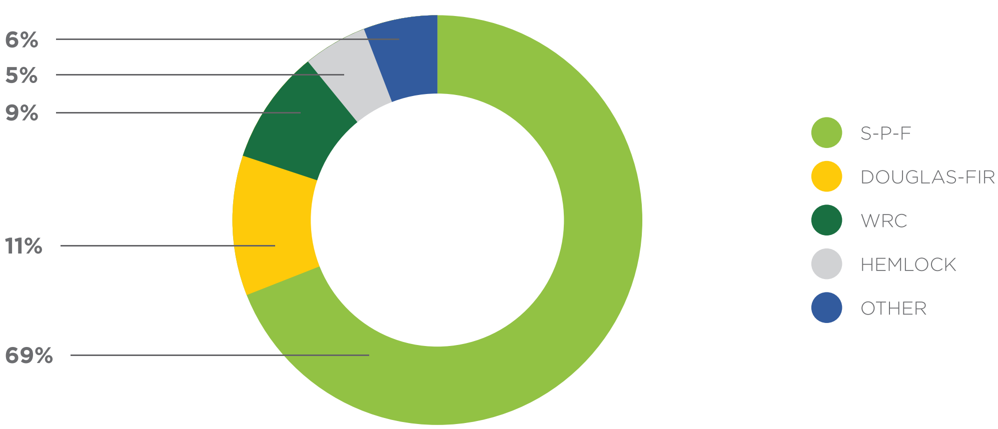
Value-added exports to the U.S. are also growing, reaching CAD $675 million in 2020, an increase of 10 percent over 2019 despite the COVID-induced recession. This takes value-added exports to the U.S. to their highest level since 2006. Builders joinery and prefabricated buildings accounted for 55 percent of value-added exports in 2020, followed by furniture and kitchen cabinets at 27 percent. Shipments to the U.S. make up 97 percent of B.C.'s value-added wood exports with sales to Japan accounting for two percent.[1]

**96.7%**
OF B.C.'S VALUE-ADDED PRODUCTS ARE DESTINED FOR THE U.S. MARKET

**$3.96 BILLION**
IN B.C. SOFTWOOD LUMBER EXPORTS WENT TO THE U.S. IN 2020

[1] *Note that not all B.C. value-added products can be tracked through Harmonized System codes and therefore actual exports are higher than shown.*

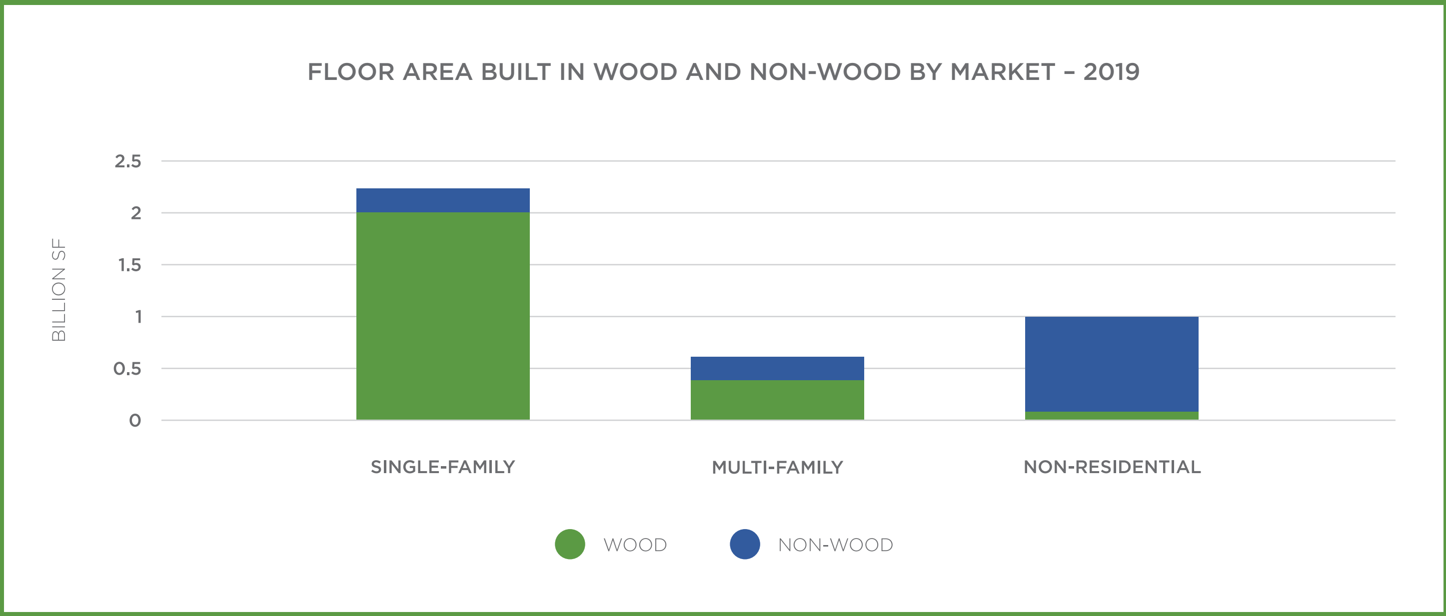
B.C. LUMBER EXPORTS TO THE U.S. (BY VOLUME)




