

BRITISH COLUMBIA CANADA



INNOVATIVE

SUSTAINABLE



FORESTRY PRODUCTS + INNOVATION



www.BritishColumbia.ca



Front cover photo (top right): naturallywood



BRITISH COLUMBIA, CANADA: GROWING FOREST PRODUCTS FOR THE WORLD

Explore British Columbia's forestry sector.

British Columbia's forest products attract investors and buyers from around the world, drawn by high quality wood products, leading-edge innovation, a diverse forest resource with 55 million hectares of forested land, and an advantageous shipping location.

Our forests supply top-quality products worldwide, including pulp, wood pellets, biofuels, lumber and value-added wood products. Our industry specialists have well-recognized expertise ranging from green building design and construction to forests and wood sector management.

British Columbia has a worldwide reputation for sustainable forest practices and has more forests certified environmentally sustainable than any comparable jurisdiction in the world.

With leading market shares in the United States, China, Japan and South Korea, British Columbia is one of the world's largest exporters of wood products. Our forest industry offers attractive investment opportunities in every area of forestry operations.





Grow your business in British Columbia's forest industry

Top reasons why forestry companies choose to invest in British Columbia:

Building “green” — British Columbia wood comes from sustainably managed forests. Our industry is constantly developing innovative new products and services for the green construction industry.

High environmental standards — Our strictly monitored and regulated forests offer a major competitive advantage in markets such as the European Union and the United States. Buyers in these areas often require proof that forest products come from regulated, sustainable harvesting.

Global access — We are located on Canada's Pacific coast, with easy access to key markets in Asia, Europe and North America. Our forest industry is fully integrated with extensive port, rail and road transportation systems.

Positive business climate — We create a competitive business environment with our focus on low taxes, streamlined regulations and industry incentives.

Research and development — Our research, technology and innovation initiatives are unlocking the potential of forest products previously considered unusable. For example, logging residues and timber killed by insects are made into pellets for green power generation and heating. Similarly, thin strands of wood glued under pressure can form engineered lumber and

panels with great strength, dimensional stability and rigidity.

Clean, low-cost energy — We offer clean, reliable hydroelectricity at some of the lowest rates in North America, reducing the cost of forestry operations.

Innovation in new products — Our centres of excellence conduct research and develop advanced technologies to expand the range of wood products and the efficient use of wood. These include engineered wood products, new building systems, biochemicals and bioenergy alternatives. Our bioenergy industry is turning forest residues into clean power.

Forest tenure system — Most of our forest land is publicly owned. The provincial government issues forest tenures, giving companies the right to harvest in exchange for harvesting fees. Companies are legally required to meet high environmental standards in the areas they harvest. Rights to harvest timber are also provided through BC Timber Sales, a government organization that annually auctions approximately 20 per cent of the timber resource across British Columbia. The timber sales that are auctioned are fully developed and ready for harvest, reducing investment costs.

British Columbia's forestry sector

With 55 million hectares of productive forest land, mainly under careful government regulation, British Columbia has a vast forestry resource that supports a diverse and growing range of harvesting and manufacturing industries. Dating back more than a century, British Columbia's forestry sector has grown to become the largest manufacturing sector of the economy.

Over 90 per cent of our forestry output is exported, with \$14.1 billion of forest products shipped in 2017. The strength of our forest industry constantly spurs innovation in new products, production techniques, international market development and new approaches to using wood for building.

Timber supplies — Almost 60 per cent of British Columbia's land base is forest land, including 22 million hectares that support commercial harvest; yet less than one per cent is harvested each year. In 2016, the total harvest volume was 66.0 million cubic metres of timber.

Varied tree species — Tree species in our forests are primarily coniferous or softwood, including Douglas-fir, western hemlock, amabilis fir, western red cedar, lodgepole pine and interior spruce. In 2014, British Columbia produced almost 70 per cent of Canada's softwood lumber exports.

Preferred supplier — British Columbia has more lands certified to internationally recognized sustainability standards than any other jurisdiction except for Canada as a whole. This ensures sustainable production and appeals to markets around the world looking for environmentally sound products.

Varied wood products — Commodity products, including standard and metric dimensional lumber, pulp, paper and panel boards, represent the largest segments of the forest industry in British Columbia.

Growing value-added sector — Small- and medium-sized firms produce a wide range of value-added products, such as treated lumber, engineered wood products, shakes and shingles, posts, poles, log and timber-frame homes, mouldings and other finished or semi-finished products.

Pulp and paper — Our solid wood and pulp and paper industries complement each other. Fibre for pulp and paper production comes from residual sawmill chips and logs. Fibre species found in B.C. result in pulps with excellent tensile strength properties, leading to operating efficiencies and a wide range of paper and tissue products.

