



Forestry Innovation Investment®

FORESTRY INNOVATION INVESTMENT

STRATEGIC PLAN

2018/19–2022/23





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FII STRATEGIC PLAN 2018/19-2022/23

Summary of Key Issues, Opportunities and Strategic Focus

STRENGTHEN MARKET ACCESS

The U.S., Japan, and European Union (among others) have put in place laws and/or policies restricting forest product purchasing to those sources that can show their forests are managed in a legal and sustainable fashion. A number of countries have also enacted policies and tariff structures that can block or limit imports of foreign forest products.

Strategic Focus:

- Ensure that B.C. is globally recognized as a leader in sustainable forest practices and a preferred source of certified, legally harvested forest products.

POSITION WOOD'S ENVIRONMENTAL BENEFITS

Decision-makers at the government, industry and consumer-level are recognizing that well-managed forests and the wood products derived from them sequester and store carbon, thereby reducing greenhouse gases while yielding economic benefits.

Strategic Focus:

- Advance wood's environmental pedigree and ensure that design and building professionals understand wood's role in mitigating climate change and achieving green building objectives.

BUILD TALLER & LARGER WITH WOOD

Demographics, government policy and social factors are increasing the focus on urban densification resulting in a higher percentage of multi-family housing, commercial and community structures. These buildings are being constructed taller and larger than in the past. Innovations in wood products and related building systems mean that many of these structures can now be built with wood.

Strategic Focus:

- Grow wood use in mid-rise and taller wood buildings by increasing wood's acceptance in codes and standards and by accelerating technology transfer to design/construction professionals.

GROW WOOD USE IN MANUFACTURING

B.C.'s sustainably managed forests underpin opportunities to capture an increased share in wood products manufacturing in many markets. Several global markets look especially promising for B.C. wood species, particularly India, China and Vietnam.

Strategic Focus:

- Co-fund trade association efforts to position B.C. species in the manufacturing sector with an emphasis on research, education, product trials, commercial demonstration and trade missions.

EXPAND MASS TIMBER AND NEXT GENERATION PRODUCTS AND APPLICATIONS

Developments in wood science and building technologies, coupled with evolving building codes, are opening a broad range of new applications for wood in construction. As wood products and construction systems continue to advance, an increasing array of new and innovative buildings will be developed in Canada, the U.S. and around the world.

Strategic Focus:

- Support research and development focused on new wood building systems and related products that create and respond to market demand.

FII STRATEGIC PLAN 2018/19-2022/23

Summary of Key Issues, Opportunities and Strategic Focus

SUPPORT WOOD USE IN THE BIO-ECONOMY

There is growing potential for converting wood fibre into a wide range of products: electricity, fuels, replacements for plastics, solvents, lubricants, even food additives. There may be a need for market development support as new products reach the pre-commercial phase.

Strategic Focus:

- Support the pellet sector in pursuing export opportunities, and work with stakeholders to explore markets for commercial, or near commercial, forest bio-products.

PROMOTE WOOD IN CONSTRUCTION INDUSTRIALIZATION (PREFAB)

Government and the construction industry are looking to better use resources by increasing the speed of construction and reducing on-site waste. Industrialization of construction (prefabrication) is a major focus of these efforts as wall, floor and ceiling assemblies are techniques for which wood is well adapted.

Strategic Focus:

- Promote prefabricated, energy efficient wood wall and hybrid (steel, concrete and wood) building systems in China, and assess trends in North America towards prefabrication.

ADVANCE EXPORT OPPORTUNITIES

CHINA

Wood in Hybrid Buildings—Prefabricated Energy Efficient Wood Walls (PEEWW)

The Chinese government's push for construction industrialization, as well as new policies supporting the development of green building, are creating an opportunity to develop wood construction applications. Potential has been identified in prefabricated, energy efficient wood walls, though other wood systems also well-suited for prefabrication, such as floor assemblies roof trusses.

Strategic Focus:

- Demonstrate that hybrid construction and the PEEWW system is a viable solution in China and convert interested builders/developers to using wood in construction.

Tourism Development

Wood designs are attractive to developers in China's growing resort segment, where light wood frame construction, hybrid buildings, engineered wood, landscaping, and wood for interior and exterior decoration is suitable.

Strategic Focus:

- Encourage construction companies to incorporate wood, particularly in larger structures for accommodations, clubhouses, community facilities and showcase buildings.

Wood in Manufacturing

China's furniture segment is the second largest wood consumer after construction supports. With growing requirements to show that raw materials are sourced from sustainable and legal forests, B.C.'s environmental pedigree is a competitive advantage.

Strategic Focus:

- Pursue opportunities for wood use in manufacturing by targeting high potential end use segments, such as furniture manufacturing and interior finishing applications.

FII STRATEGIC PLAN 2018/19-2022/23

Summary of Key Issues, Opportunities and Strategic Focus

ADVANCE EXPORT OPPORTUNITIES (CONT'D)

UNITED STATES

Non-Residential & Multi-family / Multi-Storey

With the market moving toward multifamily living, there is growing potential to expand the use of wood into non-residential (commercial, institutional, recreational, and educational) and multi-family/multi-storey construction.

Strategic Focus:

- Grow the use of wood in the mid-rise and non-residential segments, where there is greatest potential to convert projects to wood from competing materials.

Value-Added Products (Including Western Red Cedar)

Opportunities for the B.C. value-added sector exist in resort homes, log and timber frame structures, pre-fabricated housing, cabinetry, shakes and shingles, millwork and finishing, and landscaping and outdoor living.

Strategic Focus:

- Provide promotion, research and/or technical support to assist the B.C. value-added sector to access growing repair and remodelling opportunities.

JAPAN

Mid-Rise and Non-Residential/Institutional

Use of wood in multi-family and mid-rise construction has grown in Japan, and the Japanese government continues to encourage increased wood use in institutional applications, including public buildings, educational and care facilities.

Strategic Focus:

- Leverage B.C.'s experiences, promote new building technology, and profile B.C.'s Wood First results to accelerate the trend towards greater wood use in Japan.

Value-Added

Japan, a high value market for wood products, offers good opportunities for B.C. to position its unique value-added products in the market. Canadian panel products such as oriented strand board (OSB) have established a solid presence in the Japanese market and have room for further growth.

Strategic Focus:

- Support the B.C. value-added sector's in-market promotions and continue work on codes and standards to achieve acceptance of new building solutions, such as the mid-ply wall system.

SOUTH KOREA

Wood Use in Construction

There are opportunities to expand wood use in construction, including in single family, low-rise residential construction, and wood infill walls in all applications. Non-residential construction, a smaller but steady market for wood in Korea, is also an area of potential.

Strategic Focus:

- Expand use of wood in residential and non-residential construction and support the value-added sector in pursuing opportunities in higher-quality homes and furnishings.

FII STRATEGIC PLAN 2018/19-2022/23

Summary of Key Issues, Opportunities and Strategic Focus

ADVANCE EXPORT OPPORTUNITIES (CONT'D)

INDIA

Wood Use in Manufacturing

Declining availability of hardwoods in India presents opportunities for B.C. wood species as alternatives to hardwoods in the manufacturing of doors, windows, architectural millwork, furniture and interior finishing products.

Strategic Focus:

- Undertake research, education and promotion to increase awareness of, and knowledge about, B.C. wood species, and accelerate momentum via product trials and demonstration.

SOUTHEAST ASIA

Wood Use in Manufacturing

Southeast Asian markets hold potential given large populations and growing manufacturing sectors. In particular, Vietnam holds good potential for B.C./ Canadian softwood, hardwood and panel products.

Strategic Focus:

- Research opportunities for B.C. wood products in the Vietnam furniture market and engage key players in the supply chain, including importers, distributors and end users, to introduce them to B.C. species.

For a complete list of FII's goals, objectives and key strategies under this Plan, please refer to Charting the Course on page 33.



OUR MISSION

Strengthen and grow the forest sector in British Columbia by working with industry, government and institutional partners to develop and diversify markets for the province's traditional and next generation forest products.

MESSAGE FROM THE CEO

WHY FORESTRY INNOVATION INVESTMENT?

The Government of B.C. established Forestry Innovation Investment in response to two factors: the importance of the forest sector to the economic and social fabric of the province, and the high proportion of public ownership of the forest resource. The overarching objective for FII was to enhance the value of B.C.'s forest resource and strengthen economic growth and jobs in all regions of the province. Since that time, FII has pursued this mandate by working with the forest industry, the federal government and the research community to develop and diversify markets for B.C.'s traditional and next generation forest products while promoting B.C. as a world-class supplier of environmentally friendly forest products.

In advancing its mandate, FII works to provide information, analysis and communication tools for the benefit of the broader forest sector. FII also funds not-for-profit organizations to undertake market development and research projects of benefit to B.C.'s forest sector. Finally, FII works on behalf of the Government and the forest industry to act as a catalyst to foster the development of new, emerging markets for B.C.'s primary and secondary wood products industries.

The Forestry Innovation Investment Strategic Plan 2018/19–2022/23 outlines the goals, objectives and strategies that will underpin FII's business planning and delivery for the next five years.

The Plan builds on a foundation of experience acquired over the course of more than 15 years of intensive market development work in some of the most challenging regions of the world. The goals, objectives and strategies reflect in-depth market research and analysis undertaken by FII and others, and extensive ongoing dialogue with the B.C. forest industry, provincial and federal agencies, and forest sector research institutes. The Plan is in full alignment with the Province's priorities and strategic direction set out in FII's Mandate Letter from the Minister of Jobs, Trade and Technology, as well as the Mandate Letters of the Minister of Forests, Lands, Natural Resource Operations, and the Minister of State for International Trade. The FII Strategic Plan provides a high-level framework for the development of FII's annual service plans with their three-year horizons and performance targets, as well as for annual investment strategies that guide each year's expenditures.

By focusing on collaboration, and by being responsive to the evolving needs of Government and the forest sector, FII is working to support the Government's commitment to revitalize the forest sector and build a strong, sustainable economy that works for everyone. In doing so, FII will strive to deliver programs that respond to changing global markets, new domestic realities and the economic and geo-political forces that affect B.C. forests, related industries and communities.

President and CEO

OUR VALUES

INNOVATION

FII responds to changing market, economic and geo-political forces that affect the forest economy by investing in innovative programs and research that contribute to building a strong, sustainable forest sector that supports economic growth and jobs in every region of the province.

PUBLIC BENEFIT

FII's investments recognize that the public owns 95 percent of the province's forest resource. Investments therefore support the long-term development of the forest sector in general and cannot be used to provide an exclusive benefit to a particular company or its proprietary products. Results of FII supported activities are publicly available.

CREDIBILITY AND INTEGRITY

FII activities and funded projects are based on government and industry priorities and strategies developed in partnership with stakeholders in industry, the research sector and government.

COLLABORATION

FII encourages collaboration and coordination among the forest industry, other levels of government, trade associations, academic institutions, Indigenous communities and others. This includes joint development of marketing strategies, sharing of information, and pooling of financial and human resources. Through collaboration, FII leverages expertise and financial resources to maximize the effectiveness and efficiency of its programs.

ACTIVE ENGAGEMENT

FII is actively involved in the market development, communications and outreach programs it funds and delivers with partners. Where conditions dictate, FII also directly develops and delivers programming in B.C. and in international markets.

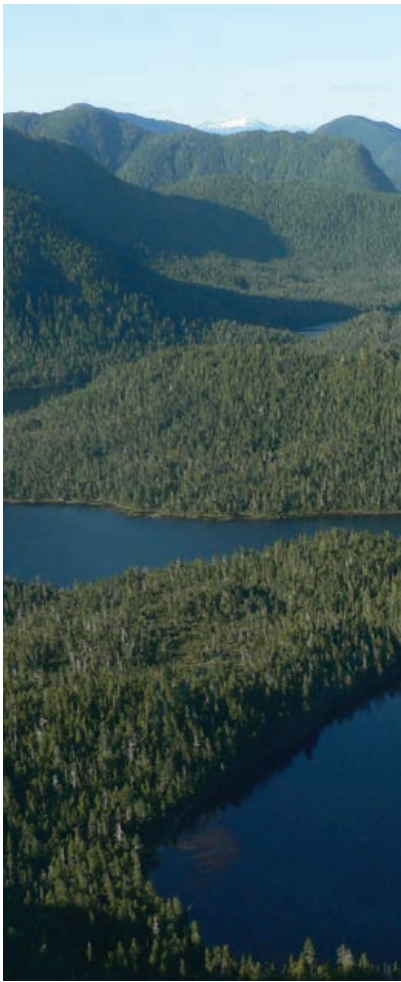
RISK MANAGEMENT

FII mitigates market development risk by pursuing a mix of potential short- and long-term returns and spreading programs across current and potential markets. FII accepts a higher level of risk in emerging markets where commercial success is relatively more speculative, but not without undertaking a thorough analysis of in-market conditions, supply chains and global trends in forest resource availability.

