



Forestry Innovation
Investment®



MARKET DEVELOPMENT SUMMARY



Yama no Ie, Futtsu City, Chiba.

JAPAN

Why Japan

- **Large, high-value market for B.C.**
- **Canada has maintained a strong brand in Japan for more than 40 years**
- **Growing opportunities in non-residential sector**
- **Sophisticated market with demand for coastal species, SPF, value-added, and wood pellets**

IMPORTANCE OF FORESTRY AND TRADE DIVERSIFICATION

British Columbia is one of the world's largest producers and exporters of wood products. Without exports, the B.C. forest industry would be approximately one seventh of its current size and employ tens of thousands fewer British Columbians than at current levels. Maintaining and developing export markets is therefore crucial to protect B.C. jobs and ensure the sector remains a leading contributor to B.C.'s economy.

CONTRIBUTING TO CLIMATE CHANGE SOLUTIONS

Exports support Canada's international action on climate change. B.C. and Canadian forest products are harvested sustainably and building with wood has a lighter carbon footprint than other construction materials.

MEASURING PROGRESS

Japan is one of B.C.'s oldest and most important markets for wood products. The current market development program is supported by funding from industry, the Government of Canada through Natural Resources

Canada's Expanding Market Opportunities program, and the Government of British Columbia through Forestry Innovation Investment's Market Initiatives program.

A reliable, steady market

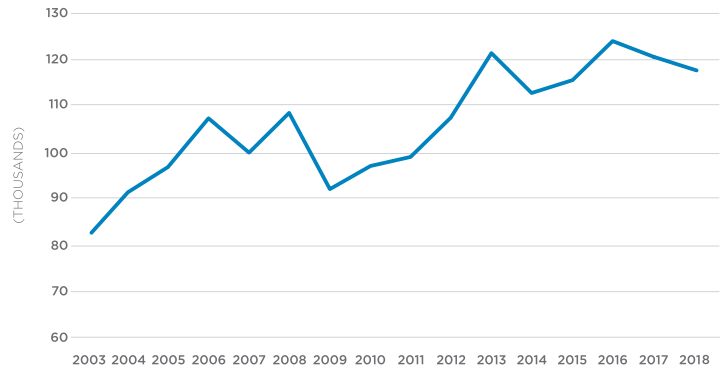
Japan has a history of building with wood, and this cultural preference is most evident in the housing market. Even as the society ages and the demand for housing declines, wood housing starts remain in the 500,000 to 550,000 range every year.

2x4—the house that grew

Canada introduced Japan to 2x4 construction for home building in the early 1970s with the expectation of building a market for North American style housing. The results have far exceeded initial goals. Since the Japanese government introduced a building code in 1974 allowing 2x4 construction, the market has grown to about 117,000 starts in 2018.

This growth has been sustained with constant innovation supported by Canadian market development, including updates on fire codes, more energy efficient approaches to 2x4 construction, and expansion to multi-family homes.

TWO-BY-FOUR HOUSING STARTS



Japan Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

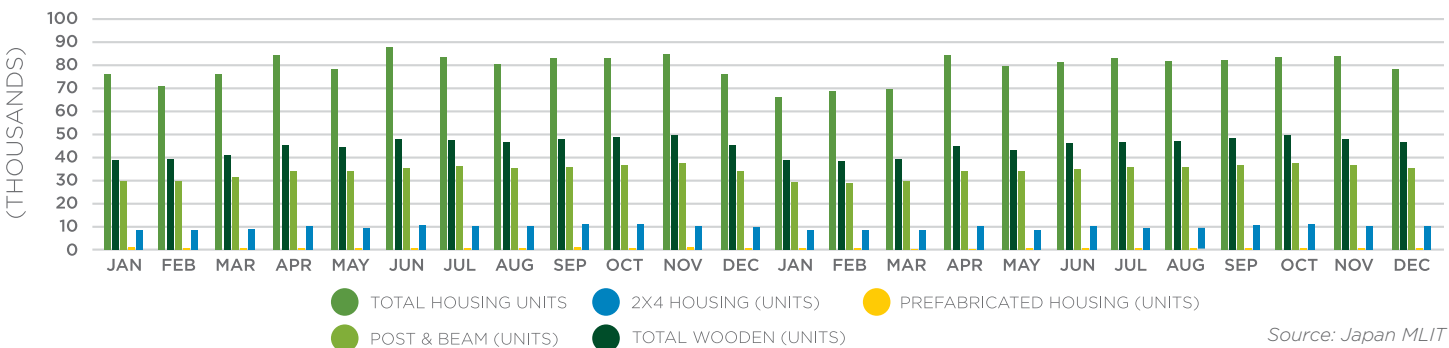
Today, 2x4 construction holds a 12 to 13 percent share of all housing construction. With the traditional post-and-beam sector, total wood starts were more than 539,000 in 2018.