*Source: BC Stats*

## HIGH-POTENTIAL OPPORTUNITIES

The B.C. forest industry has traditionally had a very strong presence in the U.S. construction market, with the bulk of commercial opportunities derived from lumber consumed in single-family homes.




*Source: FPInnovations, Dodge Construction*

Significant opportunities to grow the market share for wood exist in multi-family/multi-storey residential construction and in the non-residential market. There is a growing wave of building code changes driven by technological innovation, demographic and economic pressures, and a demand for more sustainable building solutions – enabling the construction of taller and larger wood structures.

In addition to the opportunities for wood use in new construction, potential also exists to expand sales of B.C. lumber, value-added and cedar products in a wide variety of geographic and product niches within the U.S.'s $419 billion[2] residential repair and remodelling sector. These segments have performed very well during the global pandemic, as homeowners have invested heavily in home renovations and improvements.

### Opportunity for wood consumption in the U.S.

Research by FPInnovations has estimated the total annual incremental opportunity for wood construction consumption in the U.S. market at 8.3 million $m^3$ (4.9 billion board feet), with approximately 65 percent of this volume coming from the non-residential sector.

[2] *Harvard Joint Center for Housing Studies Report 'Improving America's Housing 2021'*


*2020 Wood Design Award winner, DPR Office, SmithGroup, Buehler Engineering | Photo: Chad Davies*

## MASS TIMBER + ENGINEERED WOOD PRODUCTS

All over the world, the use of mass timber and engineered wood is on the rise. These advanced wood products, which include cross-laminated timber, dowel-laminated timber, glue- and nail-laminated timber and laminated veneer lumber, among others, are made by fastening or bonding smaller wood components with adhesives and/or mechanical fasteners. These mass timber and engineered products are making a whole new generation of high-performance buildings possible.

In North America, consumption of mass timber products more than doubled in 2019 and annual growth of up to 65 percent is projected through 2024. This is driven by[3]:

- Changes in North American building codes that are expanding possibilities for mass timber, including the International Building Code in the U.S. that will allow mass timber buildings of up to 18 stories in 2021
- Mass timber's compatibility with digitized construction and next-generation design tools
- Increasing cost-competitiveness of mass timber as producers move to standardize building platforms
- Growing recognition of the role wood can play in lowering the carbon footprint of larger and taller residential and non-residential construction projects

[3] *WoodMarkets FEA November 2020 Bulletin*

# MARKET DEVELOPMENT APPROACH

Reflecting the importance of the U.S. market to the B.C. forest sector, FII supports a comprehensive market development program designed to expand opportunities for B.C. wood products and building solutions south of the border. These initiatives, delivered in the U.S. by market experts and design and building professionals, are supported by funding from industry, the federal government through Natural Resources Canada, and the Government of British Columbia through Forestry Innovation Investment (FII). In many cases, collaboration also exists with the Softwood Lumber Board and other U.S.-based organizations.