ACCOUNTABILITY

Activities are expected to be founded on clear objectives, generate a positive return for the public investment, have well-developed performance measures, and lead to documented results. FII places a priority on transparency and accountability to stakeholders in all aspects of its operations.





CONTEXT

THE IMPORTANCE OF FII

FII works with the forest industry, provincial ministries, other levels of government and the research community to develop and diversify markets for B.C. forest products while promoting B.C. as a world-class supplier of environmentally friendly forest products.

FII was established at a time when B.C.'s access to the U.S. market for lumber had been repeatedly assailed by protectionist forces. Recognizing that markets in the U.S. market would likely remain constrained, and in light of the urgent need to respond to environmental pressures, the B.C. Government directed FII to work with industry to develop new opportunities for B.C. forest products and to defend the province's forest practices through fact-based market outreach.

These two activities—market development and market outreach—remain at the core of FII's mandate. However, over time, FII's programming has evolved to reflect changing economic, environmental and geo-political conditions at home and abroad.

FII's Market Outreach program, established to defend the Province's forest practices, continues to play a key role in maintaining the B.C. forest sector as a recognized global leader in sustainable forest management, meeting the environmental, social and economic needs of current and future generations. By providing industry with fact-based materials that communicate B.C.'s enviable record in forest management, FII's outreach program helps both the lumber and pulp and paper segments to access global markets. More recently, FII has widened its market communications to include proactively promoting the environmental benefits of building with wood, particularly the role wood can play in addressing the climate impacts of carbon in the built environment. Today, a strategy led by FII is positioning wood in North America and around the world as a preferred green material, and B.C. as a global supplier of innovative and renewable building materials, advanced wood design and next generation construction technologies.

Here in B.C., FII is acting on the need to generate greater value from the forest resource by working with government and industry to help build capacity among B.C.'s many small- and medium-sized value-added manufacturers. This effort, which is led by FII's Wood First program, is implementing a suite of initiatives to position B.C. as a leader in using innovative, next generation forest products and building systems, and to foster a growing and dynamic value-added manufacturing sector. These efforts are laying the foundation for B.C. to play a leading role as exciting new markets for ever taller and larger wood structures emerge here at home, in the rest of North America and around the world. With the completion of the Wood Innovation and Design Centre in Prince George, and most recently, the Brock Commons Student residence at UBC—the world's tallest mass timber structure at the time of construction at 18 storeys—B.C. has become a recognized leader in bringing high quality, innovative wood products and building systems to global markets.

On the international front, FII is building on success in growing markets in Asia by making the region a major focus for the next phase of market development programming. Efforts in China, which proved particularly successful in helping diversify markets for B.C. lumber away from the U.S., have evolved from an early emphasis on boosting lumber volumes, to pursuing a suite of high-value opportunities such as using wood to meet the growing demand for low-carbon, green building materials and for the use of wood in tourism development, manufacturing and prefabrication. Continuing this program evolution, FII's Asia operations have widened to include an aggressive market development program in India to tap the emerging South Asia market for wood products. This initiative includes introducing Indian manufacturers to B.C. wood species through a comprehensive program of product trials. FII is also collaborating with the forest industry and the Government of Canada to pursue opportunities in other high-potential international markets, including in South Korea, Vietnam and Europe.

FII'S PRIORITIES

Softwood lumber continues to drive the economics of the B.C. forest sector—approximately 80% of timber harvested in B.C. enters the manufacturing stream through the production of lumber. Because of this, expanding markets for lumber, and next generation lumber products, remains a key priority for FII programs. Reflecting the integrated nature of the forest sector in B.C., FII investments also support the value-added industry and the renewable energy segment in advancing market development and diversification. FII programs directly support the pulp and paper sector by providing fact-based materials that communicate B.C.'s forest practices record, and through market access initiatives that aid company-led sales activities.

Finally, in the U.S., B.C.'s largest and highest value market, initial efforts to grow the use of wood in the non-residential construction market have expanded beyond the low- and mid-rise segments to include the use of wood in much larger, taller and more sophisticated construction applications where the potential for wood is vast.

Much has been accomplished by FII and its partners in the period since 2003, both in B.C. and around the world. Nevertheless, global markets for forest products remain dynamic and challenges to B.C.'s leadership will come from a number of areas, including heightened protectionism in key markets; aggressive competition from regions such as Russia, South America and Europe; supply shocks related to logistics bottlenecks and natural disasters—particularly wildfires—and from a long-term reduction in B.C. harvest levels in the aftermath of the mountain pine beetle epidemic. Amid this turbulent economic, environmental and political backdrop, FII and its partners in industry, government and the research community will continue to ensure that investments in market development programming capitalize on opportunities, respond appropriately to challenges and create the conditions necessary for long-term growth of the B.C. forest sector.

IMPORTANCE OF FORESTRY TO B.C.'S ECONOMY

Forests cover nearly 60 per cent of British Columbia's landscape. For over a century, the timber in these forests, the majority of which is publicly owned, has sustained hundreds of communities and tens of thousands of jobs across the province. Although the forest sector's relative economic footprint has lessened as other industries such as energy, tourism and technology have grown in importance, forestry remains B.C.'s largest manufacturing industry and a cornerstone of regional economies across the province. Critically, the sector is also the largest source of export earnings for B.C., a major contributor to government revenues and of vital importance to the economic well-being of regional and Indigenous communities throughout B.C.

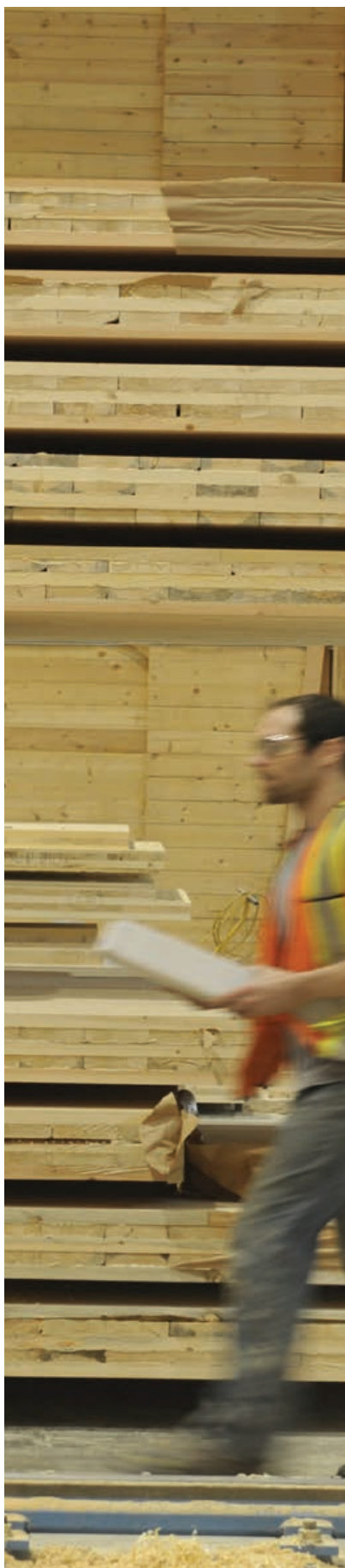
With strong demand for wood products in the province's major markets, increasing pulp product specialization, and continued expansion into the markets for green energy and green building, the forest sector continues to anchor the provincial economy. Underpinning this position is Canada's status as a world leader in sustainable forest management and the international leader in forest certification, with B.C. contributing more than any other province.

The scale and reach of forestry makes it vital to the province's social, economic and environmental well-being and a key contributor to the Government's commitment to build a strong, sustainable economy. Revenue from the harvest of trees and production of forest products funds infrastructure and government services that B.C. depends on, and the jobs created in harvesting and processing forest products are important, particularly in communities where forestry is the primary employer.

Today, the B.C. forest industry accounts for nearly a quarter of all direct manufacturing employment and supports some 141,000 jobs across the province, with a total labour income in excess of \$8.5 billion. The industry consists of more than 7,000 businesses—most of which are small enterprises employing less than 20 people—and is a major customer for B.C.'s transportation industries which handle the estimated 25 million metric tons of forestry cargo that is shipped through B.C. ports annually to more than 25 countries.¹



¹ Economic contribution figures in this section, include direct, indirect and induced employment. Government revenues include payments of municipal, provincial and federal taxes from industry operating activities, as well as other payments to the provincial government. This totalled \$4.12 billion in 2016.



\$33

BILLION IN
ECONOMIC OUTPUT

\$14.1

BILLION IN
EXPORTS

7,000+
BUSINESSES
SUPPORTED

\$12.9

BILLION
CONTRIBUTION TO
PROVINCIAL GDP

25%

OF MANUFACTURING
JOBS

141,000
FULLTIME
EQUIVALENT
JOBS

Source: British Columbia Forest Industry and BC Economy in 2016, PWC, September 2017

THE SITUATION IN B.C. TODAY

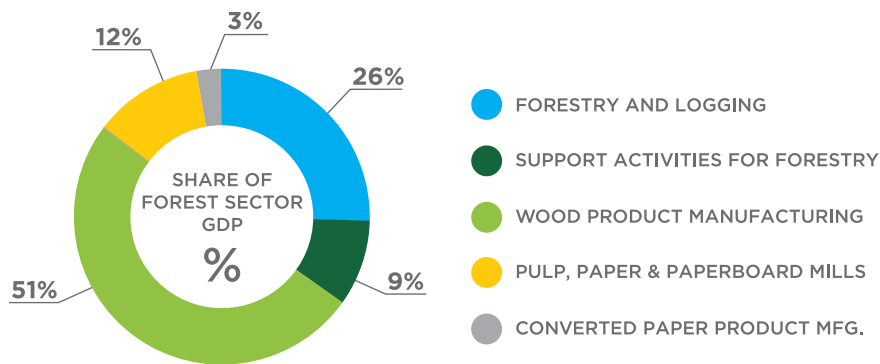
British Columbia is a world scale manufacturer of forest products and a recognized leader both in using wood, and in bringing high quality, innovative products to global markets.

In 2016, the forest sector's total economic output was estimated to be \$33 billion, including direct, indirect and induced outputs. The sector's direct contribution to provincial GDP was \$13 billion. About one-quarter of this comes from logging, while nearly half is from the manufacturing of wood products, primarily lumber, but also panels and some specialty products. Pulp and paper makes up about 15% of the sector's total production, while another 9% comes from support activities for forest products. This does not include a range of further processed manufactured products, such as wood-based structural components and other engineered wood products and related manufactured items.

In terms of relative scale, B.C. is the largest producer of softwood lumber in Canada and the second largest producer of pulp and paper products. The B.C. forest cluster is also the largest in North America and includes companies that are among the top global forest products producers. Of these firms, 16 have their corporate headquarters located in the province, seven of the 16 are ranked among the 50 largest public companies in B.C. and five are ranked among the top 100 global forest companies. The size and scale of the sector in B.C. provides critical mass and industry a comparative advantage in pursuing highly competitive international markets.

The B.C. forest sector is highly integrated with the production of softwood lumber driving the economics of the industry—residuals from lumber production provide fibre for the pulp and paper manufacturing industry and for pellet production. Two main regions produce wood products in B.C.: the coast and the interior. While focusing on different species, the two regions are interconnected through flows of fibre from interior sawmills to pulp and paper mills located on the coast. Much of B.C.'s softwood lumber is produced in the interior and is of structural quality (predominately spruce, pine and fir), although a significant volume of structural product (e.g. Douglas fir and hemlock) and value-added "appearance grade" non-structural product (e.g., cedar and high-grade hemlock) is manufactured by the coastal industry. While structural lumber is largely used in building and related construction applications, appearance grade products feed further manufacturing opportunities in B.C., the U.S. and in offshore markets.