Shifting markets

As Japanese society ages, the demand for housing is shifting towards smaller units and higher density projects. Multi-family construction makes up an estimated 55 percent of housing starts with a significant share directed to the rental market. The wood share of multi-family starts over the 2012-2018 period was very strong,

with 2x4 multi-family construction up almost 23 percent and post-and-beam multi-family construction up almost 59 percent. Fire code revisions now allow for expanded wood use in mid-rise four to six storey buildings as well as mass timber applications, creating additional market opportunities for Canadian lumber and panel products.

JAPAN HOUSING STARTS 2017-2018



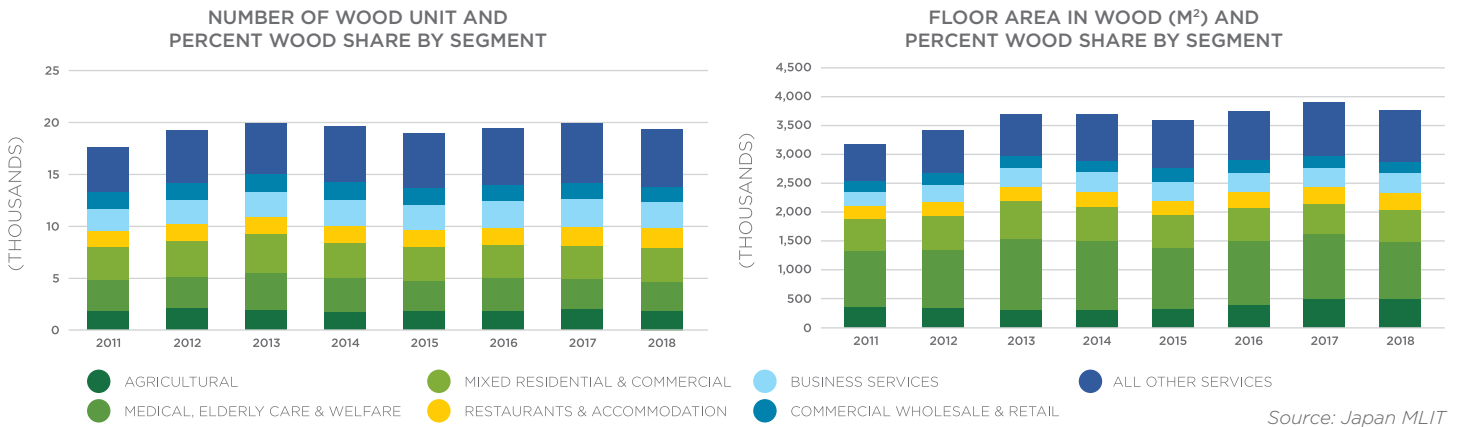
Source: Japan MLIT

Non-residential—a growth sector

Wood use in non-residential construction offers a huge growth opportunity for Canadian and B.C. companies. While wood holds an almost 10 percent share of overall construction (by floor area), targeted market development in the medical, elderly care and social welfare sub-sector shows how quickly wood construction can increase, as the wood share

in that category now tops 21 percent. A similar approach is being taken with the tourism sub-sector: promotion of the green benefits of wood construction and the natural look of mass timber and coastal species that appeals to the Japanese consumers. Agricultural construction is another niche market with strong potential for growth.