In the U.S., FII focuses on working with industry partners to:

- Grow the use of wood in new, emerging segments such as mass timber and wood-steel-concrete hybrid building systems
- Build capacity and interest in greater wood use with developers, contractors and building and design professionals in the high-potential multi-family/multi-storey and non-residential sectors
- Support the province's value-added exporters through targeting the growing repair and remodeling sector as well as coordinating with programs focused on mid-rise, hybrid and mass timber construction
- Support high-value western red cedar exports to the U.S. through maintaining and building demand for cedar in exterior and interior applications
- Continue to promote wood's merits as a natural, environmentally friendly, healthy building material and B.C. as a source of products derived from sustainably managed forests
- The common theme among all FII-funded efforts is the need to maintain and expand markets in the U.S. while meeting growing threats from non-wood substitues. The efforts recognize that maintaining hard-won market share in a highly competitive environment is as important as gaining new share.

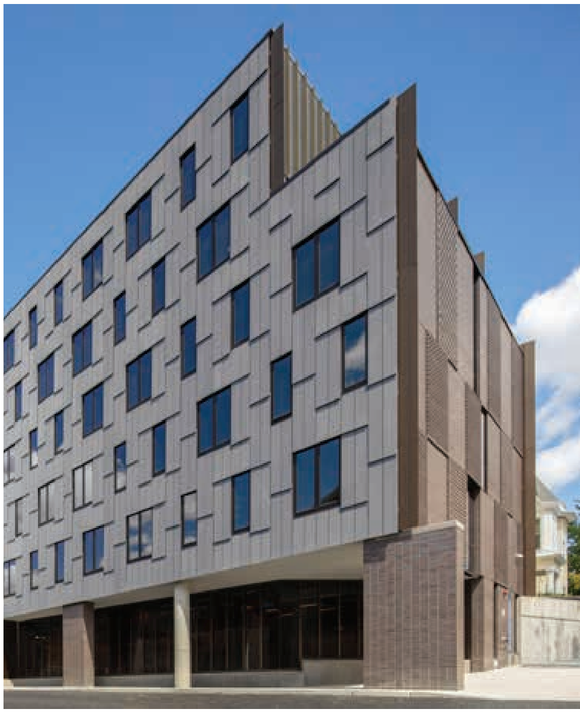
*The Canyons, Portland, Oregon | Photo: Marcus Kauffman, Oregon Department of Forestry*

## PRIORITY: PROMOTING WOOD USE IN MULTI-FAMILY AND NON-RESIDENTIAL SECTORS

With continued advancements in building products, technologies and systems enabling larger and taller wood buildings, the opportunity to increase the share of wood in both multi-family/multi-storey and non-residential sectors is large. Currently, some 69 percent of commercial, institutional and multi-family buildings that could be constructed in wood are built in other materials. Further, the recent developments in tall wood construction have added another 200 million square feet of market potential.

*Source: WoodWorks*

*1430 Q Street in Sacramento, California was completed through an alternate means process | Photos: Greg Folkins*



*2020 Wood Design Award winner Rhode Island School of Design – North Hall, NADAAA, Odeh Engineers | Photo: John Horner*

## Multi-family/multi-storey construction

While single-family homes remain the bastion of wood-frame construction in the U.S., in recent years, multi-family construction has grown significantly. Each multi-family start consumes only about 1/3 the volume of wood used in a single-family home, however, new advanced building systems are allowing for larger and taller structures – creating a range of opportunities to incorporate advanced wood products and building solutions in these projects.

While the COVID-19 pandemic has temporarily slowed the trend towards increased multi-family living, over the longer term, cities will continue their push for increased densification and, therefore, more mid-rise (five to seven storey) construction—a market segment where advanced wood systems are proving very cost-competitive. These opportunities are projected to continue to expand in the post-pandemic period.

**STRATEGIC FOCUS –**
**RESIDENTIAL MID-RISE AND TALLER:**

- Advance wood's acceptance in codes and standards
- Encourage technology transfer to design and construction professionals
- Profile and encourage early adopters

**USD $90 BILLION**
U.S. MULTI-FAMILY CONSTRUCTION MARKET

*Source: Virginia Tech – USDA Forest Service Housing Commentary November 2020*

## Non-residential construction

In addition to focusing on the multi-family market, FII and its funded partners are also prioritizing emerging opportunities in non-residential construction, where wood currently holds a relatively small share (eight percent) of the roughly 800 million sq ft market[4]. While wood use percentages in non-residential construction cannot be expected to match the very high usage rates in the single-family segment, non-residential construction represents the largest unrealized block of potential demand for structural wood products in the U.S. Existing and emerging wood building systems are available to double or even triple wood's current market share given the right conditions[5].

