

**Voluntary Report** – Voluntary - Public Distribution

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**Report Name:** Drivers of Construction Lumber and Engineered Wood  
Demand in Japan

**Country:** Japan

**Post:** Tokyo

**Report Category:** Wood Products

**Prepared By:** Daisuke Sasatani

**Approved By:** Mariya Rakhovskaya

**Report Highlights:**

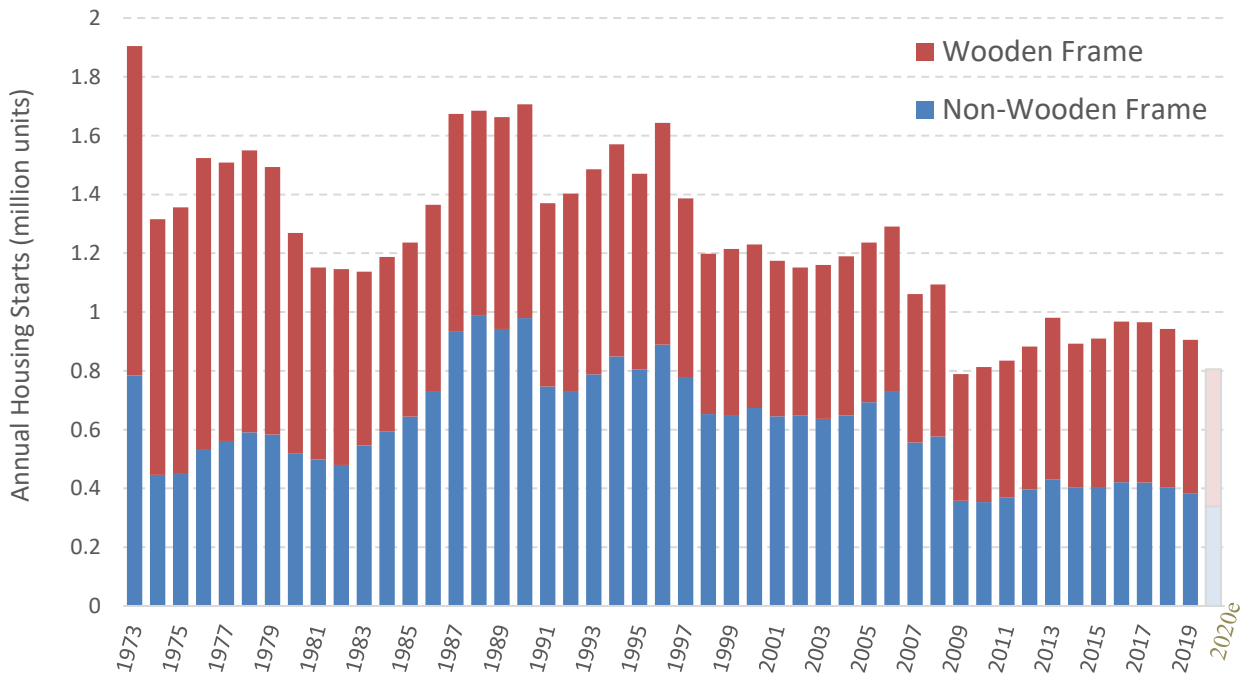
Construction sector has been the primary consumer of softwood lumber and engineered wood products in Japan. Japan's long-term demographic trends coupled with COVID-19-induced economic downturn underlie a stark outlook for the country's housing starts. Future policy developments in building standards and sustainability criteria may promote softwood market expansion in the areas of non-residential construction and biomass utilization.

## Softwood Utilization in Construction

In 2018, Japan consumed 79.6 million log equivalent cubic meters of woody biomass ([Forestry Agency](#)). Of that, 47.2 percent was for pulp and paper production<sup>1</sup>, 27.5 percent for fuel wood<sup>2</sup>, 16.1 percent for sawnwood (lumber, glulam, furniture, etc.), 6.8 percent for plywood, and the remaining 2 percent for other uses. Japan’s construction sector has been the principal consumer of imported softwood. The demand for softwood lumber and engineered wood products, which has been primarily utilized for single family residential housing, reflects the country’s economic conditions, demographic realities and governmental policies.

