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Report Name: JAS Program Supports Domestic Lumber

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Report Highlights:

In 2019, Japan's Forestry Agency (FA) developed the Japan Agricultural Standard (JAS) Structural Wood Expansion Program, a $22 million support program for JAS-graded structural wood products. U.S. dimension lumber exports to Japan are not JAS-graded. FA has expanded the program in 2020.

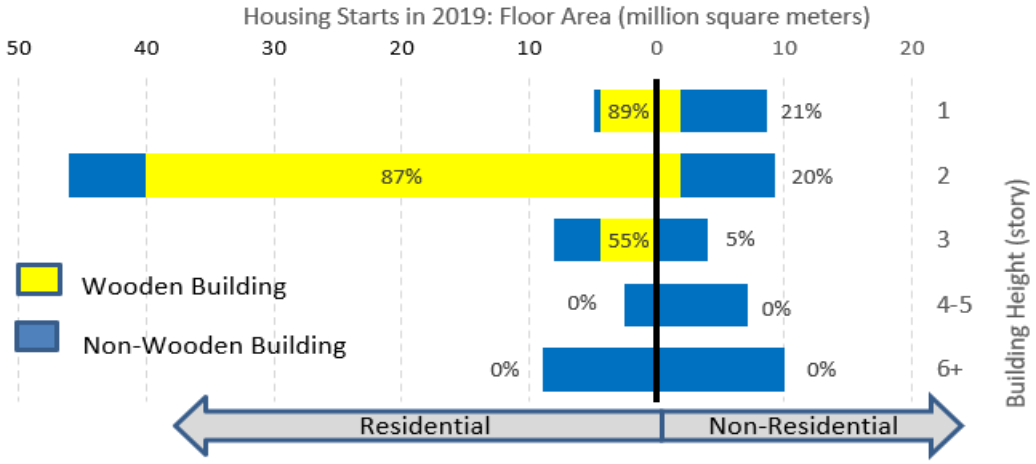
JAS Structural Wood Use Expansion Program

In 2019, Japan's Forestry Agency (FA) introduced a wood products support program operated by Japan Federation of Wood-Industry Associations (Zenmokuren) to partially cover the cost of Japan Agricultural Standard (JAS) graded structural wood products. The JAS Act (amended on June 16, 2017) established the JAS system to standardize quality expectations for food and forest products (JA2019-0195). Most North American structural lumber exports to Japan would not qualify for the lumber support program as they are typically certified by an acceptable North American grader and do not bear a JAS stamp (JA8028).

According to FA, the goal of the program is to expand the use of wood products in construction, where traditional construction does not rely on wood. FA has indicated that program funds would be used to compensate developers for the costs associated with switching from non-wood to wood materials.

Japan's low-rise residential buildings are predominantly constructed around a wood frame, such as a traditional post and beam (P&B) or North American style 2x4 construction. In 2019, over 87 percent of new one-story and two-story residential buildings had a wood frame (Figure 1). Based on Japan's building codes, the general wood frame construction method permitted for buildings exceeding two stories is 2x4, and there is a decline to 55 percent in proportional use of wood construction method in three-story residential buildings. Wood frame remains an uncommon construction choice for non-residential buildings, where wood-based construction represents only 21 percent of one-story buildings (Figure 1). Although Japanese building codes permit wood-based construction, especially with a 2x4 frame, for residential and non-residential buildings above three stories, non-wood frames dominate four-story and higher residential and non-residential buildings.

Figure 1. Comparative Use of Wood-based Construction in Residential and Non-Residential Buildings in 2019



Source: MLIT
Note: Percentage denotes the proportion of wood-based construction for a building type. For example, 87 percent of 2-story residential buildings had a wooden frame.

The JAS Structural Wood Use Expansion Program aims to tap into the non-residential and high-rise residential construction market. Presently, Canadian dimension lumber dominates Japan's 2x4 construction market in Japan.