As is the case in the multi-family/multi-storey residential sector, the evolution of advanced mass timber products and related building technologies has opened the door for significant increases in the share of wood consumed in U.S. non-residential construction

*2020 Wood Design Award winner, 111 East Grand, Neumann Monson Architects, Raker Rhodes Engineering, StructureCraft | Photo: Mike Sinclair (top) | 2020 Wood Design Award winner Pike Place Marketfront, The Miller Hull Partnership, Magnusson Klemencic Associates | Photo: Lara Swimmer (bottom)*

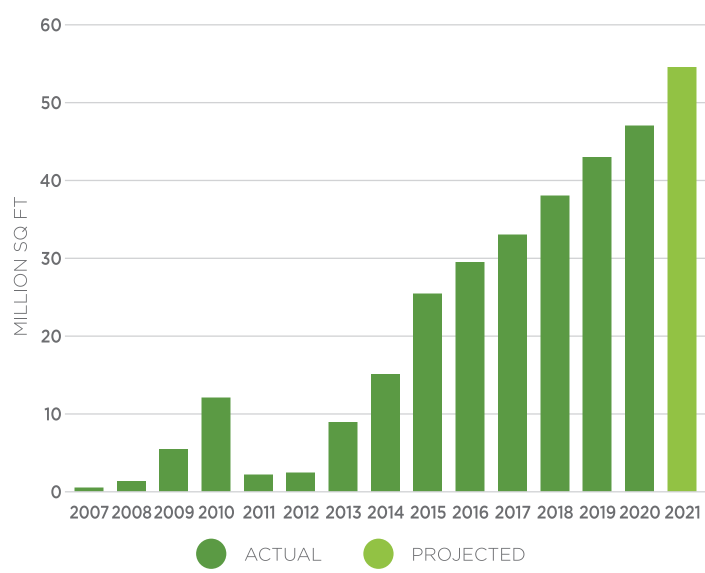
**STRATEGIC FOCUS – NON-RESIDENTIAL:**

- Encourage technology transfer to design and construction professionals
- Invest in training and technical support to foster successful introduction of wood construction technology in non-traditional segments
- Collaborate with industry and other government partners to support projects that raise awareness of wood building systems and construction technology in non-residential applications