Following a record high of 1.91 million units in 1973, the number of housing starts for both wooden frame, primarily single family houses, and non-wooden frame, primarily multi-family units, has been in a punctuated decline, exacerbated by economic downturns and a downward demographic trend (Figure 1). After hitting a low of 0.78 million units in 2009 during the global financial crisis, Japan’s housing starts temporarily recovered to approximately 0.94 million units in 2013 after the introduction of Abenomics, a suite of monetary easing and fiscal expansion policies.

**Figure 1. Japan’s Annual Housing Starts (1973-2020)**



Source: [MLIT](#)

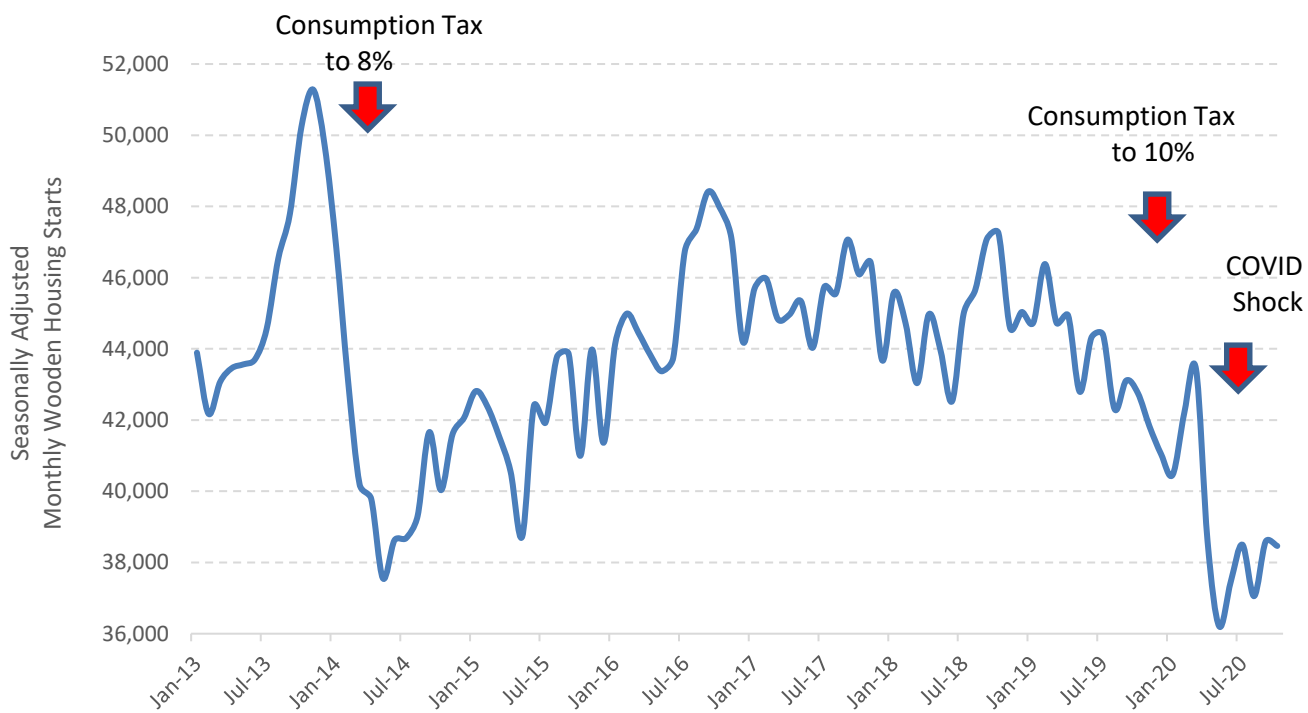
<sup>1</sup> The inputs for Japanese paper mills are mostly imported hardwood wood chips (approximately 70 percent) and primarily domestic softwood pulp (approximately 30 percent). Long softwood fibers contribute tensile strength while short hardwood fibers result in a smooth texture.

<sup>2</sup> Fuel wood and pulp chips are generated from low-grade logs and by-products of lumber and plywood production.

Consumption tax policies have impacted wooden housing demand in Japan because a last-minute buying spree and a subsequent pullback have contributed to an overall substantial decline in housing starts. On April 1, 2014, the Government of Japan (GOJ) increased consumption tax from 5 to 8 percent. Housing starts were 0.98 million units in 2013, an 11 percent increase from 2012, due to the scramble to buy homes before the new consumption tax went into effect. However, a subsequent pullback resulted in housing starts dropping to 0.89 million units in 2014 (Figure 1 & 2).