New utilization opportunities — British Columbia companies are creating next-generation forest products from under-utilized species, smaller stems, dead trees, mill residue and debris from harvesting. A set of new tenures designed to access harvest residuals has been introduced to provide more effective access to this previously unused fibre.



Discover our forest products

British Columbia companies manufacture a wide variety of wood products that meet any structural or finishing need. Wood from British Columbia forests offers immense versatility, beauty and superior structural strength. Builders use it as a structural material in many types of construction, from single-family homes to multi-storey condominiums and offices, schools, health facilities, recreational centers and public areas. Companies also produce high quality paper products, as well as biomass and wood pellets for bioenergy needs.



Construction	B.C. suppliers produce high-quality wood products in both construction and appearance grades. B.C. wood is ideal for wood-frame, post-and-beam and hybrid construction, whether for custom or prefabricated projects. The range of engineered and mass-timber wood products from B.C. offers high-performance and dimensionally stable options for any building project.
Exterior	B.C. wood species, such as western red cedar and yellow-cedar, are readily available for outdoor applications such as exterior trim, siding, roofing, decking and fencing. The wide range of exterior products produced in B.C. comes in standard shapes and sizes, as well as custom sizes.
Finished and Interior	The attractive grain, colour and strength of B.C. wood species are ideal for millwork, doors, windows and furniture. As an interior structural or finished product, wood is durable and requires little maintenance.
Market Pulp and Paper	Due to the ideal climatic conditions, B.C. species naturally develop long, slender, thin-walled fibres. These fibre properties result in pulp that has excellent tensile strength properties, offering sheet dimensional stability.
Biomass and Wood Pellets	B.C.'s wood pellets come from a variety of species and are made from materials that would otherwise be wasted. This includes sawmill residues such as sawdust, planer shavings and logging residuals.



BIOFUELS

Biomass, when not used as a solid fuel, can be refined into liquid as an alternative fuel source that is increasingly in demand. British Columbia produces two million tonnes of biomass energy in the form of compressed wood fibre pellets, mainly from logging residues and other waste materials. We are also leaders in producing a variety of other alternative energy products including ethanol, biodiesel and syngas.





EXCITING NEW PRODUCTS

British Columbia is developing innovative new wood products and applications:

- Dissolving wood pulp that is used principally as a source of cellulose in the manufacturing of products such as synthetic fibres, plastic materials, lacquers and explosives.
- Cellulose filament technology, a flexible, wood-fibre based additive that can be mixed with other materials to improve the quality of a range of products.
- Cross-laminated timber panels that offer new opportunities to construct taller and larger buildings that afford seismic safety and a low carbon footprint.

LEADER IN GREEN BUILDING

Developers around the world are looking for ways to reduce the immense environmental impact of constructing and operating buildings. Wood’s many advantages — it is renewable, energy-efficient, lightweight, durable, flexible, cost-competitive — make it an excellent choice for green construction projects. British Columbia wood comes from sustainably managed forests, and our firms offer both innovative products and expert services for the green construction industry.

Categories

Wood First Program	Under Wood First, British Columbia encourages the forest industry, researchers and design professionals to innovate in the built environment and value-added wood products. The initiative grows local and global markets, while promoting climate-friendly construction.
Building signature structures	From the iconic Richmond Olympic Oval and its precedent-setting advanced wood engineering and design to the world-class Vancouver Convention Centre, the beauty and diversity of British Columbia forest products and the innovation and creativity of our forest industry shared the stage at the 2010 Olympic Winter Games in Vancouver.
Building up with wood	Changes to the BC Building Code in 2009 permitted six-storey wood frame residential buildings. The Wood First Act positions wood as a building material of choice, with larger and taller buildings being constructed with wood. Brock Commons Tallwood House at UBC is an innovative 18-storey hybrid mass timber structure. At 54 metres in height, it is one of the world’s tallest wood buildings.





Take advantage of our services

British Columbia offers a wide range of services related to forest management, forest industry management, building design and construction, and research:

FOREST MANAGEMENT

British Columbia is recognized internationally for the professional management of its forests. This recognition is based on both a strong regulatory framework and the professional skills of forest managers. British Columbia has more than 5,300 professionals who are qualified in forest management. Many of these professionals consult to foreign governments and land owners regarding sustainable forest management practices.



FOREST COMPANY MANAGEMENT

British Columbia is home to some of the world's largest and most successful forest products companies. The well-established, mature industry is supported by consultancies offering services in all aspects of the forest sector (harvesting, sawmill operation, logistics, marketing, value-added production, etc.). Many of these firms provide services to foreign markets.

BUILDING DESIGN AND CONSTRUCTION

British Columbia has many architects, engineers and construction managers who are skilled in both wood-frame and mass timber design and construction that conforms to the Canadian building code (similar to the U.S. building code), and to new international standards for "green" construction, such as LEED. Firms are available to consult internationally for projects being built to these standards. The Canadian/U.S. building code for wood-frame construction offers a number of benefits to overseas markets, since wood buildings constructed to the code are:

- Energy efficient
- Earthquake resistant
- Fire resistant

British Columbia professionals are also available to assist foreign governments interested in revising their building codes.