B.C. FOREST SECTOR BY INDUSTRY



Source: BC Stats

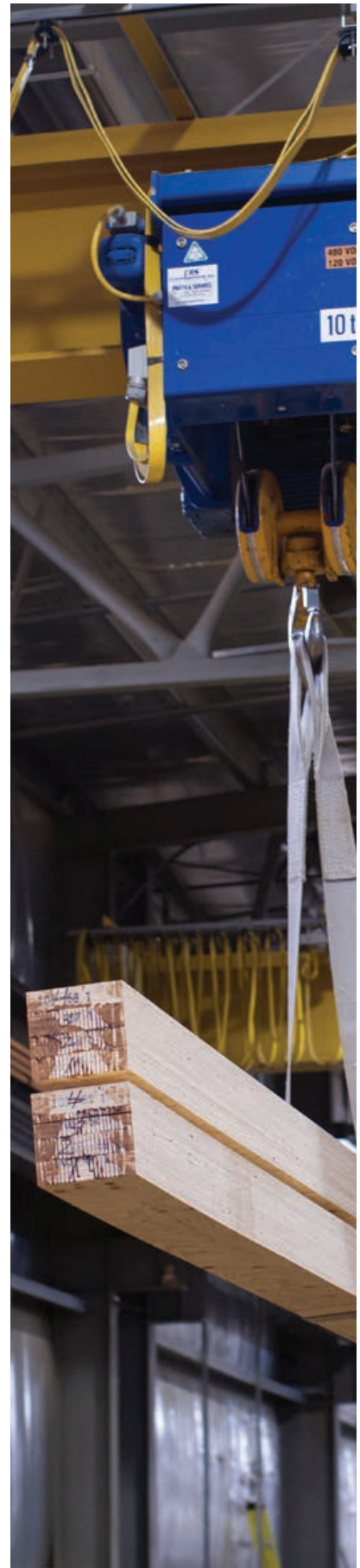
Supplementing the primary sector is B.C.'s diverse value-added, or secondary processing industry. The composition of the value-added sector is quite diverse with the manufacturers producing a wide range of products, including millwork, cabinets, furniture, prefabricated building elements such as panelization of roof, wall and floor assemblies, as well as buildings, log- and timber-frame homes, remanufactured wood products, oriented strand board, plywood, veneers, wood pellets and shakes and shingles. In addition to these traditional outputs, B.C.'s value-added manufacturers also produce a variety of mass timber and next generation lumber products, including glue-laminated timber (glulam), laminated veneer lumber (LVL), nail-laminated timber (NLT), dowel-laminated timber (DLT) and cross-laminated timber (CLT). These products are both complimentary to the existing softwood lumber industry, and key components in advanced wood and hybrid building systems that are now reaching heights and sizes not previously considered possible.

Together, B.C.'s world-class fibre resources, sophisticated manufacturers, innovative products and advanced marketing acumen have secured the province's unique role as a leader in supplying traditional and next generation forest products and wood building systems to world markets.

B.C. IN A GLOBAL CONTEXT

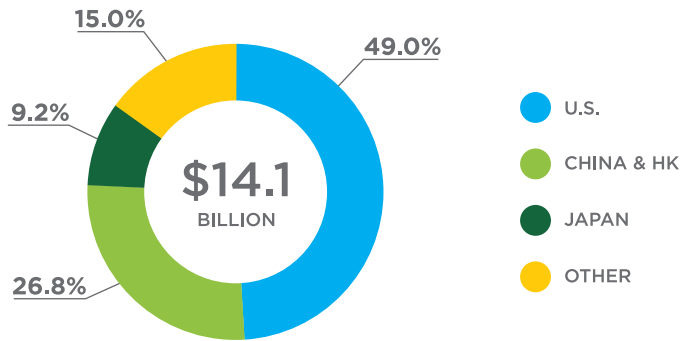
The forest products sector in B.C. today has a global supply role. And despite the emergence of new, low-cost competitors, and in the face of significant structural and cyclical demand shifts, the industry remains world scale and globally competitive.

Forest products make up the largest share of B.C.'s annual exports. In 2017, exports of forest products totalled \$14.2 billion, which was nearly three times the value of metallic minerals and triple the size of machinery and equipment exports. Exports of softwood lumber at \$6.6 billion (47%) represents the largest product category within forest products, followed by pulp (\$3.5 billion or 24%) and paper products (\$1 billion or 7%). The U.S. was the destination for 49% of all shipments, followed by China (27%) and Japan (9%), with smaller shares going to other markets, including Taiwan, South Korea, Europe and Southeast Asia.



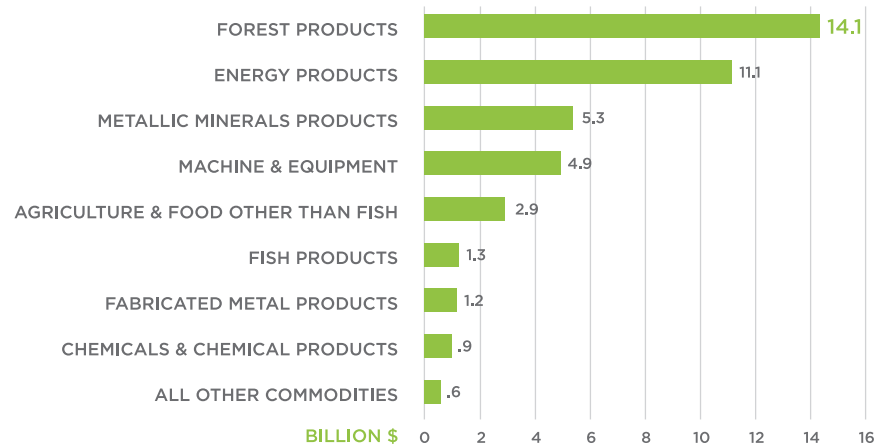


FOREST PRODUCTS SALES & MARKET SHARE 2017



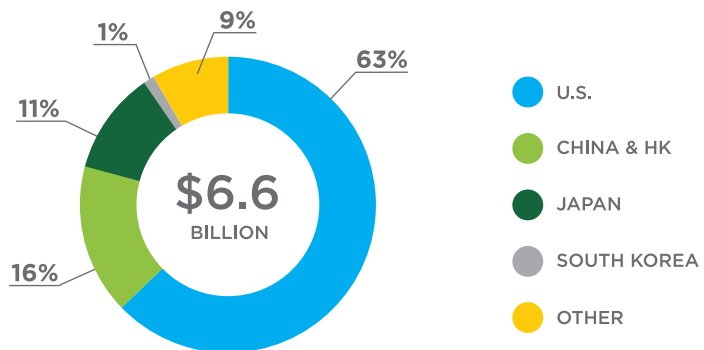
Source: BC Stats

B.C. MERCHANDISE EXPORTS BY COMMODITY GROUP 2017



Source: BC Stats

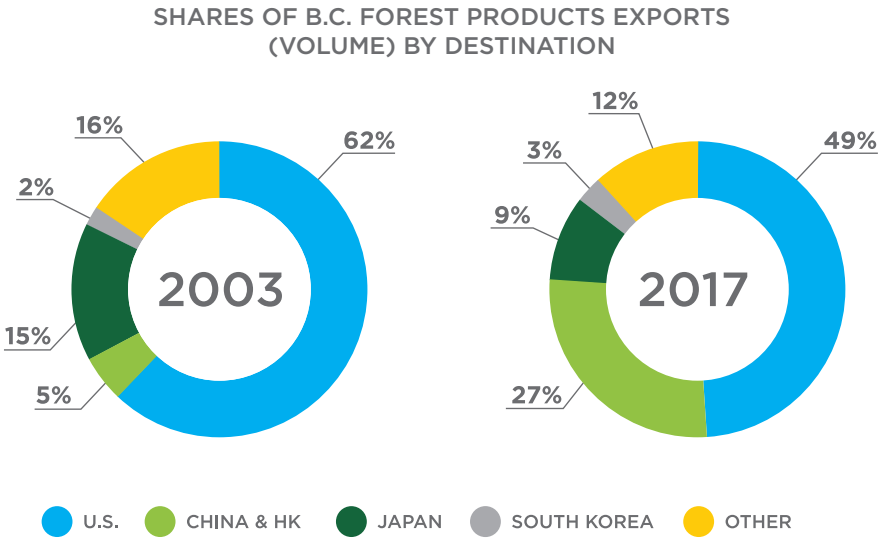
LUMBER (SOFTWOOD), % OF TOTAL EXPORTS 2017



Source: BC Stats

Over the past decade, increases in manufactured wood and pulp and paper exports to China have been especially notable. Despite a sharp increase in competition from Russia and Europe in the Chinese market, softwood lumber sales continue to top \$1 billion annually, an increase of approximately 2,000 percent since the start of the joint government-industry market development program in the early 2000s. Backed by the collaborative market development program delivered by FII and industry, the forest sector’s intensive focus on fostering external markets, combined with environmentally friendly innovative products and solutions, has helped the province diversify overall trade in forest products.

In terms of B.C.’s value-added products (including engineered wood), the majority of exports are to the U.S. (94%) with another 2% going to Japan and a similar share to Europe. In the emerging area of renewable energy (bio-fuels), B.C. exported \$311 million worth of wood pellets in 2017², primarily to markets in the E.U., Japan, South Korea and the U.S.

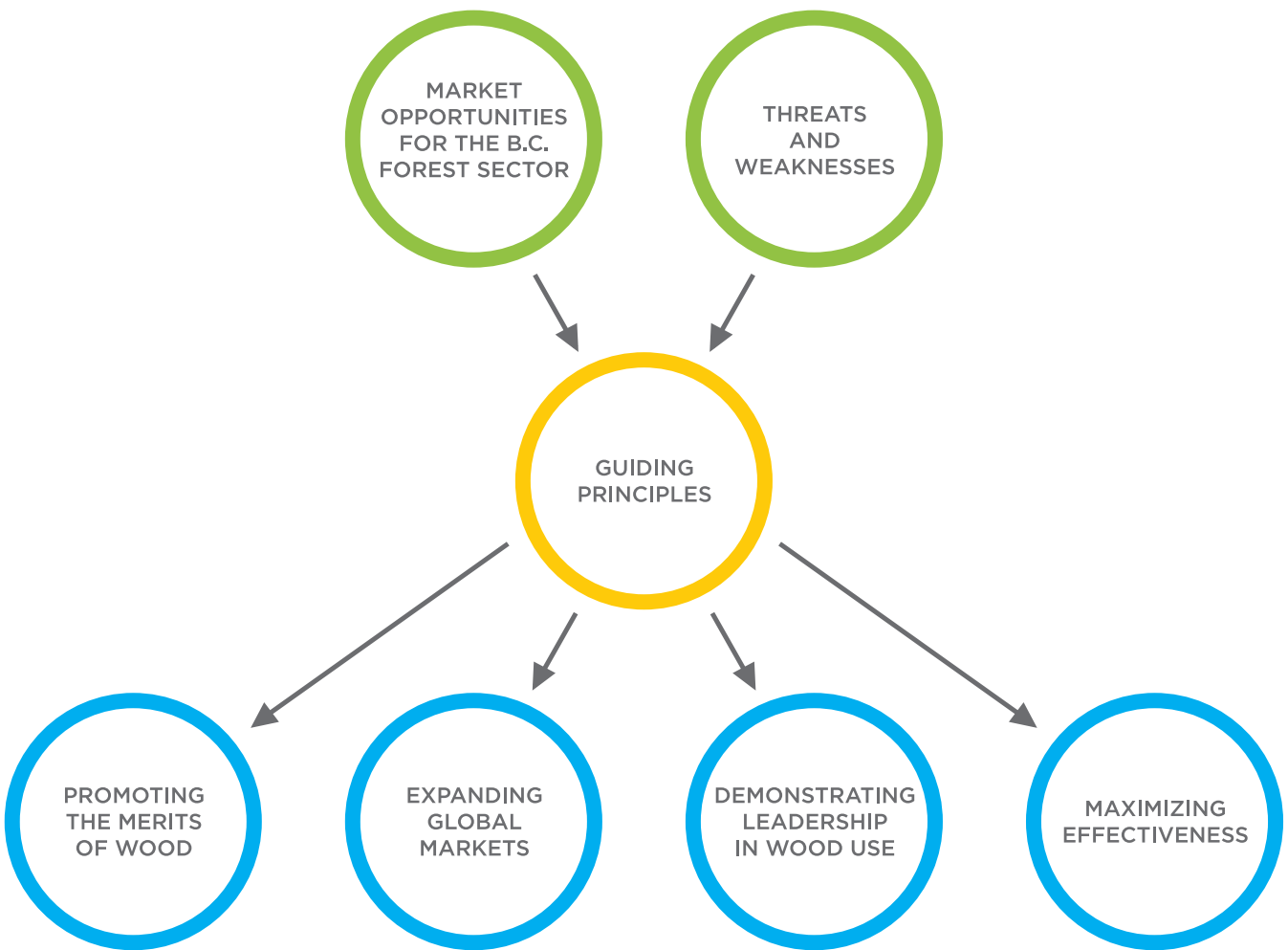


Source: BC Stats



² Stats Can, Commodity: 440131 Wood pellets, 2017

STRUCTURE OF THE PLAN



LOOKING FORWARD—OPPORTUNITIES AND CHALLENGES

While B.C.'s forest sector remains central to the provincial economy, global market conditions are evolving rapidly. The potential for the forest sector arising from changing market dynamics is significant, particularly as new technologies in wood products and building systems come on stream, and as policy-makers, industry leaders and consumers come to recognize the role of wood in addressing climate change concerns. Tracking, understanding and responding to emerging trends, and the opportunities and challenges they give rise to, are critical to ensuring that B.C. is able to build on its market position in the years ahead.