On October 1, 2019, GOJ further increased the consumption tax to 10 percent ([JA2019-0013](#)). To smoothen the transition, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) temporarily extended a tax break from 10 years to 13 years for new homeowners moving into their homes between October 2019 and December 2020. This tax benefit typically exceeds the two percent increase in consumption tax and largely mitigated the impact of the consumption tax hike on housing starts. Following the outbreak of the COVID-19 pandemic, monthly housing starts fell sharply to 36,000 units in May 2020 (Figure 2). In response, MLIT extended the tax break policy so that homeowners, who move into their new homes by December 2022, received the same tax relief on mortgage payments for 13 years. MLIT also lowered the minimum unit area eligible for the tax deduction from 50 square meter (m<sup>2</sup>) to 40 m<sup>2</sup>.

**Figure 2. Seasonally Adjusted<sup>3</sup> Wooden Housing Starts Monthly Trend (2013-2020)**

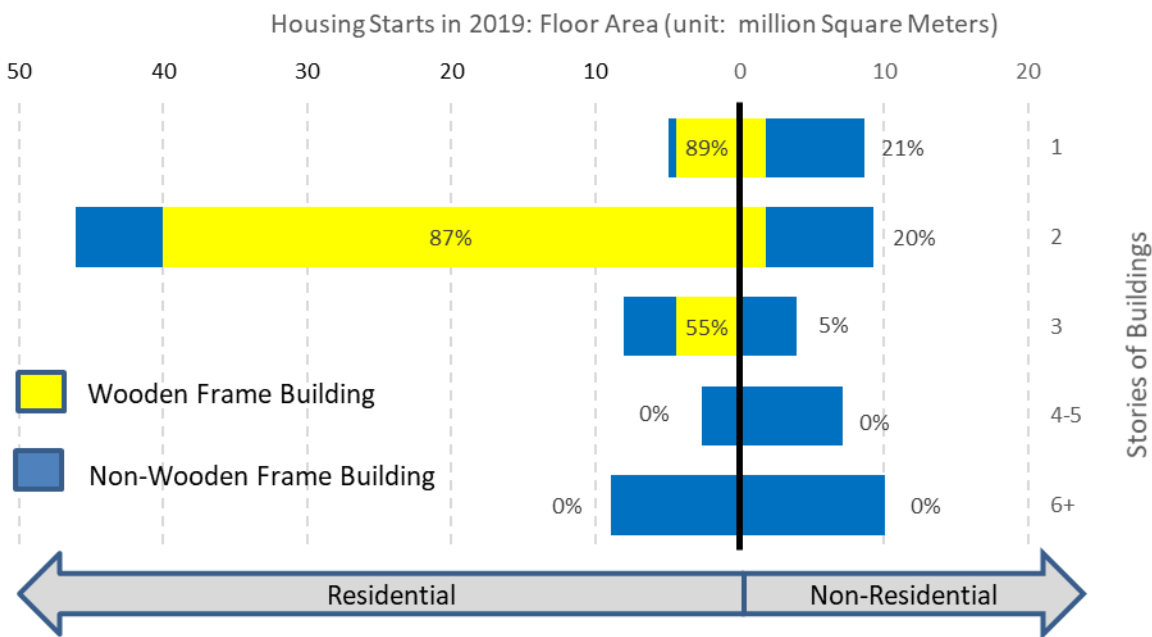


Source: [MLIT](#)

<sup>3</sup> Seasonal adjustment is the process of estimating and removing seasonality from a time series to reveal other drivers. [MLIT](#) has used x-12-ARIMA which was the U.S. Census Bureau's previous [software package](#) for seasonal adjustment. FAS/Tokyo applied the same method to decompose monthly seasonality from housing starts.

Japan’s wooden frame housing market remains among the largest in the world, second only to the United States. Wood-frame construction was the predominant construction method for over 87 percent of 1- and 2-story residential homes built in 2019 (Figure 3). Due to fire codes within the Japanese Building Standard, 4-story or higher residential homes built in 2019 did not contain structural lumber. Non-wooden frame is the primary construction approach for non-residential buildings (Figure 3). Still, all buildings, whether with a wooden or a non-wooden frame, utilize non-structural wood products, such as stud wall framings, concrete forms, panels, flooring and furniture.