Worldwide exports

British Columbia is a world leader in the export of forest products.

In 2017, BC forest products companies exported \$9.7 billion in wood products and \$4.4 billion in pulp and paper products. The province is one of the world's largest exporters of softwood lumber, and our forestry sector has well-established connections to major markets in the United States, China, Japan, Korea and Europe.

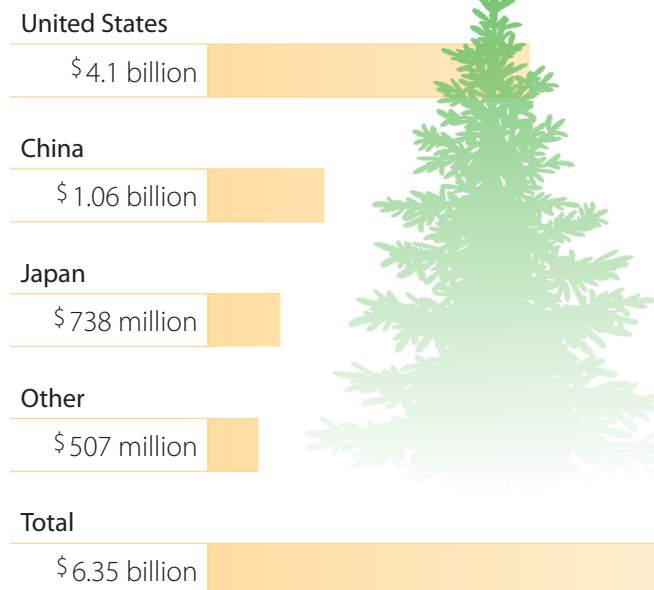


Following on a decade of intensive market development work in Asia, our forestry sector is seeing rapid growth in exports to many Asian markets, especially China with its rapidly growing demand for wood products in construction. Opportunities for growth are also being developed in Japan (housing construction, multi-family housing), South Korea (residential construction and niche value-added products) and India (doors, windows, wooden furniture and architectural millwork).

In the United States, wood is already firmly established in the single-family home market, but significant opportunities exist to expand its use in non-residential construction, and in the multi-storey, multi-family residential market.

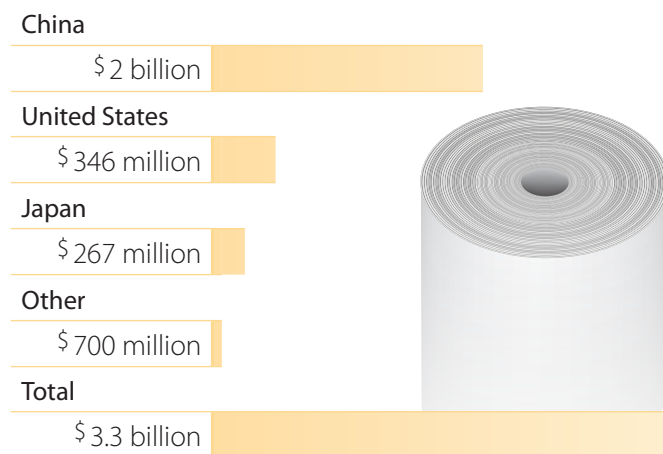
The Comprehensive Economic and Trade Agreement with Europe (CETA) eliminated existing European Union tariffs on forest products. In March 2014, Canada and South Korea concluded a bilateral Free Trade Agreement, leading to the eventual elimination of tariffs on wood products. The Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) Agreement will increase trade in the forest sector with Japan and other members of the CPTPP.

B.C. softwood lumber exports 2017





B.C. pulp exports by market 2017



Benefit from our skilled workforce

British Columbia has a skilled and educated workforce, including 59,900 workers in the forest industry as of 2016.

Educational facilities across British Columbia offer diplomas, technical and trade certificates, degrees and apprenticeships to meet the needs of the forest sector today and into the future.





Build your industry with our talent and innovation

Researchers at British Columbia's centres of excellence are spearheading technological innovations in forestry, expanding the range of wood products and the efficient use of wood. The research centres bring together experts from the public, private and academic sectors to collaborate on applied research, development and commercialization of new technologies.