Opportunities and challenges for the forest sector arising from these market dynamics are the subject of this Looking Forward section of the Plan.

MARKET
OPPORTUNITIES
FOR THE B.C.
FOREST SECTOR

THREATS
AND
WEAKNESSES

MARKET OPPORTUNITIES FOR THE B.C. FOREST SECTOR

The drivers of change in the global economy present opportunities for the B.C. forest sector across a wide spectrum. There are opportunities to build on the worldwide effort to address climate change through green building and wood's inherent ability to sequester carbon. Other opportunities exist to increase the use and the value of traditional and engineered wood products in construction and in manufacturing. There are also prospects to increase the strength of the value-added sector and to promote use of next generation engineered products and bio-products, including renewable energy sources such as wood pellets.

REGIONS OF OPPORTUNITY



REGIONAL AREAS OF OPPORTUNITY

NORTH AMERICA

Wood use in multi-family, multi-storey and non-residential construction using advanced building systems and products; value-added products; cedar

CHINA

Wood use in construction—infill walls, hybrid designs, advanced building systems with engineered wood products; heavy timber/glulam; wood frame construction

Wood in manufacturing—furniture, doors, windows, interior finishings

Wood in tourism developments

JAPAN

Wood in residential construction; institutional and elder-care facilities; hospitality, multi-family, multi-storey and taller/larger wood structures; value-added; renewable energy

SOUTH KOREA

Wood frame construction and infill walls; value-added; renewable energy

INDIA

Wood in manufacturing

SOUTHEAST ASIA

Wood in manufacturing

EUROPE

Renewable energy; value-added



Building on B.C.'s environmental reputation—forest legislation and third-party forest certification

Customers worldwide trust Canada as a reliable supplier of forest products from legal and sustainable sources. This provides Canada with a competitive advantage in markets, including the U.S., Japan and the European Union (among others) that have put in place laws and/or policies that restrict forest product purchasing to sources that can show their forests are managed and harvested in a sustainable and legal fashion. These requirements affect not only the purchase of primary forest products but also manufactured goods created from forest products, such as furniture, paper and energy. Canada's extensive and rigorous system of forest governance means that the risk of illegal logging in the country is negligible. In fact, third-party research verifies that Canada has some of the toughest forest practices regulations backed by well-developed enforcement regimes³. As a result, there are significant opportunities for the B.C. forest sector to increase its market penetration in North America, the E.U. and the fast-growing economies of Asia. This can be accomplished by articulating the benefits of wood as a sustainable, renewable building material and highlighting that wood and pulp and paper products from B.C. are manufactured by an industry that adheres to the principles of sustainable forest management.

Addressing climate change—forest products and carbon

The earth's climate is changing and scientists agree that this is largely due to increasing emissions of greenhouse gases, especially carbon dioxide from burning fossil fuels. It is estimated that, every year, 3.3 billion tonnes of carbon are added to the atmosphere. Forests play a key role in mitigating climate change by absorbing and storing carbon in trees, soil and biomass. Decision makers at the government, industry and consumer-level are recognizing that wood products from well-managed forests can help tackle climate change by sequestering and storing carbon, thereby reducing greenhouse gases while yielding economic benefits. As a result, global customers for forest products are increasingly factoring environmental parameters into purchasing decisions.

Highlighting the potential of wood in green building

There is a growing imperative to minimize the environmental impact of the built environment. In addition, material and energy choices will be increasingly influenced by analysis of environmental impacts in their creation and transportation versus alternatives. Governments around the world are putting in place policies favouring building practices that mitigate greenhouse gas emissions and reduce non-renewable resource and energy use. This trend, which favours a greater use of low-carbon wood construction, is expected to continue as efforts to manage greenhouse gases, store carbon and find solutions to climate change accelerate.

Changes in building codes regarding energy efficiency are also challenging historical patterns of wood use with both regulations and consumer preferences demanding more energy efficient construction. This, in turn, is forcing a rethink on how building components such as external wall assemblies are built. While the solution to net-zero or ultra-low energy buildings can take several pathways, it is clear that conventional assemblies will need to evolve and/or be improved over time.

³ Leger - The Research Intelligence Group, Analysis of Market Acceptance Issues, March 2017.

Increasing wood use in construction

The use of wood in construction is rapidly growing beyond the traditional single-family market. New opportunities for wood use are emerging as a result of changing demographics and via trends in the evolution of wood building products, related building systems and the regulatory frameworks that govern their use:

Urbanization and densification

In many countries, demographic, government policy and social factors are increasing the importance of urban densification. This is driving demand for complete, well-connected, mixed-use neighbourhoods that allow residents to work, live, play, shop, and learn. Sustainable density requires a higher percentage of multi-family housing, commercial and community structures that can stand for 50 to 100 years, often with relatively few modifications.

Wood use in taller and larger structures

In regions around the world, new multi-storey, multi-family buildings are being constructed taller and larger than in the past. Many of these multi-family buildings are mid- to high-rise buildings (5 storeys and above). Innovations in structural wood products (e.g. cross-laminated timber, dowel-laminated timber and other engineered wood products) and the related development of advanced building systems are driving changes in building codes that are allowing wood to be incorporated in these larger and more complex structures. This is opening up new markets for wood products and buffering producers from the long-term shift away from single-family construction (a single-family home typically consumes up to two-thirds more wood per unit than does multi-family construction).

Building codes and regulation

With the speed of innovation in wood products and building construction systems accelerating, adapting building codes and regulations to reflect new products and systems is challenging, particularly as codes in Canada and B.C. are updated in five-year cycles. Efforts to modernize code frameworks have the potential to accelerate the adoption of wood-based building systems that could increase the speed of construction, lower overall building costs and reduce the carbon footprint of the built environment.

Industrialization of construction (prefabrication)

Government and corporate initiatives to better use resources, increase the speed of construction, and to reduce on-site waste are increasing the focus on industrialization of construction. Critical skill shortages in the building trades and poor overall productivity performance in the construction sector are adding further urgency to the move towards factory-built assemblies. Panelization, or prefabrication of wall, floor and ceiling assemblies, techniques for which wood is well adapted, is one way this is being accomplished.





Growing wood use in key global markets

Environmental, demographic and construction trends are also opening new opportunities to increase the use of wood in construction across B.C.'s major markets for wood products, particularly China, the U.S., Japan, and South Korea.

CHINA

China, the largest construction market in the world, is looking for environmentally and economically acceptable ways to supply large volumes of mid-priced housing given limited space. A key government policy is to promote mid- to high-density housing of six-storeys and higher. These apartment complexes have typically been constructed in concrete and steel. Given China's increasing interest in green building and the development of eco-cities⁴, and the growing body of evidence showing the benefits of using wood, there is significant opportunity to use wood infill walls and other hybrid designs (wood in combination with concrete, masonry and/or steel) in many of these buildings. Any wood being used for construction purposes will need to be imported as China's fibre deficit and standing timber profile preclude using domestic timber for structural purposes. The 4-6 storey market in China is key as it is seven times larger than the 1-3 story residential market and represents an annual market potential of some 42.7 million m³ of wood volume (by comparison, the U.S. 2015 total residential consumption was just over 30 million m³)⁵.

Other opportunities are also emerging for wood products and systems to support the construction industrialization (prefabrication) priorities of the Chinese government. Potential applications include substituting wood for other materials in partition walls, floors, exterior walls, and in added storeys. Further opportunities within construction exist in the growing resort sector. As China's population becomes increasingly affluent, domestic tourism has become a CAD \$600 billion industry growing 15% annually. The Chinese government has placed a priority on developing and improving tourism facilities at home.

Finally, Chinese officials have expressed interest in using the advanced building systems being developed in B.C., including the use of hybrid and heavy timber/engineered wood technology in larger and taller buildings. While substantial work needs to be done to develop the required building codes and standards for larger and taller wood construction, transferring these and other developing technologies into China would have a large upside, given the scope of the country's mid and high-rise residential and non-residential markets.

⁴ A key Chinese commitment is to the development of eco-cities. These are whole communities designed for green living and built with approved green building materials. The design encompasses all aspects: building materials, energy generation and conservation, waste management, etc. A required step to opening green development opportunities to wood is working with officials to prove wood can help advance China's environmental goals.

⁵ Maximum estimated wood volume at 100% conversion to wood construction.

UNITED STATES

While the U.S. residential housing market has long been the bastion of wood-frame construction, the focus has been on single-family homes. Multi-family construction is increasing, however. And while this represents a near- to mid-term challenge to wood volumes (multi-family starts consume only about 1/3 the volume of wood used in a single-family home), these buildings are now being built larger and taller, creating a range of new opportunities for next generation wood building systems.

Wood currently holds an 8% market share in non-residential construction⁶. This compares to a 94% market share in single-family residential construction. While wood use percentages in non-residential construction cannot be expected to match the very high usage rates in the single-family segment, existing and emerging wood building systems are available to double or possibly triple wood's market share in the non-residential segment given the right conditions.

Unlike the non-residential segment, the multi-family residential market already represents a significant market share for wood. Research by FPInnovations found that 82% of apartments in the 1-4 storey category were built in wood. However, the apartments segment has almost doubled its share of total residential starts over the past decade, rising from 19% of housing starts in 2006 to almost 40% by 2016, making this category increasingly important as an opportunity for wood.

With advanced building systems now allowing apartments to rise above four storeys in wood, there are new opportunities for growth in this segment, particularly as cities push for increased densification and, therefore, more mid-rise (5-7 storey) construction—a market segment where advanced wood systems are proving very cost-competitive. Recent research by FPInnovations has estimated the total annual incremental opportunity for wood consumption in the U.S. market at 20 million m³ (8.5 billion board feet), with approximately 12 million m³ (5.1 billion board feet) of this volume available in the tall wood segment (structures five storeys and higher).

WHY WOOD?

As one of the most beautiful, versatile, durable and safe building products available, wood performs, creating optimal living and working environments while delivering cost and environmental benefits.

Using wood products from sustainably managed forests for construction is an excellent choice for the environment. Science-based life cycle assessment shows that wood products have a much lower environmental footprint than alternative building materials such as concrete or steel. When trees are harvested and manufactured into products, they continue to store carbon. This creates tremendous opportunity for wood to be introduced as a solution for mitigating climate change.

WHY WOOD FROM B.C.?

B.C. manufacturers offer a wide variety of versatile, high-quality products including construction and appearance grade wood for structural and finishing building applications. The range of engineered and mass timber products from B.C. offer incredible design versatility, high-performance and dimensionally stable options for any building project, residential or commercial.

Forest products from B.C. offer additional assurance because they come from public forests that are managed to consider environmental, social and economic values.

⁶ US Non-residential and Apartments Strategy, FPInnovations, January 2017.



JAPAN

Wood has been common in housing construction in Japan for centuries and post and beam and wood-frame construction is well established in both the single-family market and in the low-rise multi-family apartment segment. Wood's use in each of these segments is expected to continue, but single-family housing is forecast to decrease in prominence in Japan in years to come. By contrast, multi-family construction will become a larger portion of construction expenditure in the future as the Japanese population ages and the demand grows for multi-unit residential care facilities, of which an increasing number are being constructed with wood. At the same time, Japan's young people continue to migrate to urban areas generating new demand for multi-family housing.

Japan's booming tourism growth is also creating new potential in the hospitality sector where wood already has a strong presence in the 1-3 storey segment. Overall, wood has excellent prospects for application in the low-rise multi-family and non-residential sectors over the period of this Plan, particularly if efforts to have existing height and size limitations relaxed are successful.

While most mid- to high-rise buildings in Japan have been constructed using concrete and steel, Japan's Ministry of Forestry and Fisheries has set an aggressive target of increasing wood construction in public buildings from the current 7% of construction to a 35% share by 2020. Officials have been actively working on developing the codes and standards for wood use in taller and larger buildings, and for the application of engineered products like cross-laminated timber (CLT). These codes, which address seismic and fire concerns, compliment the government's desire to use more of its own forest, in large measure to meet Japanese obligations to the Kyoto Protocol. While intended to support the domestic industry, the code work is also providing a tailwind for Canadian wood products in the Japanese market.

SOUTH KOREA

South Korea is B.C.'s sixth-largest market and B.C. has a 7.4% share of total softwood lumber imports. In March 2014, Canada and Korea concluded negotiations and signed a bilateral Free Trade Agreement, which is expected to create new opportunities for B.C.'s exports of softwood lumber and specialty products as tariffs on wood product are gradually reduced and ultimately eliminated. During 2017, the 5% tariff on lumber imports from B.C. was eliminated with similar tariffs on plywood and oriented strand board (OSB) scheduled to be removed within 10 years.