**Figure 3. Comparative Use of Wood-based Construction in Residential and Non-Residential Buildings in 2019**

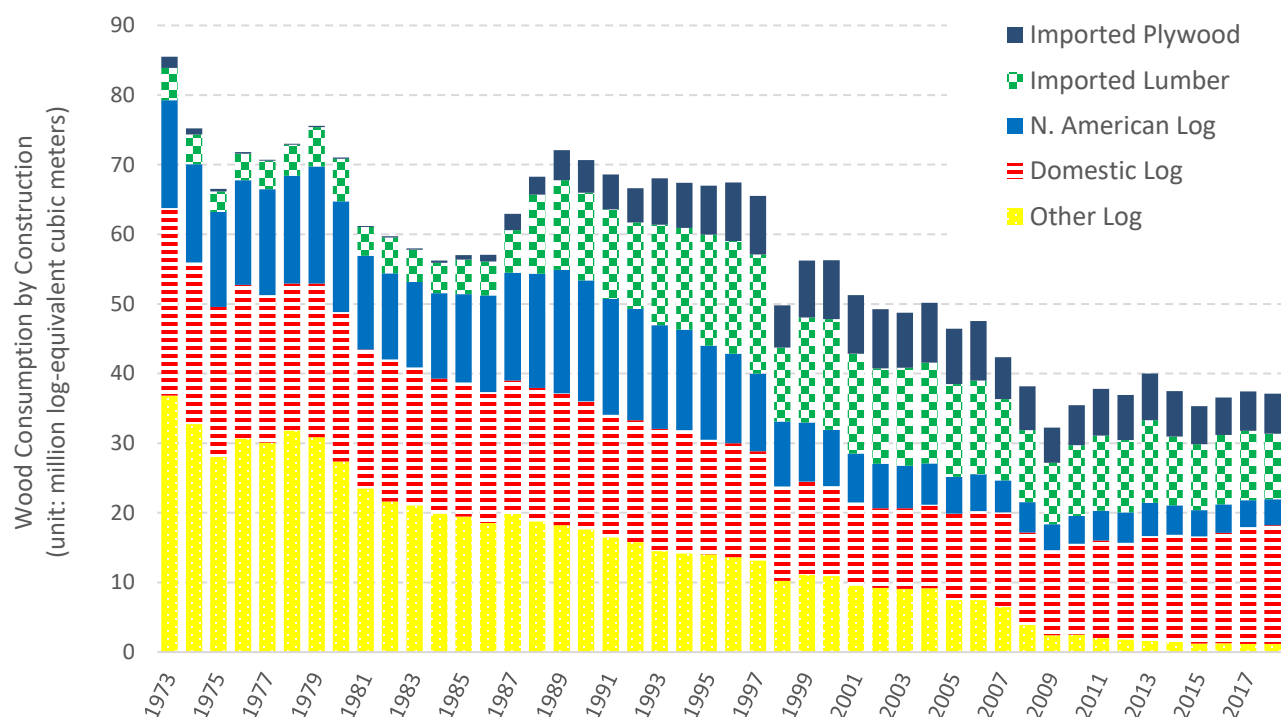


Source: [MLIT](#)

Note: Percentages in the figure represent the ratio of wooden frame buildings over total housing starts in residential and non-residential categories.

Japan’s wood consumption (Figure 4) parallels housing starts (Figure 1). In the 1990s, due to a decline in housing demand, Japan decreased the use of North American logs (predominantly U.S. logs due to the Canadian log export ban). Since the early 2000s, Japan has increased production of domestically sourced logs (e.g., *sugi* and *hinoki*), which has displaced some imports.

**Figure 4. Wood Consumption by Japanese Construction Sector (1973-2018)**



Source: [Forestry Agency](#)