Institution	Centre of Excellence
University of British Columbia	<p>The Centre for Advanced Wood Processing conducts research on wood products processing and advanced wood products manufacturing.</p> <p>The Centre of Interactive Research on Sustainability focuses on sustainable building materials and design.</p> <p>The Pulp and Paper Centre is an inter-disciplinary, cross-faculty research centre with specialized laboratories and offices to support research for the pulp and paper industry.</p> <p>The UBC Faculty of Forestry is Canada's leading forestry school.</p>
University of Northern British Columbia	<p>The Northern Forest Products and Bioenergy Innovation Centre researches all aspects of bioenergy, from technology to policy to health.</p> <p>The Wood Innovation and Design Centre offers a Master of Engineering program in integrated wood design. It will meet the emerging needs of a rapidly growing market for engineered wood products, tall timber buildings and sustainable construction.</p> <p>The Enhanced Forestry Laboratory supports controlled environment research and teaching activities.</p> <p>As Canada's green university, UNBC attracts world research leaders to its sustainable and innovative forest products facilities.</p>
British Columbia Institute of Technology	<p>The Building Science Centre of Excellence, located in the BCIT School of Construction and the Environment, leads in new building design, advanced materials and building envelope research.</p> <p>BCIT provides technical trades training and degree programs related to the industry and the construction sector.</p>
Okanagan College	<p>The Jim Pattison Centre of Excellence in Sustainable Building Technologies offers courses in sustainable construction management technology, green building design and construction, and building envelope construction.</p>



Photo: naturallywood

//Technology is elevating the performance of wood to new levels — glulam, Structurlam, TimberStrand, cross-laminated timber. We will certainly see more sophisticated uses of wood. //

Martin Nielsen
Principal, Dialog Design (architects)



Photo: Destination British Columbia



Tap into British Columbia's research network

British Columbia enjoys an extensive and globally recognized forest-products research network that supports the industry through research, development and innovation.

Industry resources



Wood Source BC	Provides network opportunities for fibre suppliers, manufacturers and investors so they source the wood they require.
FPIInnovations	Among the largest private scientific research centres in the world. A not-for-profit world leader that specializes in the creation of scientific solutions in support of the Canadian forest sector's global competitiveness.
Wood WORKS! BC	Part of the Canadian Wood Council, this organization supports innovation and offers leadership on the use of wood and wood products, provides education, training and technical expertise to building and design professionals involved with non-residential construction projects.
Forestry Innovation Investment	British Columbia government's market development agency for forest products; its mandate includes maintaining and expanding markets for B.C. forest products.
Softwood Lumber Board	Jointly funded by U.S. and Canadian companies to promote the benefits and uses of softwood lumber products.



Photo: Destination BC/ Albert Norman/In

HELPFUL SUPPORT PROGRAMS

British Columbia offers support programs for the forestry sector, including:

- **BC Bioenergy Network** — This is led by industry and supports near-term bioenergy technologies and research to build a world-class bioenergy capability in British Columbia. Funding programs can be accessed through the Network.
- **Investments in Forest Industry Transformation Program** — This federal program promotes new technologies that lead to non-traditional, high-value forest products and renewable energies.
- **Forestry Innovation Investment** — FII works with trade associations, research institutions and other government agencies to maintain existing markets for B.C. forest products and open up new markets. As well as supporting market development and research, it delivers a number of marketing initiatives. It does not provide loans, subsidies or other financial incentives to individual businesses.





Join British Columbia's Industry Leaders

Fifteen of British Columbia's leading forest companies ranked in the 2016 Top 100 Companies in B.C. from BC Business. They excel in producing everything from sustainable wood products and building materials to paper products, biomass energy and next-generation manufactured products.

- West Fraser Timber Company Ltd.
- Canfor Corp.
- Interfor
- Futura Corp.
- Mercer International Inc.
- Taiga Building Products Ltd.
- Catalyst Paper Corp.
- Western Forest Products Inc.
- Canfor Pulp
- Tolko Industries Ltd.
- CanWel Building Materials Group Ltd.
- Hardwoods Distribution Inc.
- Conifex Timber Inc.
- Paper Excellence Group
- Fortress Paper Ltd.





INDUSTRY AND TRADE ASSOCIATIONS

Several industry and trade associations support local forest product industries and identify opportunities for investment:

- APA — The Engineered Wood Association
- BC Wood
- BC Log and Timber Building Association
- Forest Products Association of Canada
- Interior Lumber Manufacturers' Association
- Canada Wood Group
- Canadian Wood Council — WoodWORKS! BC
- Cedar Shake and Shingle Bureau
- Council of Forest Industries
- Independent Wood Processors Association of BC
- Western Red Cedar Lumber Association
- Wood Pellet Association of Canada

“BC is the most important gateway to Asia and is a place where resources, mindsets and cultures exchange.”

Wei Shao,
Partner, Dentons Canada LLP



CONTACT

Trade and Invest British Columbia

Mumbai – Main Office
Unit 1202, 12th Floor,
A Wing, Naman Midtown
Senapati Bapat Marg, Elphinstone,
Mumbai - 400 013, India

Tel: +91 22 49224600
india@britishcolumbia.ca

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