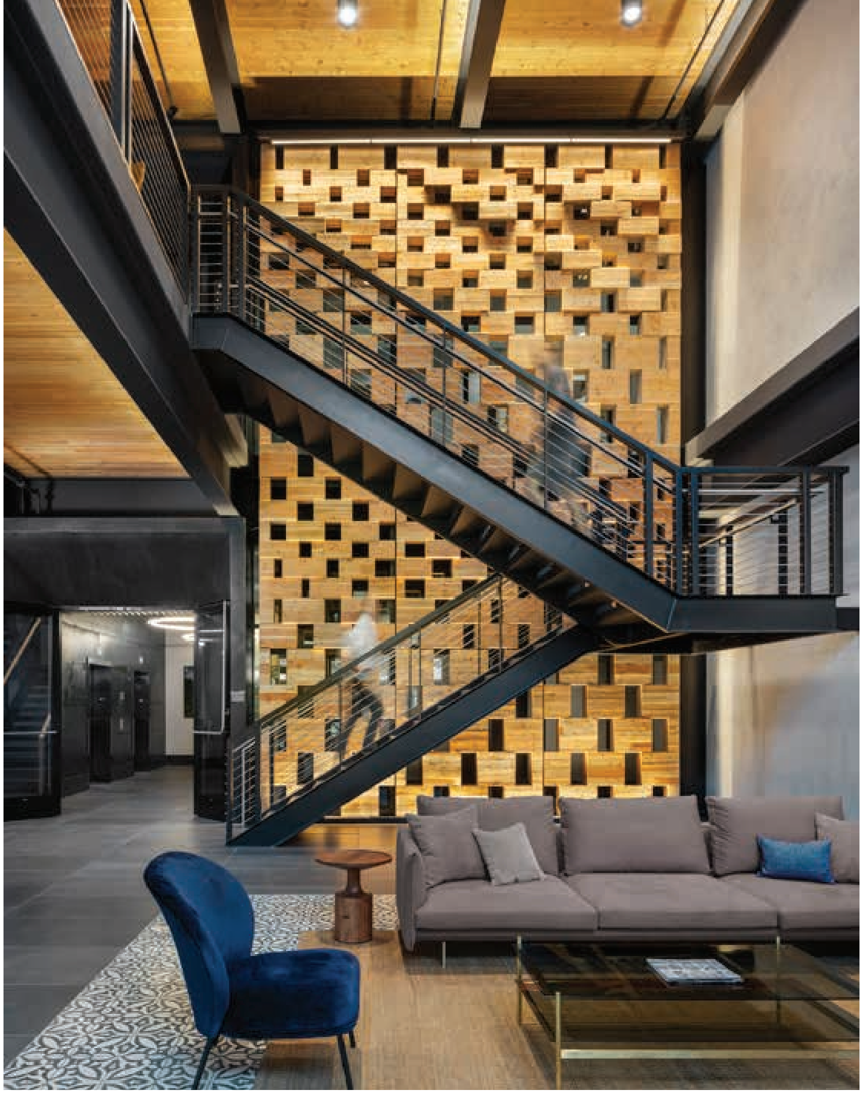
**USD $680+ BILLION**
U.S. NON-RESIDENTIAL CONSTRUCTION MARKET

*Source: FEA Forecast October 2020*

**EXPANDING WOOD USE IN THE U.S. NON-RESIDENTIAL AND MULTI-FAMILY CONSTRUCTION MARKET**




[4] *FII U.S. Market Development Strategy, page 10 (sourced from FPInnovations)*
[5] *U.S. Nonresidential and Apartments Strategy, FPInnovations 2016*



*2020 Wood Design Award winner, 901 East Sixth, Thoughtbarn-Delineate Studio, Leap!Structures | Photo: Casey Dunn*

## US WoodWorks

Market development efforts in the multi-family/multi-storey and non-residential sector in the U.S. are delivered by US WoodWorks, with funding support provided by the Province of B.C. through FII. 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 related to design, engineering and construction in the commercial and multi-family segments.

In delivering its services, WoodWorks works directly with design and construction teams to support and influence projects, with the goal of facilitating a shift towards wood. This includes providing a comprehensive package of support to encourage design teams to convert projects to wood and influence those already using wood to stay the course even when issues arise. Technology transfer is essential throughout WoodWorks' activities, from the assistance provided on projects to educational content, collaboration and across communications channels.

### WoodWorks' approach is centred on two closely connected strategies:

- Utilize expert staff to support projects from design through construction
- Leverage educational events to build relationships and secure quality project leads

## PRIORITY: TARGETING VALUE-ADDED AND HIGH-VALUE NICHE SECTORS

The U.S., with its vast construction and repair and renovation markets, is one of the world's largest consumers of value-added wood products and the largest market for B.C. value-added exporters. Proximity, favourable exchange rates, common language and similar business practices make the U.S. a natural target for the small businesses that make up the majority of B.C.'s value-added industry.

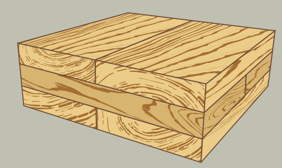
Supporting B.C.'s value-added exports to the U.S. is a priority for FII's market development investments. Funded initiatives target high-potential applications for value-added products in niche segments including vacation homes, log and timber-frame structures, prefabricated buildings, cabinetry, shakes and shingles, millwork and finishing. Market development efforts also prioritize export opportunities for mass timber and advanced engineered products, including glue-laminated timber (glulam), laminated veneer lumber (LVL) dowel-laminated timber (DLT) and cross-laminated timber (CLT). Promotion, research and technical support for end-users are key program elements.