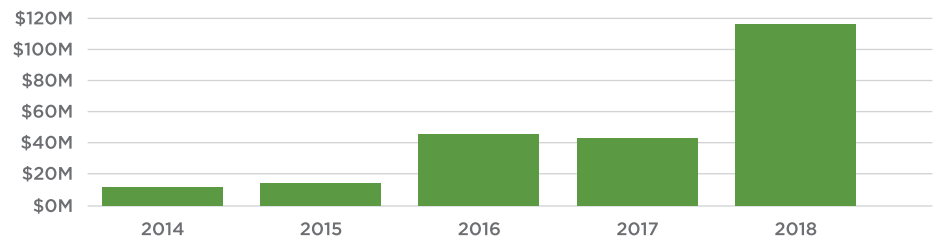
WOOD USED IN JAPAN NON-RESIDENTIAL CONSTRUCTION



Pellet prominence

Japan is emerging as the fastest growing export market in the world for wood pellets, which are used by power utilities to create electricity, either by co-firing with coal or in dedicated biomass power plants. B.C. exports have increased from \$11 million in 2014 to more than \$115 million in 2018, an increase of more than tenfold.

B.C. PELLET EXPORTS BY VALUE



Source: Wood Pellet Association of Canada

Total pellet demand is expected to grow to 2.8 million tonnes in 2021, 4.9 million tonnes in 2022 and 6.8 million tonnes in 2023. Canada is the dominant supplier of wood pellets, with a 70 percent market share and few direct competitors for the co-fired biomass market.

Brand recognition

Canada's long-term commitment to Japan has been rewarded with strong recognition by Japanese customers. They appreciate the supply of high-quality lumber, mainly from B.C., and efforts to find solutions to building problems of particular concern in Japan, such as seismic stability.

About 74 percent of Canada Wood clients in Japan rank Canada as a leader in sustainable forest management, well ahead of other exporting nations. Only Japan, with a very strong domestic marketing program, ranks higher.



Takeuchi Clinic, Futtsu, Chiba.

BUILDING A MARKET OVER THE LONG TERM

B.C. has been shipping lumber to Japan for nearly 100 years. Shipments began in 1925 to help Tokyo rebuild after the Great “Kanto” Earthquake.

In the 1970s, as the Japanese economy grew rapidly and living standards increased, the demand for housing rose dramatically. Realizing the traditional post-and-beam approach could not meet these needs, the Japanese government looked for alternatives.

Under the leadership of the BC Council of Forest Industries (COFI), the Canadian industry introduced 2x4 construction to Japanese officials. COFI understood that Japanese officials tend to extensively evaluate and research products before approving them, and so offered hands-on technical and research support to update the building code to allow 2x4 housing construction.

Recognizing Japan’s preference for high-quality products, COFI developed J-grade as a high-quality SPF specifically for the Japanese market. Combined with extensive market development, including the demonstration “COFI house” on the grounds of the Canadian embassy, Canada was soon established as the preferred supplier to Japan. By the end of the 1980s, more than 13,000 2x4 homes were being built every year.

The expansion of the building code in the late 1980s to allow multi-storey wood-frame housing opened up an even larger market for 2x4 construction. As builder capacity grew, sales started to take off in the mid 1990s. Today, the 2x4 market is split roughly 50:50 between single- and multi-family starts, making it an example of how to extend a market through innovation and responsiveness.

This same approach is now being used to grow the non-residential market.

Higher value

Japanese buyers respect quality and reliable supply and are willing to pay a premium for both. The premium is evident when comparing the unit value of lumber exports to different Asian markets. The Japanese value for Canadian softwood lumber in 2018 was \$424.36 per cubic metre as

compared to \$350.68 in South Korea and \$207.78 in China. While the unit values change with market conditions, the premium over other Asian markets is a historical factor. For example, Japanese unit prices were 197 percent in 2015, and 183 percent in 2017.