Wood building starts in South Korea have risen steadily and wood-frame construction (WFC) now makes up 13% of the single detached housing market, up from 10% in 2012. The movement of urban residents away from cities into new developments with a mix of detached, low and high-rise housing continues to fuel this trend creating an opportunity to expand the share of wood in South Korea's overall construction market.

Demand has been driven by a desire for healthy housing solutions that meet flexible design needs—lower density housing for retirees, small units for younger families and high-end housing for executives. Wood construction has been used to supply all these housing types. While the immediate opportunity is in the growing single-family and low-rise housing market, the use of wood infill walls in larger and taller buildings also shows excellent prospects as do advanced building systems that allow taller wood buildings to be constructed. Like Japan, South Korea has an aging population and will be requiring elder care solutions in coming years. Wood is also expected to play a part in this market in the future.

There is an active green building segment in South Korea where energy efficiency, sustainability and carbon storage are key concerns. With new requirements on insulation and air tightness, Canadian Super E and Net-Zero Housing, which emphasize both energy efficiency and healthy indoor environments, are generating interest in South Korea.

Expanding wood use in manufacturing

B.C.'s sustainably managed forest products underpin opportunities to capture an increased share in wood products manufacturing in many markets. Several global markets look particularly promising for B.C. wood species:

INDIA

Rapid urbanization and a growing middle class of consumers with westernized tastes in fashion and décor has led to an increasing demand for wood and wood products in India. The country's annual wood consumption is now more than 17 million m³ and growing, and this demand will not be met without significant imports. Traditionally a hardwood market, India is now facing sourcing challenges as log export restrictions and reduced harvest volumes take effect in Myanmar, Malaysia and other tropical countries forcing wood manufacturers to seek alternative sources of supply. As such, a shift has begun from hardwood to softwoods, and logs to imported lumber, particularly softwood lumber. This trend is creating opportunities to position B.C.'s wood species as alternatives to traditional hardwoods in the manufacturing of products such as doors, furniture and interior finishing.

CHINA

China manufactures a vast array of wood products for the export market. A Canada Wood study found that the furniture segment alone consumes some 36 million m³ of wood per year, one-third of which is softwood. After construction supports, wood use in furniture manufacturing is the second largest consuming segment in China and represents more than one-quarter of the imported softwood market. With growing requirements to show that raw materials are sustainably managed and legally harvested, B.C.'s environmental pedigree represents a competitive advantage. Other manufacturing segments such as doors, windows, interior finish and engineered beams also present opportunity.

SOUTHEAST ASIA

While not a significant market for B.C. forest products today, Southeast Asia holds potential for the future given its population of 500 million and growing manufacturing sector. Markets like Thailand and Indonesia hold promise for increasing domestic consumption of manufactured products, while markets such as Vietnam offer opportunities to increase domestic consumption of manufactured products. In the region, Vietnam provides the strongest near-term opportunity for B.C.

Vietnam is the largest Asian exporter of furniture after China. In 2016, Vietnam's export of manufactured wood products reached CDN \$8.4 billion and the increase in value-added wood products processing has now outpaced the growth of the domestic wood supply. The result is increasing reliance on imports to support further manufacturing growth—an estimated 4-5 million m³ per year to meet the country's 2020 export growth target for the furniture industry⁷.



⁷ VietnamNet Bridge. *Wooden Furniture Manufacturers Face Material Shortage*. VietNamNet Bridge. Wooden furniture manufacturers face material shortage. <http://english.vietnamnet.vn/fms/business/170803/wooden-furniture-manufacturers-face-material-shortage.html>



Rising global demand for fibre

Boosted by strong economic growth across most major economies, demand for fibre has risen to all-time highs. In the U.S., the demand for fibre is expected to outstrip supply as the recovery in housing continues, and as declining harvests in B.C., bottlenecks in the transportation system and increasingly severe wildfires more than offset new capacity in the southeast region. In China, the world's largest consumer of fibre, demand for wood to service both construction and the booming furniture segment is driving imports of logs and lumber to new highs. And in India, the globe's second most populous country, and home to a rapidly growing middle class, the demand for softwoods is accelerating as manufacturers looking to replace a dwindling supply of tropical hardwoods with imported softwoods.

Generating greater value from the resource—B.C.'s value-added industry

Maximizing the value of the forest resource means finding the highest end use for all parts of the product stream. Further manufacturing primary products into higher value-added outputs in secondary facilities is one avenue for adding value to the resource. Products manufactured by B.C.'s value-added companies include furniture, cabinets, millwork, log homes, heavy timbers, engineered products, doors, windows, and more.

A wide variety of cedar products are also considered value-added—siding, posts and beams, fascia, soffit, ornamental trim, decking, fencing, shakes and shingles, and others. While the total volume of value-added products is less than the production of primary lumber, the returns and employment generated make them a highly valued part of B.C.'s economy. Continuing to build production and marketing capacity in the value-added sector is therefore key to fully utilizing the forest resource and represents a significant opportunity for B.C. in advancing the forest sector.

B.C.'s value-added sector uses wood to create products both for use in B.C., as well as to supply export markets. Canada and the U.S. remain the most important markets for B.C.'s value-added and cedar products. The close proximity and transportation advantages, common language, easy access and similar business practices make these markets a key target for the small businesses that make up the majority of the sector. Currency exchange rates have also worked to increase opportunities for B.C. value-added producers in the U.S. market. Among offshore markets, Japan is the most important for B.C.'s value-added, with the European market of greatest importance to cedar producers. Use of wood for exterior structural use, as interior finish and for furniture and cabinetry is a valued tradition in Japan and opportunities for B.C. producers will continue to emerge.

As advanced, next generation systems are developed to allow construction of taller and larger buildings, capacity will need to be developed to produce the associated engineered wood products required. Many of these products will be custom designed and are well suited to companies in the B.C. value-added sector.

Mass timber and next generation building products and applications

The 21st century has ushered in a new era of advanced wood building practices, forest products and innovative systems and techniques. New developments in wood science and building technologies, coupled with evolving building codes, have opened a broad range of new uses and applications for wood in construction. As a renewable resource which stores carbon, wood can play a significant role in terms of providing a solution to reduce the environmental impact of urban densification. As wood products and construction systems continue to advance, new and innovative wood buildings are being developed around the world. Building taller and larger with wood is well underway with a wide array of completed contemporary structures in B.C. and across North America in the last ten years.

Mass timber construction uses large prefabricated wood members for wall, floor and roof construction. These products, which include glue-laminated timber (glulam), cross-laminated timber (CLT) and nail-laminated lumber (NLT), are diverse with proven performance and safety records. Together, they showcase the wide range and variety of opportunities with wood products.

Utilizing the high strength to weight ratio of wood, hybrid construction pairs mass timber with concrete and/or steel to create a cost-effective and sustainable building system. Advancements in hybrid building systems has enabled the design and construction of taller wood buildings including the 18-storey mass timber hybrid student residence building at the University of British Columbia, Brock Commons Tallwood House. Hybrid systems frequently require prefabricated elements to be manufactured off site. Prefabrication speeds up construction and allows for easy installation as the system arrives on site when needed during the construction phase. Mass timber products and associated prefabricated hybrid construction represent significant new opportunities for B.C.'s lumber producers, specialty manufacturers and design and construction communities.

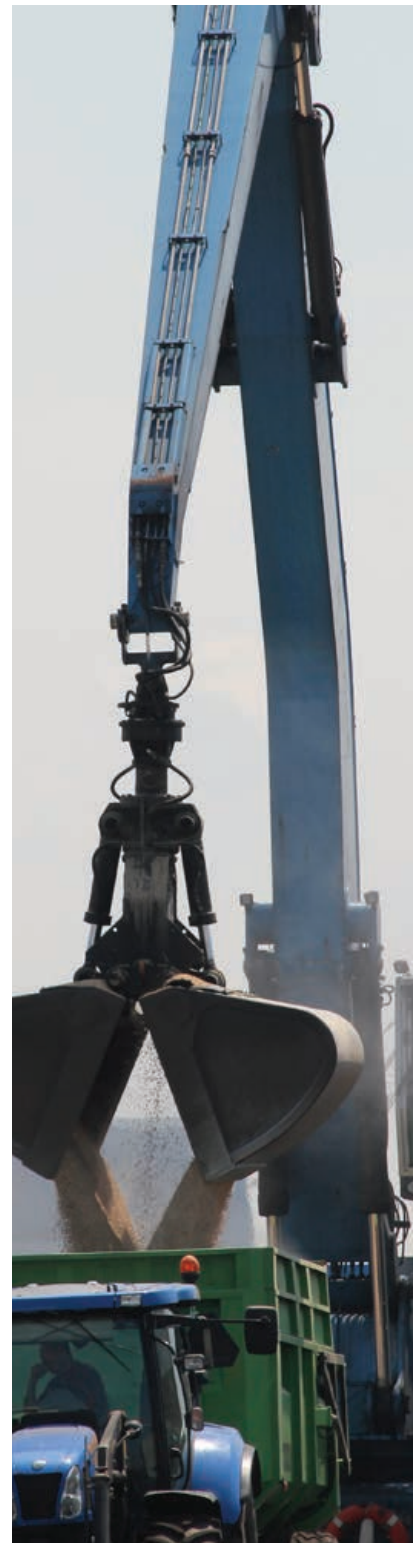
Building on B.C.'s capacity in architectural design, engineering and construction

British Columbia is at the forefront of developing and using new wood products and building systems. Local building codes now recognize wood's safety and structural performance by expanding its use in a wide range of building types. Over the past six years, construction and design professionals across the province have been building more with wood by taking advantage of modernization in the building code and the development of new wood and wood-based products and innovative building systems. Today, B.C. is home to a critical mass of unique expertise in mass timber design, engineering, optimization and building construction; capabilities that are having a global influence in the use of wood and wood-based systems in construction. Building on this capacity will be essential to achieving the full manufacturing and export potential represented by mass timber and next generation wood building products and systems.

Growing markets for wood-based energy products

In addition to recent advances in wood-based building products and systems, the forest industry is also on the cusp of a revolution in biotechnology that promises to change the economics of the sector. This is a future where wood fibre is converted into a wide range of products: electricity, fuels, replacements for plastics, solvents, lubricants, even food additives. National governments, chemical companies, food companies, the pharmaceutical industry and the petrochemical sector are among the many large players investing heavily in a global race to produce new and better products from biomass. High on the priority list are solutions to break dependency on fossil fuels. Biomass as a clean energy source is being pioneered in many jurisdictions, including Canada⁸.

⁸ Our Natural Advantage: Forest Sector Strategy for B.C. Ministry of Forests, Lands and Natural Resource Operations, April 2012.



In Canada, bioenergy accounts for 58 percent of the total energy used by the forest industry, with the pulp and paper sector meeting some 63 percent of its energy needs from forest biomass.



Some biomass opportunities, such as co-gen electricity production already operate commercially within the province. Others are in the demonstration phase. And still others, such as cellulose-based ethanol or chemical manufacturing remain at the laboratory stage. Industry's Bio-pathways initiative concluded that the growth potential and projected market size for emerging bio-products will be much greater than for all conventional forest products combined (e.g. lumber, panels, pulp, etc.). And while a lack of data makes it difficult to track the value of the bio-sector, mid-term estimates placed the global market potential for bio-products in the \$200 billion range⁹.

Today, the key commercial opportunity for energy products from the forest sector is in using forest by-products as renewable clean energy sources to replace fossil fuels. Bioenergy technologies from wood waste can produce heat, power or combined heat and power; process biomass into solid fuel; and refine biomass into liquid fuel.

Wood pellets in particular have become a valuable export product, with significant growth potential:

- Europe's 2020 Vision Plan, which includes ambitious renewable energy targets, has driven demand for wood pellets used for cogeneration in coal-fired plants as well as consumer demand in the residential home energy (home heating) market. B.C.'s exports of wood pellets to the E.U. exceeded \$254 million in 2017.
- South Korea's target of 30% reduction in greenhouse gas emissions by 2020 has generated a huge demand for renewable energy. In addition to other energy sources such as wind, solar and tidal, it is forecast that wood pellet demand will reach five million tonnes per year to meet the country's 2020 reduction goal, which will be primarily met by imported pellets.
- Japan currently accounts for only 11% of Canada's wood pellet exports; however, this still makes Canada, primarily B.C., the largest supplier of wood pellets to Japan. B.C.'s exports to Japan have increased from approximately 106 million kg in 2012 to over 245 million kg in 2017, a growth rate of over 130%. Adding to the potential for wood pellets in Japan, the Japanese government has announced that it will take steps to encourage an increase in renewable energy sources, notably biomass, to foster greater diversity in the renewable power sector.