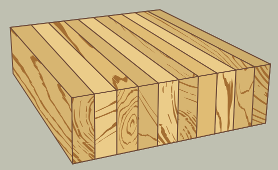
**STRATEGIC FOCUS – VALUE-ADDED**

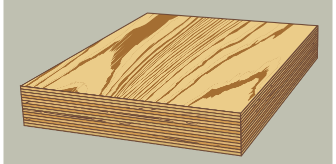
- Conduct market research and provide technical support to B.C. value-added exporters
- Organize and deliver trade shows and related networking and promotional events
- Provide in-market support to B.C. manufacturers, including connecting qualified U.S. buyers with B.C. companies

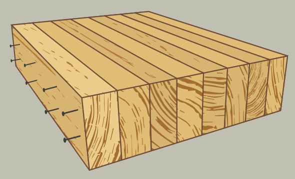
**USD $419 BILLION**
U.S. REPAIR AND REMODELLING MARKET

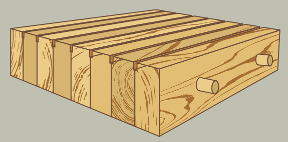
*Source: Harvard Joint Center for Housing Studies Report 'Improving America's Housing 2021'*

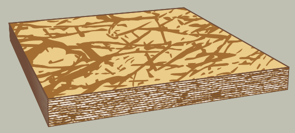

CROSS-LAMINATED TIMBER

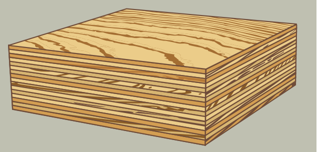

GLUE-LAMINATED TIMBER

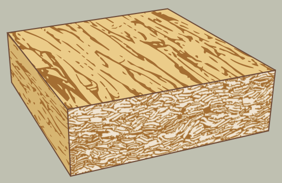

LAMINATED VENEER LUMBER


NAIL-LAMINATED TIMBER


DOWEL-LAMINATED TIMBER


LAMINATED-STRAND LUMBER


MASS PLYWOOD PANEL


PARALLEL STRAND LUMBER

## BC Wood Specialties Group

Many B.C. value-added firms are relatively small operations challenged to find and position themselves with new and growing opportunities for their products. To help these firms access markets, the BC Wood Specialties Group (BC Wood), with funding provided through FII and NRCan, has developed an integrated market development program that helps new exporters build their knowledge and capacity to enter markets while assisting existing exporters to grow their business.

BC Wood's market development initiatives connect B.C. manufacturers with architects, designers, engineers, wholesale distributors, remanufacturers and other end-users who buy or specify their products. BC Wood's programs facilitate cost-shared initiatives that lower the financial risk for both new exporters and for those looking to expand existing sales.

### Growing business in the U.S.

With its close proximity and vast construction and repair and remodelling segments, the U.S. market is a key priority for BC Wood's market development efforts. In the U.S., BC Wood's program is underpinned by targeted market research to identify value-added opportunities in the western states, the region most readily available to smaller B.C. manufacturers. Research results are analyzed to pinpoint specific market needs and gaps that could be filled by B.C. firms. Select B.C. companies are then prepared to pursue opportunities through a comprehensive program of Export Readiness Training that includes customized marketing workshops, one-on-one coaching and peer networking.

Attendance at major industry trade shows is an essential aspect of the effort to support the value-added sector in generating U.S. sales. At these events, both new and existing exporters are able to raise their profile by participating in joint promotions and presentations on the tradeshow floor, as well as benefit from business networking functions, technical seminars and one-on-one meetings arranged for them with international and U.S. buyers attending the shows.


*BC Wood and members at the 2020 International Builders Show (IBS) | Photo: BC Wood*

## PRIORITY: TARGETING MARKETS FOR WESTERN RED CEDAR AND RELATED SPECIALTY WOOD PRODUCTS

Western red cedar (WRC) is a high-value product that is consumed in the U.S. in a wide variety of outdoor and interior applications including exterior siding, outdoor living structures, interior panels and in architectural applications in the non-residential market.