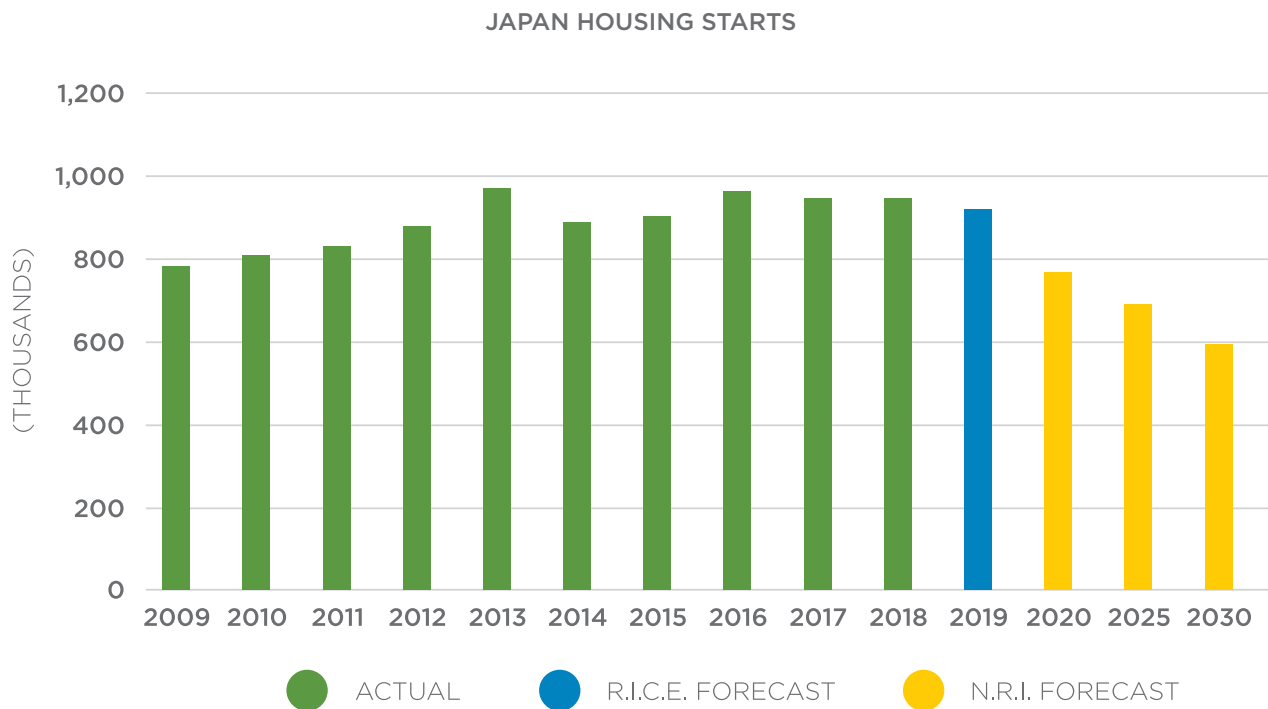
Dealing with an aging society

Japanese housing starts are projected to trend downwards for the foreseeable future, mainly due to an aging society. From a high of 967,237 in 2016, starts are projected to fall below 900,000 in 2020 and to less than 800,000 in 2025. In effect, this may mean a permanent loss of 100,000 housing starts per year.

While this scenario may occur, the historical stability of the wood housing market would lessen the impact on

Canadian exports if maintained. In fact, 2x4 market share increased by about 0.2 percent per year since 2011 prior to flattening out in 2018.

In maintaining this important market, Japanese buyers need to be reassured that an adequate Canadian supply of SPF J-grade is available to meet their needs.





The second 2x4 wood-framed five-storey building to be built in Japan, and the first in central Tokyo. Shimouma Apartment is an 18 metre tall building that contains a cafe on the first floor, rental apartments with nursing services for aged patients on floors two and three, and staff rooms on floors four and five.

Multi-family residential

Multi-family residential construction offers significant opportunities, particularly for 2x4 platform-frame construction. Fire code amendments facilitate expanded use of wood in four to six storey mid-rise construction, creating a large opportunity for wood products.