While B.C.'s saleable bio-products are currently in wood pellets and biomass, less established bio-fuels like marine diesel and other emerging products are expected to reach pre-commercial or commercial stages in the near future.

Indigenous Peoples and forestry

Hundreds of communities across B.C. rely on the forest industry for their livelihoods; this includes many Indigenous communities which are now playing an increasing role in the sector. As the landscape surrounding Indigenous rights continues to evolve, the forest sector is responding with new approaches to forest management, land use and relationships with Indigenous Peoples. The increasing involvement of Indigenous Peoples in the forest sector offers new opportunities to expand economic development and employment in every region of the province and to broaden collaboration in advancing markets for B.C. forest products around the world.

⁹ VietnamNet Bridge. Wooden Furniture Manufacturers Face Material Shortage. VietNamNet Bridge. Wooden furniture manufacturers face material shortage. <http://english.vietnamnet.vn/fms/business/170803/wooden-furniture-manufacturers-face-material-shortage.html>

THREATS AND WEAKNESSES

Change in the global economy is giving rise to new opportunities for the B.C. forest sector; however, capitalizing on this potential will require addressing some significant challenges. Swings in the global rates of growth, problems associated with access to international markets, changes in markets due to demographics, political uncertainties in major markets, exchange rate fluctuations and increasing competition are among the factors external to B.C. that can impact success in global markets. There are also many issues internal to B.C., such as wildfires and the long-term impacts of the mountain pine beetle epidemic, which will impact mid-term fibre supply trends.

Economic factors

The B.C. forest sector's focus on exports strongly ties the sector to shifts in the global economy as well as to the economic health of individual markets and competitors.

- Forest product use tends to go up with economic growth, but can fall rapidly when growth stalls or collapses. In times of global economic turmoil, many markets can be affected at once.
- Markets also move independently; lower than expected growth in one market may negatively affect that country's demand.
- Changes in one currency relative to another can create unfavourable exchange rates for B.C. versus competitors (e.g., the collapse in the value of the Russian Ruble significantly increased the cost-competitiveness of Russia's wood exports to China vis à vis Canadian exports).

Free and fair access to trade

Free and fair access to world markets is critical for all B.C. forest products. Work to mitigate the negative effects of tariff and non-tariff barriers for B.C. products continues to be necessary in numerous countries. Nowhere is this more evident than in the U.S., where protectionist sentiment is rising and where Canada's softwood lumber exports once again face a punitive tariff regime. Other restrictions that inhibit B.C. exports include:

- Higher tariffs charged on imported lumber versus logs or paper versus pulp in some countries.
- Promotion of domestic forests and forest products manufacturing for economic development purposes. This is a strategy employed in many countries. While trade agreements can limit preferential national policies and tariff structures, there are several different ways countries and regions encourage use of domestic forest products at the expense of imports. In some cases, countries establish regulatory systems to promote use of local forest products over imported products, thereby ensuring local employment. In other cases, countries encourage expansion of traditional forest products uses to new applications in hopes that the total market size will grow and that domestic industries will benefit.
- Requirements for labelling or certification beyond international standards, creating conditions that B.C. producers cannot easily meet and thereby restricting access.

Trade barriers can create harms in both direct (the intended effect) and indirect (unintended collateral harm) ways. For example, current trade disputes between the U.S. and China have the potential to reduce container traffic inbound to North America, thereby decreasing availability of outbound containers, the sector's preferred method of moving product to the U.S.



KEY CHALLENGES

- Economic factors
- Free and fair access to trade
- Increased competition
- Lack of knowledge
- Internal logistics and shipping costs
- Shift in manufacturing to lower-cost jurisdictions



Increased competition

Competition for consumer dollars in international markets is intense. Competition can come from:

- Suppliers of similar primary products based in other countries and operating from positions of cost or logistics advantages (e.g. Russian pine lumber into neighbouring China)
- Manufacturers of value-added and specialty products from low-cost jurisdictions such as China and Southeast Asia
- Non-wood products competing with wood, including steel, concrete building materials, wood cement siding, plastic wood decking, vinyl and PVC ornamental trim

In addition, many competitors are able to take advantage of success factors not available to B.C. manufacturers—low-cost labour; fast-growing plantation species; knot-free fibre; and high promotional budgets supported by other business segments.

Lack of knowledge

While many countries are interested in using wood in applications such as construction and manufacturing, or as an energy and fuel source (pellets and bio-fuels), there is limited knowledge in some regions about the attributes of wood and wood building systems generally, and of B.C. species and product capabilities in particular. For example:

- The advantages wood can provide in terms of sustainability, green building, seismic stability, carbon storage, etc. are not well understood by audiences in markets such as Asia where B.C. softwoods are not traditional.
- Many non-North American markets have typically used Russian, Chilean, or New Zealand softwoods, tropical logs, or domestic fibre of various species. In many cases there is limited understanding of B.C. softwoods and their characteristics, particularly for use in manufacturing.
- While the North American construction industry has extensive experience and technical capacity to use wood in residential housing, the same cannot be said about the use of wood in mid-rise and taller buildings.
- Similarly, many international markets, while showing promise for the use of wood in building construction, lack the critical mass of knowledgeable design and construction expertise and the regulatory and building code frameworks to fully enable wood construction. For instance, the lack of industry professionals, design experts, trades and ancillary services contractors has been recognized as a challenge in introducing a new building system to any country where modern wood construction is not common.

Internal logistics and shipping costs

Proximity to markets has been a key comparative advantage for B.C. forest products exports to the U.S. and to markets in east Asia. B.C., and other Canadian provinces are the closest international suppliers to virtually all markets in the U.S.; however, increasing logistics bottlenecks in road and rail networks have constrained the ability of B.C. manufacturers to get their products to the U.S. B.C. producers shipping west to east Asia typically benefit from ready ocean access and relatively inexpensive shipping rates. For other global markets such as India and the Middle East, shipping costs and logistics are a distinct competitive disadvantage vis a vis competitors located closer to market.

Shift in product manufacturing to lower-cost locations

The drive to be competitive is encouraging manufacturing companies to seek lower costs wherever possible. Over the past two decades, wood products manufacturing found a home in China due, in part, to low labour costs and access to major ports for receiving materials and shipping product. In recent years, labour costs have been steadily rising in China, with the highest increases being seen in the coastal region of the country. These increases have been influencing, and will continue to affect, facility location decisions for wood products manufacturing. Some companies have moved production inland as well as into Southeast Asian countries, such as Vietnam. These trends will continue as global manufacturers seek out best value solutions.

Domestic factors

Strong global demand for lumber and record high prices in North America have allowed the B.C. forest sector to weather the imposition of new import duties and tariffs by the U.S. following expiry of the Canada-U.S. Softwood Lumber Agreement in 2017. While current demand conditions are favourable, B.C. has faced significant challenges across the past decade in the interior with the mountain pine beetle, and on the coast with supply reductions and mill closures. Severe wildfires have also added to the sector's supply challenges. These issues underscore that the competitiveness of the B.C. forest sector is no longer assured by the natural abundance of the forest resource as it has been in the past. Maintaining and increasing competitiveness is critical to ensuring a long-term supply role for B.C. in the global economy. Addressing core competitiveness issues lies beyond the scope of FII's mandate; however, several of these issues have the potential to significantly impact the ability of the forest sector to capitalize on the market opportunities identified in this Plan, or may cause industry to modify their market development priorities over time.

Among the most significant challenges to the long-term competitiveness of the sector are fibre supply constraints, primarily driven by the mountain pine beetle epidemic and now exacerbated by other natural disruptions, specifically the growing intensity of wildfires. While the beetle epidemic peaked in 2004 and has rapidly declined since then—by 2021, the outbreak will essentially have run its course—it is estimated that more than 18.5 million hectares of B.C.'s interior forests are affected to some degree. As the beetle-affected timber no longer becomes salvageable, the province's overall supply of mature timber in the interior has begun to decrease when compared to harvest levels prior to the epidemic. In addition, the log quality and recovery in the B.C. Interior has also changed, affecting both the nature and volume of products manufactured. While a combination of the mountain pine beetle epidemic and wildfires impacts supply conditions in the interior, other fibre challenges can be anticipated on the B.C. Coast as the industry shifts to harvesting second growth forests which hold trees of smaller diameters and less clear fibre than older growth stands.

In addition to fibre constraints, a number of other domestic factors also have the potential to create changes within the forest industry over the term of this Plan, driving the need for companies to achieve greater margins from their operations. Among these factors are potentially rising costs of harvest, longer distances for transportation from harvest site to the mill, weaker long-term demand in the pulp and paper segments, and a growing shortage of skilled labour as the B.C. workforce ages and other sectors compete for personnel. While these issues are beyond the scope of FII's specific market development mandate, they may result in the need to modify the Strategic Plan over time.



GUIDING PRINCIPLES

- Customers need to understand that B.C. is a sustainable and reliable supplier
- The environmental advantages of wood should be clear
- Markets must be accessible
- No single market is best
- Investments and knowledge need to be leveraged
- Value and margin must be maximized
- New technologies and applications will be required
- Leadership at home is essential



GUIDING PRINCIPLES

The preceding sections described the major trends influencing the global market for forest products, the opportunities arising from these shifts, and the major challenges that could impede the forest sector in benefiting from new opportunities. The scan suggests that change will be a constant state for the forest sector. With both wood and non-wood competitors rapidly adapting to shifts in market conditions, it is clear that a status quo approach will not allow B.C.'s manufacturers to maintain and/or improve their competitive position. Equally clear is that sustaining a forest industry that delivers a consistent level of benefits to the provincial economy will require attention to both competitive challenges and evolving market needs.

Drawing from 15 years of experience developing and delivering market development programs in support of the B.C. forest sector, and reflecting the situation analysis summarized in the preceding sections, FII has established eight principles to guide market development efforts in the sector. These guiding principles provide the foundation for FII's strategy to address opportunities and challenges facing the B.C. forest sector. Detailing this strategy will be the focus of the final section of the Plan.

Customers need to understand that B.C. is a sustainable and reliable supplier

While forest industry associations and companies promote the benefits of their specific product lines, there is an ongoing need to position the B.C. forestry sector and its competitive advantages in the global marketplace. It is critical that customers of B.C. forest products have access to factual, consistent and credible information regarding the province's forest management practices, the environmental benefits of using wood products, and the range of wood products and construction technologies that are available from B.C. As such, there is tremendous and ongoing value in government, industry, research institutions, Indigenous Peoples and communities across the province working together to increase international knowledge about the environmental attributes of wood, B.C. species and product capabilities and about B.C.'s sustainable forests and forest management practices. There is also a need to inform on the benefits of established and next generation wood building systems.

The environmental advantages of wood should be clear

Never have environmental practices been more important to consumers than they are today. For B.C. to capitalize on opportunities to expand into new markets and into new, higher value segments within existing markets, the forest industry in the province needs to be seen as a global supplier of quality, environmentally responsible products from sustainably managed forests. This means that customers require enough information both on the value of wood, and wood from B.C., to feel confident in choosing forest products from B.C. For this to happen:

- B.C. needs to provide factual, consistent information citing research from third-party experts on topics including certification, sustainable forest management, legal logging, as well as wood's green building, low-carbon and clean energy attributes.
- The value and benefits of B.C. species and their uses, either in manufactured products, as building system components, or as energy sources, needs to be conveyed to key decision makers.

No single market is best

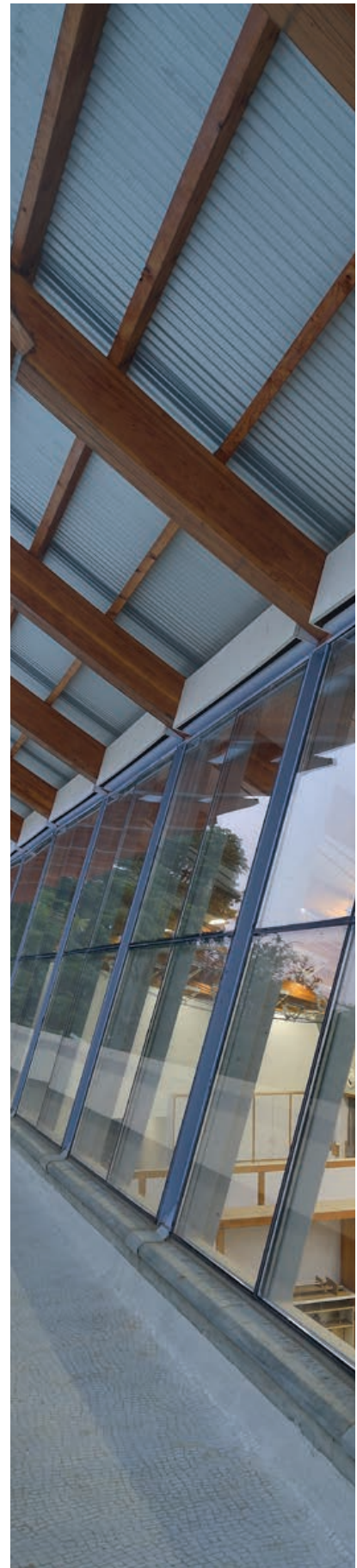
Normal market cycles, currency fluctuations and a host of other potential market challenges mean no single market is guaranteed to be superior over the long term. Diversifying within and between markets to maximize benefits and spread risk provides the best protection for the forest industry.