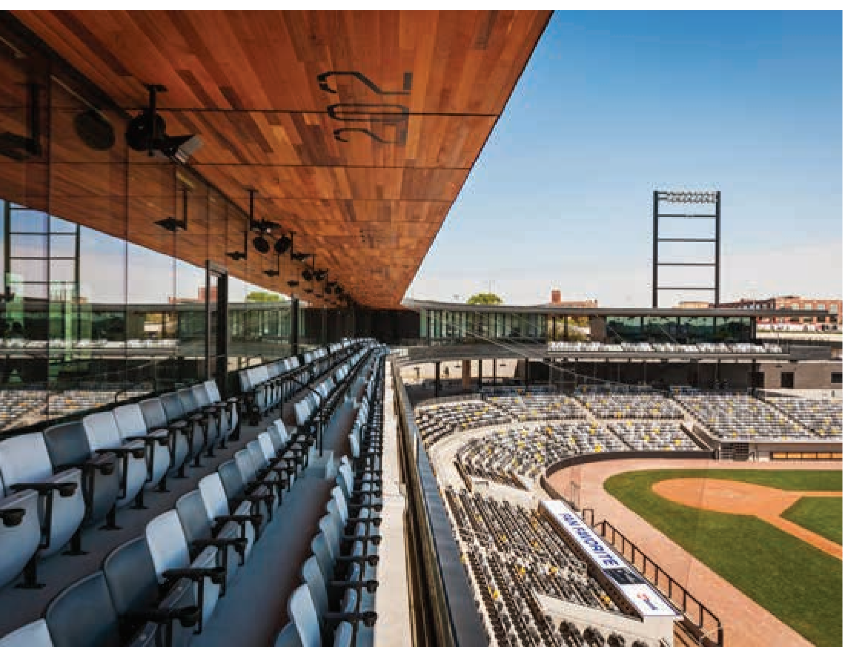
While market development efforts for WRC in the U.S. primarily focus on maintaining market share in the face of growing competition from non-wood substitutes, initiatives also target growth opportunities in niches that place a high value on the unique attributes of WRC. Particular emphasis is on the repair and remodelling sector and on promoting products derived from B.C. second-growth timber which makes up an increasing proportion of the fibre base.

Target niches for WRC promotions include the DIY market, discerning consumers, custom builders and architects. Priority geographic markets are North Central, South Central, the Pacific North West, Northern California, New England and the Mountain States.

### STRATEGIC FOCUS – WESTERN RED CEDAR

- Develop and deliver in-market and online technical support, education and training
- Conduct and/or sponsor market research
- Produce and disseminate print and online advertising, promotional literature and case studies
- Represent the B.C. industry at trade shows and other promotional and educational venues

**A premium product of B.C.'s forest industry, western red cedar represents nearly one quarter of B.C.'s total softwood lumber exports to the U.S. by value**



*CHS Field | Architect: Ryan A+E, Inc. Snow Kreilich Architects, Photography: Paul Crosby Architectural Photography & Christy Radecic Photography*

*Sunroom interior finished in western red cedar paneling and timbers | Photo: WRCLA*

## Western Red Cedar Lumber Association

FII-funded initiatives to promote WRC in the U.S. are delivered by the Western Red Cedar Lumber Association (WRCLA). The WRCLA works to increase market awareness for WRC, inspire buyers to consider the product; and make it easier for buyers to specify, purchase and use WRC.

## The Cedar Shake & Shingle Bureau

With a natural look and warm, rustic appearance, cedar shakes and shingles are high-value products, sold into both new construction and the repair and remodelling segments globally.

The U.S. is by far the largest market for B.C.'s shake and shingles industry with 90 percent of shipments—totalling $144 million in 2019—going to the U.S. Roofing systems on new and renovated homes, and sidewall applications to improve the visual appeal of structures, represent key U.S. markets for the B.C. shakes and shingles industry.

With funding support provided by FII, the Cedar Shake & Shingle Bureau (CSSB) focuses on educating the public and building code officials in the U.S. to build market acceptance for shake and shingle products. CSSB initiatives include delivering training seminars, facilitating trade show participation, and providing product selection assistance and technical help to a wide range of target audiences in the U.S. including architects, building officials and contractors. The CSSB also has an extensive social media presence which has now been extended to take advantage of changing preferences around how information on building products is accessed.

In delivering its activities in the U.S., the CSSB looks for opportunities to collaborate with the BC Wood Specialties Group and the Western Red Cedar Lumber Association to ensure a cost-effective and coordinated approach to preserving and increasing the market for B.C. western red cedar products in the U.S.

## KEY PARTNERS IN MARKET DEVELOPMENT

With funding support from the Province of B.C. (through FII), several organizations, including US Woodworks, the BC Wood Specialties Group and the Western Red Cedar Lumber Association lead market development efforts in the U.S. By working together, government and industry have continued to grow the U.S. market for B.C.'s high-quality primary and secondary wood products. Leveraging resources ensures that B.C. remains a leading supplier of wood products to its most important and high-value market.

Canada

Canada Wood

Forestry Innovation Investment