The rapid development of the wood mid-rise residential sector in North America offers a guide to market development efforts in Japan. A combination of promotion, education, product trials and knowledge

transfer may establish a new and large market for Canadian dimensional lumber and panels. It may also lead to growth in demand for Canadian mass timber products. This growth, of course, will be tempered by in-market factors, including that Japanese consumers tend to view concrete construction more favourably for condominiums. This can impact the market value of wood multi-family buildings, as they are viewed as depreciating more quickly than those constructed with concrete.

Value-added markets

Japan remains a high-priority market for Canadian value-added manufacturers due to the large housing market and the historical affinity for wood use. The expansion of the tourism sector, with a national target to increase tourist visits from 30 million to 40 million per year, is expected to continue and creates a large new niche market for Canadian wood products, ranging from finishings to prefabricated homes. Coastal design from B.C. and the log home sector, are particularly well suited to this market.



The Yuriage Public Market was part of the Canada-Tohoku Reconstruction project to bring economic activity back to an area that was destroyed by the 3/11 tsunami. The structures completed include two platform-frame buildings housing commercial booths as well as a large-scale Canada-Japan Friendship Pavilion. Under the next phase of construction three additional structures totaling a floor area of 516 m² will be added to the public market site. The single-story post-and-beam buildings will house additional commercial booths.

Developing the mass timber market

With more than 400,000 post-and-beam housing starts every year, Japan appreciates the benefits of timber construction. Extending this to larger, commercial buildings—the mass timber market—is a logical expansion for wood products, as is now happening in Canada.

To date, the Japanese market has grown slowly. Consumption of cross-laminated timber, for example, is only 30,000 cubic metres per year. Code changes are opening new markets for laminated products. Promotion of nail-laminated timber (NLT) as a market entry strategy could establish Canada as a leading supplier, with current efforts following the successful market development strategy of the 2x4 sector in terms of working with regulators, offering research and technical support and providing trials, demonstrations and ongoing promotion.



Canada Wood R&D NLT hybrid demo home, Japan Home Show, Tokyo.

LOOKING AHEAD—PROTECTING AND GROWING THE MARKET

B.C. is an established supplier of wood products to Japan, and the Canadian brand is well recognized. The industry has extensive and long-standing relationships with Japanese buyers. While the overall market is relatively stable—trending downwards slightly due to demographic factors—the unit value of Canadian exports has trended upwards. This implies the B.C. industry remains well positioned in the market, but that future gains will require ongoing market development efforts.

The strategy moving forward remains focused in three areas, in terms of the structural lumber market:

- Promoting wood in sectors conducive to wood-frame construction and offering ongoing growth potential; these sectors may include building type (residential), building system (energy efficiency), or building method (prefabrication). 2x4 construction will remain a priority.
- Overcoming barriers to wood use in general, and Canadian products and species in particular, through knowledge sharing, product testing, and developing close and ongoing working relationships with Japanese regulators and government officials.
- Building capacity in construction and design through training, professional development and technology transfer.

In the value-added sector, market development will target new niche markets in resort, non-residential and reform sectors to incrementally increase sales. Japanese buyers will be educated on the benefits of Canadian

value-added products derived from sustainably managed forest, including through trade show efforts in Japan and Japanese buyer attendance at the Global Buyers Mission.

The wood pellet industry will focus on growing sales as consumption of wood pellets increases in response to energy and environmental policies. Market development will also reinforce the Canadian brand through promotion and educational material that highlights Canadian reliability, chain of custody and high product standards, such as lower ash production and less pollution.



The one-story Ozeki nursery school has a total floor area of 998.25 m², and uses dimension lumber for rafters and trusses.

KEY FUNDERS

Several organizations under the Canada Wood umbrella including the B.C. Council of Forest Industries, the APA - Engineered Wood Association (representing Canadian OSB producers) and the BC Wood Specialties Group lead market development efforts in Japan. Funding partners include the Province of B.C. (through Forestry Innovation Investment) and the federal government of Canada (through Natural Resources Canada). By working together, government and industry have managed to grow the Japanese markets for B.C.'s high-quality wood products. Leveraging resources ensures that Canada remains a leading supplier of forest products to one of the most important, high-value markets.

Canada