- Moving up the value chain by encouraging emerging uses in higher value applications is seen as the best way to insulate product sales from lower-cost competition.
- Diversifying between markets is the best antidote to country specific economic problems. For example, the success in building and sustaining opportunities in Asia has helped diversify sales and lessen the forest sector's overall dependence on the U.S., providing a buffer for forest products employment in years where the U.S. market cycles downwards, or when protectionist sentiments thicken the border.
- Maintaining a full basket of opportunities, and having a variety of products in the market, offers protection from market fluctuations and competitive challenges that may impact some segments more than others.
- Exploring complimentary and/or companion programs among markets can help maximize the value of the product matrix.

Investments and knowledge need to be leveraged

The size and scale of programming required to influence the world's largest markets must be significant. Working with partners to leverage knowledge and financial assets provides for a much larger resource pool than could be managed alone.

- Markets for B.C. wood products were opened in Asia (China, Japan and Korea) through the collective efforts of the B.C. government, the federal government and industry. This pooling of skills and financial resources allowed for delivery of a program of far greater scope than anything that industry or the provincial government could have managed alone.
- International trade agreements are the responsibility of senior governments; however, B.C. has a large stake in the outcome where they affect forest products. Working in partnership with provincial government agencies, embassy staff, industry representatives, and Canadian government departments has been the road to concluding numerous agreements eliminating or reducing tariffs and non-tariff barriers on forest products. These efforts need to continue to ensure B.C. companies can access market opportunities.
- International market development programs will be affected by market fluctuations. Collective efforts and pooled resources have allowed market development programs to weather substantial market disruptions, including the global financial crisis of 2008/09, that collapsed the efforts of competing jurisdictions.
- The development of advanced, next generation wood technologies and building systems fosters innovation and growth in value-added manufacturing, which supports the forest sector by creating and sustaining jobs. B.C.'s research and technical institutions play a key role in developing new products and systems and transferring this knowledge to industry. Leveraging this expertise is critical to the long-term competitiveness of the sector.





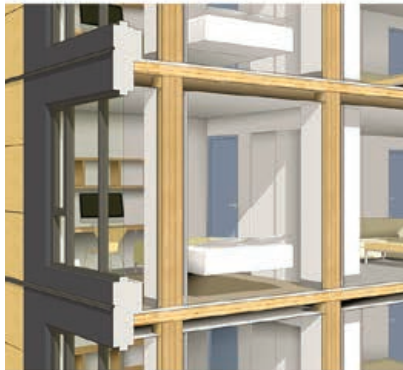
Value and margin must be maximized

Shift up the value chain

There will be long-term fibre constraints and changes in product profiles in B.C. Therefore, pursuit of higher value markets must be the focus for the future. Increasing the value from the resource will require moving up the value chain and shifting from the earlier emphasis on expanding volumes to an emphasis on value. Moving up the value chain within a market by encouraging uses in higher value applications is also seen as the best way to insulate product sales from lower-cost competition.

Increase capacity in the value-added sector

B.C.'s value-added industry provides significant employment and offers a diverse product range that is well suited for moving up the value chain (refer to Opportunities, above). However, many value-added companies are small with limited internal resources; assistance will be required to help these firms expand manufacturing capacity, increase capabilities to meet changing technical and product development requirements, and to find and access new markets in B.C., the rest of Canada and abroad. Efforts should focus on aligning new and/or expanded value-added production with both domestic and export demand to help ensure that there is sufficient demand to support a growing and vibrant value-added manufacturing sector here in B.C.



CHARTING THE COURSE

GOALS, STRATEGIC PRIORITIES AND ACTIONS —THE FII PLAN

The nature of programs that FII develops and delivers is a function of dynamics in global markets, the evolving needs of industry, the structure of the sector in B.C. and the priorities of Government. This section of the Strategic Plan outlines FII’s response to the analysis of opportunities and challenges presented as well as to the specific priorities set out for the sector by the Government of B.C. The goals, strategic priorities and actions detailed in this section will guide the development and delivery of FII’s program activities for the five-year period from 2018/19 through 2022/23. The objective of the Plan is to ensure that the B.C. forest sector continues to be a global leader in market development and innovation, and that the economic benefits generated from the forest resource are maximized.

Over the term of this Strategic Plan, FII programs will continue to focus investments on innovation and market development to strengthen the position of the forest sector in both its conventional product and market mix and in areas of new opportunity. By responding to evolving market trends and issues, identifying new opportunities, and addressing challenges as they arise, FII and its program partners will work to support the sector in generating new wealth, more skilled jobs and greater stability for communities throughout B.C. Through its investments, FII will encourage industry efforts to move up the value chain thereby creating higher margin products and services that are harder for competitors to replicate, paving the way for product differentiation and niche strategies.

Across the period of this Plan, FII programming will evolve with markets to reflect emerging opportunities for conventional products, advanced next generation engineered materials and building systems, and where appropriate, non-conventional, next generation bio-products.

THE FII ACTION PLAN





PROMOTING THE MERITS OF WOOD AND B.C. FORESTS

Goal 1

FII works to expand 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. These activities create a solid foundation for answering the questions, “Why wood?” and “Why wood from B.C.?” This dual positioning will help strengthen awareness of, and interest in, B.C. forest products in major markets and, in turn, support greater market share, premium positioning, and easier access to new markets.

FII’s programming focuses on taking advantage of two significant trends in the marketplace—the emerging recognition of wood products as renewable and sustainable, and increasing demands from consumers for forest products that are produced in an environmentally responsible manner. Recognizing that customers are factoring environmental parameters into purchasing decisions, FII will articulate the benefits of wood as a sustainable, renewable building material that can help tackle climate change; its advantages in creating a significantly smaller environmental footprint than other building materials; and the fact that wood and pulp and paper products from B.C. are manufactured by an industry that has made impressive gains in reducing its environmental footprint.

Through the collective efforts of government and the forest sector, B.C. has developed a reputation as a global leader in sustainable forest management and a reliable supplier of forest products. Maintaining this position requires ongoing efforts to ensure recognition in existing and new markets and to respond effectively to environmental and policy developments. While industry associations and companies promote their specific sectors and products, there is a need for communications that position the B.C. forestry sector, B.C. building innovations, and its competitive advantages as a whole.

FII’s efforts in this area are developed and delivered through the Market Outreach program (B.C.’s naturally:wood brand) which provides audiences with factual, consistent and credible information about the environmental parameters of B.C.’s forest products and the forest practices that underlie their production.

Specifically, the Market Outreach program:

- Provides information regarding B.C. forest practices and products to architects, engineers, developers and builders, foreign government regulators, importers, and to a limited extent, consumers
- Champions science- and fact-based approaches to document B.C.’s forest practices, and the merits of wood-based construction technologies in the context of mitigating climate change and adopting green building standards
- Collaborates with forest sector stakeholders to encourage consistent and compelling messages about product and building innovations and reducing environmental impacts
- Monitors and advocates for codes, standards and policies that recognize the merits of wood and B.C. forest products

An independent Market Acceptance Advisory Committee provides strategic guidance on program implementation priorities. In addition, FII draws on new and existing research, as well as coordinates delivery of program activities and initiatives with key industry stakeholders.

GOAL 1

Forest products are viewed as an environmentally friendly, preferred material, and B.C. is viewed as a reliable global supplier of quality products from sustainably managed forests

OBJECTIVES	KEY STRATEGIES
SUPPORT INTERNATIONAL MARKET ACCEPTANCE International regulators recognize B.C./Canadian forest management practices, products and building systems as it relates to forest management, social, carbon and environmental responsibility policies.	<ul style="list-style-type: none"> • Work with provincial and federal governments as well as industry partners to ensure market access for B.C. forest products to priority markets • Encourage recognition of all credible third-party forest and product certifications in Canada and elsewhere, and support environmental impact and carbon labelling standards that do not discriminate against wood products • Assess research needs and develop materials to position how wood meets the latest code and building rating system changes such as energy efficiency, carbon or other policies addressing the environmental impact of the building sector
GROW THE DEMAND FOR WOOD Architects, engineers and builders recognize wood as a preferred building material and understand its benefits to mitigate climate change and achieve green building objectives.	<ul style="list-style-type: none"> • Focus on advancing wood use in mid-rise and taller residential and non-residential sectors across local, national and international markets • Coordinate with the B.C. forest industry associations and government to educate B.C. specifier and procurement audiences on wood from B.C.'s sustainably managed forests, leveraging B.C. buildings and highlighting what is possible with innovative wood products and building technologies • Align the naturally:wood and THINK WOOD message platform with government and industry programs targeting architects, engineers and other key specifiers
POSITION B.C. FORESTS AND PRODUCTS B.C. is globally recognized as a leader in sustainable forest practices, and is a preferred supplier of forest products and innovative building solutions.	<ul style="list-style-type: none"> • Promote the variety and quality of forest products produced from B.C.'s sustainably managed forests • Provide timely, factual and scientific information regarding B.C. forest practices, products and building systems to key stakeholders • Leverage and showcase British Columbia's leadership in innovative products and advanced building systems technology to advance commercial opportunities in other markets in local and key export markets

STRATEGIC GOAL INDICATORS

Percent of customers who feel that forest products from B.C. are a good choice for the environment.

Number of prospects connecting with B.C. manufacturers from the naturallywood.com Supplier Directory, an online platform developed by FII.



EXPANDING GLOBAL MARKETS

Goal 2

With a goal of expanding global markets, FII's programs assist the B.C. forest industry to develop and diversify markets, with a particular focus on Asia. These efforts build on the science and reputational basis developed under Strategic Goal 1. They include pursuing opportunities outside the province that generate demand for B.C. forest products, further diversifying and strengthening the B.C. economy. Of primary focus is creating or expanding new market segments within established markets in the U.S., China, Japan and South Korea, as well as moving aggressively to open new, high-potential markets in India and Southeast Asia.

Expanding B.C.'s trade with fast-growing Asian markets is helping to diversify the sector, open up new opportunities, and sustain forest sector employment. However, recognizing the long-standing importance of the North American market, FII will continue investing in high-potential market segments in Canada and the U.S. to grow the demand for wood products closer to home.

Strategies to expand global markets include both primary and secondary manufacturing sectors, and a mix of activities delivered by third parties and by FII. In developing and delivering its programs, FII will collaborate with industry trade associations, the federal government, research institutions and other funding bodies to leverage its investments for the greatest potential return for B.C. Working with these organizations, FII's objective will be to strengthen demand for B.C. forest products and expand potential end-use applications. In pursuing this objective, FII will also work closely with ministries and agencies of the Government of B.C. and the offices of the Government of Canada abroad to share resources, ensure coordination of efforts and to maximize the effectiveness of program delivery.

FII will continue to dedicate a portion of its budget to lead market research to evaluate high-potential, emerging opportunities for the forest sector. FII may also initiate early market development activities where opportunities to introduce B.C. forest products in a region look particularly promising, but where barriers to individual company sales efforts remain high.

FII's activities recognize the progress made in diversifying B.C. exports away from historically heavy dependence on the single-family home segment in the U.S. They also recognize the vital importance of supporting B.C.'s innovative secondary manufacturing sector in pursuing markets outside of B.C. Over the period of this Plan, FII's efforts will help maintain B.C.'s existing markets while further cultivating future high-potential markets for B.C. forest products.