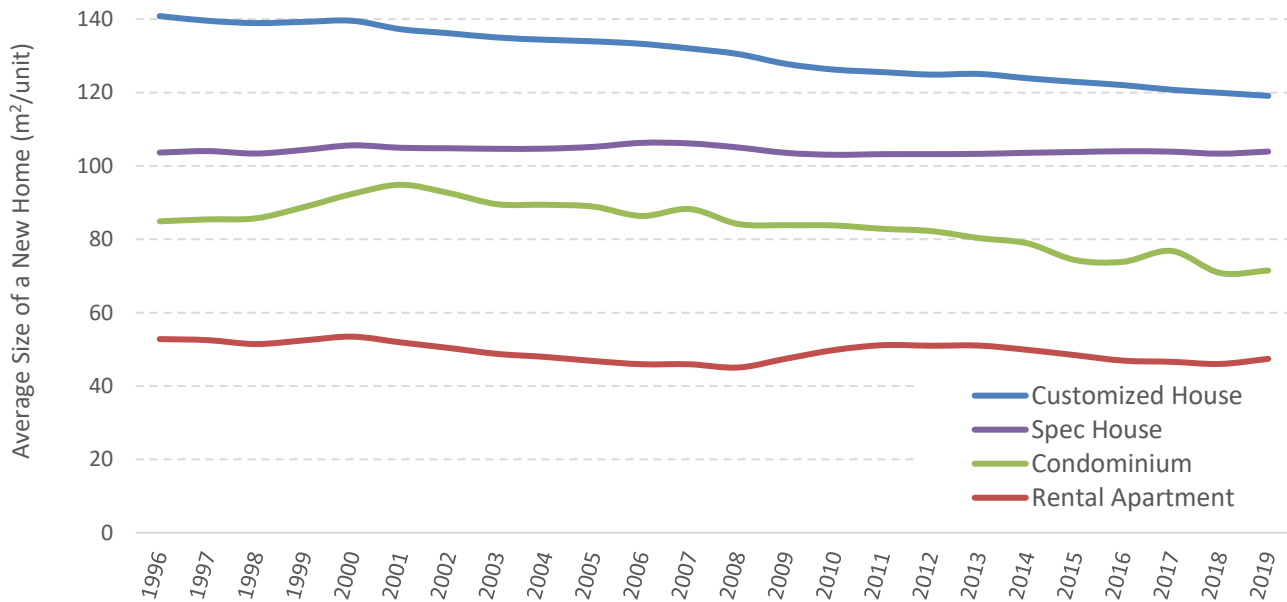
- Notes: - The figure does not include pulp wood for paper production and fuel wood for biomass power generation.  
 - Lumber and plywood volumes are converted into log equivalents.

## Outlook

Declining population and smaller family units forecast a continuing contraction of the housing market, and consequently demand for lumber and engineered wood products for residential housing. The average size of a new customized house fell from 141 m<sup>2</sup> in 1996 to 119 m<sup>2</sup> in 2019 (Figure 5). The average unit size of a new condominium has also decreased from 94.9 m<sup>2</sup> in 2001 to 71.5 m<sup>2</sup> in 2019. Meanwhile, the average size of a spec home and a rental unit (i.e. apartment) has hovered around 104 m<sup>2</sup> and 45-50 m<sup>2</sup>, respectively.

At the same time, Japan's Forestry Agency aims to increase the consumption of domestic wood products from 30 million m<sup>3</sup> to 40 million m<sup>3</sup> by 2025 land (see [JA9098](#) for details on Japan's forestry policy). To that end, GOJ set aside approximately 120 billion yen (\$1.1 billion) per year for thinning and selective logging on about 520,000 hectares of private and public land.

**Figure 5. Average Size of New Homes by Type**



Source: [MLIT](#)

As the wood demand by the Japanese residential construction sector continues to decline, while the domestic wood supply increases, the overall outlook for log and lumber exports to Japan is bleak. Still, FAS/Tokyo expects Japan to continue to purchase high-value U.S. structural lumber (e.g., Douglas-fir baby square and *hirakaku*, J-grade dimension lumber, Alaskan yellow-cedar ground sill etc.).

Recognizing decreasing demand in the residential construction sector, GOJ has promoted non-traditional markets for softwood products. The first area of GOJ’s focus is the development of new export markets for domestic logs and wood products ([JA2020-0201](#)). The second area of focus has been to promote the use of wooden frames in the non-residential and high-rise building market. The Forestry Agency developed the Japan Agricultural Standard Structural Wood Expansion Program, a \$22 million support program, for non-residential buildings ([JA2020-0087](#)). To facilitate the use of structural lumber and engineered wood products in multi-story buildings, MLIT will need to revise its Building Standards. Finally, GOJ is promoting the use of woody biomass in power generation. Japan’s energy goal is to derive at least 4.6 percent of Japan’s electricity from biomass by 2030 ([JA2020-0180](#)). Nevertheless, even with a feed-in tariff (FIT) program designed to stimulate biomass utilization, the per unit price of biomass is substantially lower than that of structural wood.

**Attachments:**

No Attachments.