GOAL 2

Optimize value for B.C.'s forest products in traditional and emerging markets

OBJECTIVES	KEY STRATEGIES
<p>EXPAND KEY ASIAN MARKETS Market opportunities are expanded in key Asian markets, with an emphasis on China, Japan and South Korea.</p>	<ul style="list-style-type: none"> In China, establish wood construction as a commercially viable building system by: <ul style="list-style-type: none"> Providing financial support for industry-led market development programs in residential, non-residential and tourism segments Providing in-market government-to-government liaison on behalf of industry Developing links with Chinese government policies on green building, energy efficiency and carbon reduction Supporting B.C. government trade missions and relationship building in China In China, co-fund industry association efforts to position B.C. species in China's manufacturing sector In Japan, co-fund industry association market development programs to maintain market share in residential construction while increasing demand in non-residential and commercial sectors In South Korea, co-fund industry association market development programs to increase demand in residential construction, including multi-family housing In China, Korea and Japan, co-fund industry association programming to increase demand for B.C. value-added products In locations where there is a higher risk and/or where awareness of B.C. forest products is very low, deliver early stage market development and market access support Where risk is higher and/or awareness of B.C. forest products is very low, encourage a collaborative approach to international market development activities, while aligning efforts and strategies with B.C. government agencies, Global Affairs Canada, and other organizations
<p>OPEN EMERGING MARKETS Opportunities for B.C. forest products are developed in emerging markets with an emphasis on India and Southeast Asia.</p>	<ul style="list-style-type: none"> Research emerging markets and global trends to identify the best opportunities for B.C. forest products Develop market-specific strategies to focus investments and activities Target manufacturers in India through: <ul style="list-style-type: none"> Outreach and educational efforts to increase awareness of B.C. species Product trials and demonstration projects to encourage commercial interest Support for trade missions and export initiatives of the B.C. and Canadian governments Advance efforts in Southeast Asia through: <ul style="list-style-type: none"> Research into market opportunities and competition Comprehensive market entry strategies Co-fund Canada Wood Group market development programming to increase demand for B.C. species

GOAL 2 (Continued)

OBJECTIVES	KEY STRATEGIES
GROW TRADITIONAL MARKETS Wood use is expanded in North America's multi-family and commercial segments.	<ul style="list-style-type: none"> Expand wood use in the non-residential construction market, through: <ul style="list-style-type: none"> Encouraging technology transfer to design and construction professionals in selected regions Investing in training and technical support to foster successful introduction of wood construction technology in non-traditional segments Collaborating with industry and other government partners to support projects that raise awareness of wood building systems and construction technology in non-residential applications Increase wood use in mid-rise and taller wood construction, through: <ul style="list-style-type: none"> Advancing wood's acceptance in codes and standards Encouraging technology transfer to design and construction professionals Profiling and encouraging early adopters Share the cost of programs to increase demand in North America for B.C.'s value-added and western red cedar products
ENSURE MARKET ACCESS Entry barriers to B.C. forest products, including phytosanitary and product-specific regulations, are adequately addressed.	<ul style="list-style-type: none"> Monitor market access issues in key markets to identify barriers and potential risks Support industry engagement to address specific non-tariff barriers Engage with foreign government agencies to address building and fire code, phytosanitary or other market access issues

STRATEGIC GOAL INDICATORS

Average value (CAD millions) per cubic metre generated by softwood lumber sales to Asia

Competed product trials of B.C. species undertaken in India

Total sales (USD, millions) of wood attributable to directly influenced and converted projects—U.S. non-residential and multi-storey/multi-family residential construction markets

DEMONSTRATING LEADERSHIP IN WOOD USE

Goal 3

B.C. is home to one of the world's most sustainable and globally competitive forest sectors and is known for its innovative wood products and strong support for showcasing engineered wood and next generation lumber, mass timber and hybrid building systems. For B.C.'s forest sector and wood products to succeed in the global economy, we need to maximize the value of our forest resource, hone our existing competitive advantages, meet emerging opportunities through continued innovation, and establish credibility by showcasing innovative and safe use of wood at home.

By growing opportunities for our engineered wood sector involving next generation lumber and mass timber products and building systems, British Columbians can get more economic, social and environmental value from our forest resource, ensuring B.C. forest products contribute to shared prosperity for people across British Columbia. These focused efforts on advancing B.C.'s engineered wood products also support government priorities for climate action, innovation, and housing affordability.

Initiatives are based on the realization that long-term sustainability of the forest economy includes actively maintaining, creating and diversifying demand for B.C. forest products. FII will position B.C. for success by expanding and advancing opportunity across the product value chain, from lumber suppliers and engineered wood manufacturers to skilled labour, engineers, designers and architects. By introducing new and advanced wood technologies and building systems here in B.C., wood is positioned as a preferred building material, and B.C. as a leader in wood innovation. With this positioning established in the domestic market, B.C.'s forest products can be more effectively marketed abroad for construction, interior design and daily living.

By demonstrating leadership in wood use and innovation here in B.C., FII supports the Government of B.C.'s objective to strengthen a sustainable, resilient and forward-looking economy that delivers more value to families across B.C., advances linkages between rural and urban communities, helps meet climate targets, and positions B.C. in a competitive global marketplace.

Strategies to achieve these objectives are delivered primarily through FII's Wood First program. Specifically, the program:

- Advances innovation through research, product and systems development
- Reduces barriers to wood use, including performance misperceptions around fire, moisture and durability
- Educates professionals on opportunities to utilize and innovate with wood, including costing, speed of construction and environmental values
- Promotes B.C.'s wood species, wood products and the benefits of building with wood
- Advances the competitiveness of B.C.'s value-added wood sector by addressing immediate and mid-term supply chain challenges and opportunities

An independent Wood First Advisory Committee provides strategic guidance on program implementation priorities. In addition, FII draws on existing research and service delivery organizations, promoting integrated planning and coordinated delivery of program activities and initiatives.



GOAL 3

British Columbia is a leader in advancing innovative forest products and building systems

OBJECTIVES	KEY STRATEGIES
<p>BUILD A WOOD CULTURE IN B.C. British Columbians involved in specifying building, finishing and furnishing materials choose wood over other options, in all appropriate parts of design, construction, and finishing. British Columbians take pride in producing high quality wood products from sustainably managed forests.</p>	<ul style="list-style-type: none"> Promote the advantages of wood with architect, engineers, builders and educators Facilitate skills development and outreach to the architecture, engineering and builder communities and educators to expand wood use Support demonstration projects that showcase wood construction and/or new products and building systems
<p>SUPPORT INNOVATION B.C. has the capability to produce new and innovative next generation wood-based products and building systems that create and respond to market demand.</p>	<ul style="list-style-type: none"> Support research and development of new building systems and related products Provide technical and product development support to value-added producers to enhance innovation and competitiveness
<p>ACCELERATE ADOPTION Architects, engineers, designers, developers, and builders specify more wood because they have the skills, ability, and confidence to choose wood products and building systems over alternatives.</p>	<ul style="list-style-type: none"> Facilitate collaboration between manufacturers, architects, engineers and builders to broaden market penetration of wood products and building systems Develop and present the business case for wood structures in non-residential and higher multi-storey applications to establish wood building systems as a viable alternative to traditional building technologies Provide technical support on wood building systems and design options for public and private projects Increase the capability of the construction sector to build with wood by enhancing the technical skills of contractors and developers to utilize wood products and systems
<p>POSITION B.C. AS A LEADER IN THE USE OF WOOD Position B.C. as a world leader in sustainable and innovative wood-based products and building systems in design, production, and application.</p>	<ul style="list-style-type: none"> Raise awareness of B.C.'s leadership on advancing wood use in B.C. Leverage public and private projects to showcase wood construction Capitalize on B.C.'s leadership to help inform and advance international market diversification efforts

STRATEGIC GOAL INDICATORS

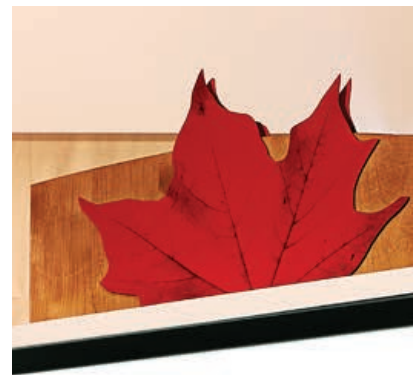
Total sales (CAD, millions) of wood attributable to directly influenced and converted projects—B.C.'s non-residential and multi-storey/multi-family residential construction market.

MAXIMIZING EFFECTIVENESS

Goal 4

FII is committed to sound business practices incorporating robust financial controls, and a performance management framework, including monitoring, audit and evaluation, built on long-term market development principles and a comprehensive risk-assessment strategy. These approaches reflect government policies and best practices and are consistent with direction as articulated in FII's current Mandate Letter from the Minister of Jobs, Trade and Technology. FII is also committed to a path of environmental sustainability and minimizing its environmental footprint, in order to protect the natural environment and the B.C. economy for future generations.

FII will continue to place significant emphasis on delivering its primary programs and services in collaboration with the forest industry, the federal government, the research community and other provincial agencies. The objective is to leverage the expertise and financial resources of key players across the Canadian and international forest sectors and to create critical mass in the development and delivery of strategic and focused market development programming.



GOAL 4

FII is a highly effective, innovative and proactive organization

OBJECTIVES	KEY STRATEGIES
CONTINUAL IMPROVEMENT Funding programs are operated in an efficient and effective manner.	<p>Review programs regularly to ensure realistic timelines, clear direction and appropriate support is provided from funding application through program delivery and reporting.</p> <ul style="list-style-type: none"> • Update investment strategies annually, based on input from industry and federal government stakeholders, and communicate the results broadly to potential applicants • Align funding with relevant federal and industry programming to maximize the effectiveness of joint market development initiatives • Ensure annual funding proposals are evaluated and applicants notified of decisions by April 1 each year
MEET AND EXCEED GOVERNMENT EXPECTATIONS FII operations are fully consistent with the Government's commitment to efficiency, accountability and integrity.	<ul style="list-style-type: none"> • Maintain a rigorous program of monitoring, audit and evaluation of investments according to explicit risk assessments • Maintain a rigorous and transparent performance management system that incorporates stakeholder input • Attract and retain expert staff who are dedicated to the organization's success and committed to continuous improvement • Operate subsidiaries in China and India according to Government's stated priorities and FII operating policies, and in compliance with local laws and regulations • Maintain strategic engagement with the Ministry of Jobs, Trade and Technology, focused on performance against the Government's direction to FII
MAXIMIZING EFFICIENCIES Collaborative arrangements maximize efficiencies by leveraging the resources and expertise of partner organizations in industry and government.	<p>Leverage federal government and other funding to maximize impact of FII investments in market development activities.</p> <ul style="list-style-type: none"> • Focus investments in partner organizations on programs that have the potential to maintain or create demand for B.C. forest products in established and emerging markets and market segments • Track progress of market development programs, identify best practice models and apply lessons learned to improve the effectiveness of jointly delivered programs

GOAL 4

FII is a highly effective, innovative and proactive organization

OBJECTIVES	KEY STRATEGIES
MAXIMIZING RETURN ON INVESTMENTS FII Incorporates external advice into priority-setting and program design to generate improved outcomes for stakeholders and a better return for taxpayer investments in FII programs.	Maintain external advisory committees covering market development, Wood First, and market acceptance. <ul style="list-style-type: none"> • Work with advisory committees, industry associations, individual companies and research institutions to review priorities and strategies to ensure that programs and services stimulate innovation in products and markets and are delivered in an effective and cost-efficient manner • Collaborate with industry, federal government and other stakeholders to research and develop strategies that support long-term market development
MAINTAINING SOCIAL RESPONSIBILITY FII is managed in a socially responsible manner.	<ul style="list-style-type: none"> • Implement carbon-neutral program to achieve targets established by the Government of B.C. • Promote environmentally responsible business activities through staff and supplier training and engagement

STRATEGIC GOAL INDICATORS

Other organizations' aggregate contribution to recipient funding program.

Select Photo Captions:

Front Cover - Brock Commons Tallwood House at the University of British Columbia
 Page 8 - Yuriage Public Market Demonstration Project, Yuriage, Japan
 Page 14 - Xuhui re-roofing demonstration project, Shanghai, China
 Page 18 - Sail mid-rise residential building, University of B.C.
 Page 19 - Gibsons RCMP Detachment, Gibsons, B.C.
 Page 20 - Vancouver Pavilion, EXPO 2010, Shanghai China
 Page 22 - Canada Wood Pavilion, Japan Home Show, Tokyo, Japan
 Page 23 - Crescent Terminus five-storey multi-family project, Atlanta, Georgia
 Page 24 - Dujianyan Primary School demonstration project, Sichuan, China
 Page 26 - CLT panels under production at Structurlam, Okanagan Falls, B.C.
 Page 28 - Wood Innovation and Design Centre, Prince George, B.C.
 Page 31 - CEPT University demonstration project, Ahmedabad, India
 Page 32 - Brock Commons 18-storey student residence, University of B.C.—Architect's rendering
 Page 33 - BC Hydro Operations Building, Port Alberni, B.C.
 Page 39 - MEC head office, Vancouver, B.C.
 Page 41 - Canadian Wood Pavilion at Delhiwood, 2015. New Delhi, India

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