The 2019 JAS Structural Wood Use Expansion Program was limited to private developers. To qualify, building developers had to use JAS-graded (i) machine stress rated (MSR) lumber, (ii) dimension lumber for 2x4 construction, and/or (iii) cross laminated timber (CLT) in non-residential construction. The maximum amount of available funding was 30 million yen (approximately $270,000) for a building with floor area of 1,000 square meters (m^2) or above and 15 million yen (approximately $135,000) for a building with floor area under 1,000 m^2. In 2020, FA continued these financial incentives and expanded eligibility for the program to prefectural and municipal governments (see the JAS Structural Wood Use Expansion Program site in Japanese for the latest details). As of April 2020, to qualify for the program, building developers or local government must use JAS-graded (i) MSR lumber, (ii) dimension lumber for 2x4 construction, (iii) CLT, (iv) large dimension glued-laminated timber (glulam), or (v) structural laminated veneered lumber (LVL) in non-residential, high-rise residential (four-story and higher) or mixed-use construction.

The 2.4 billion yen ($22 million) program budget for the 2019 JAS Structural Wood Use Expansion Program was funded out of the Demand Expansion Program of the Plywood, Lumber and Glulam Global Competitiveness Enhancement Project in the 2018 Japanese fiscal year (JFY: April – March) supplemental budget (JA9046). There are no official budget figures for the 2020 JAS Structural Wood Use Expansion Program. However, the JFY 2020 COVID-19 supplemental budget (JA2020-0075) is widely expected to continue support payments for the promotion of utilization of domestic lumber and other wood products in public buildings, which are mostly non-residential.

The JAS wood support program is one of a number of FA programs aimed at enhancing the competitiveness of the Japanese forestry and wood processing industry. FA plans to increase the supply of domestic wood from 30 million cubic meters (m^3) in 2017 to 40 million m^3 by 2025 (JA9098).

To advertise the use of JAS-graded wood products, FA created a voluntary registry for construction-related businesses that utilize JAS-graded wood products.

Japan's Grading Requirements for 2x4 Dimension Lumber

North American style platform framing construction method, known in Japan as 2x4 construction, was first introduced in 1974, when traditional P&B wooden housing dominated the residential housing market. Prior to 1997, to comply with Japan's Building Standard Law (BSL)[1], domestic and imported structural dimension lumber for the 2x4 construction method required JAS grade stamps. On the other hand, P&B construction does not require JAS-graded lumber.

[1] The 1982 MLIT Notification 56 stipulates construction specifications of 2x4 and wooden prefab construction and requires that structural materials comply with JAS or Japan Industrial Standards (JIS). The Notification also has a provision that the JAS/JIS requirement can be waived if MLIT recognizes structural materials structurally sufficient.

To address these differences in construction requirements, the 1990 U.S.-Japan Agreement on Wood Products established two bilateral technical committees: the Building Experts Committee (BEC) and the JAS Technical Committee (JTC). The two committees mirrored Japan's regulatory split: building codes are regulated by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT)[2], while wood product standards are overseen by the Ministry of Agriculture, Forestry and Fisheries (MAFF), of which FA is a part. After Canada joined as another interested party in 1990, the annual trilateral BEC/JTC meetings were instrumental to the 1997 Mutual Agreement that established North American wood grading systems as equivalent to JAS.

In 1997, MLIT permitted dimension lumber graded by members of associations certified by the American Lumber Standard Committee (ALSC)[3] or the Canadian Standards Accreditation Board to be used in Japan's 2x4 construction without an additional JAS grading stamp. MLIT extended similar recognition to MSR lumber in February 1998 and finger-jointed lumber in June 1998. Japan's 2x4 Lumber JAS Council lists all foreign grading agencies recognized by MLIT.

Softwood Lumber Trade

Japan's wooden housing market is among the largest in the world with approximately 60 percent of Japan's total lumber consumption going toward construction. In 2019, Japan imported 5.5 million m^3 of softwood lumber, of which 45.5 percent came from the European Union (Finland, Sweden, Austria, Romania and others), 26.8 percent from Canada, 16.5 percent from Russia, and 3.6 percent from the United States (Figure 2). Nearly all North American dimension lumber and MSR exports to Japan were certified by MLIT-recognized North American grading agencies and did not carry a JAS grading stamp. The decline in U.S. softwood lumber exports since the 1990s reflects changing North American demand and the emergence of EU softwood suppliers.

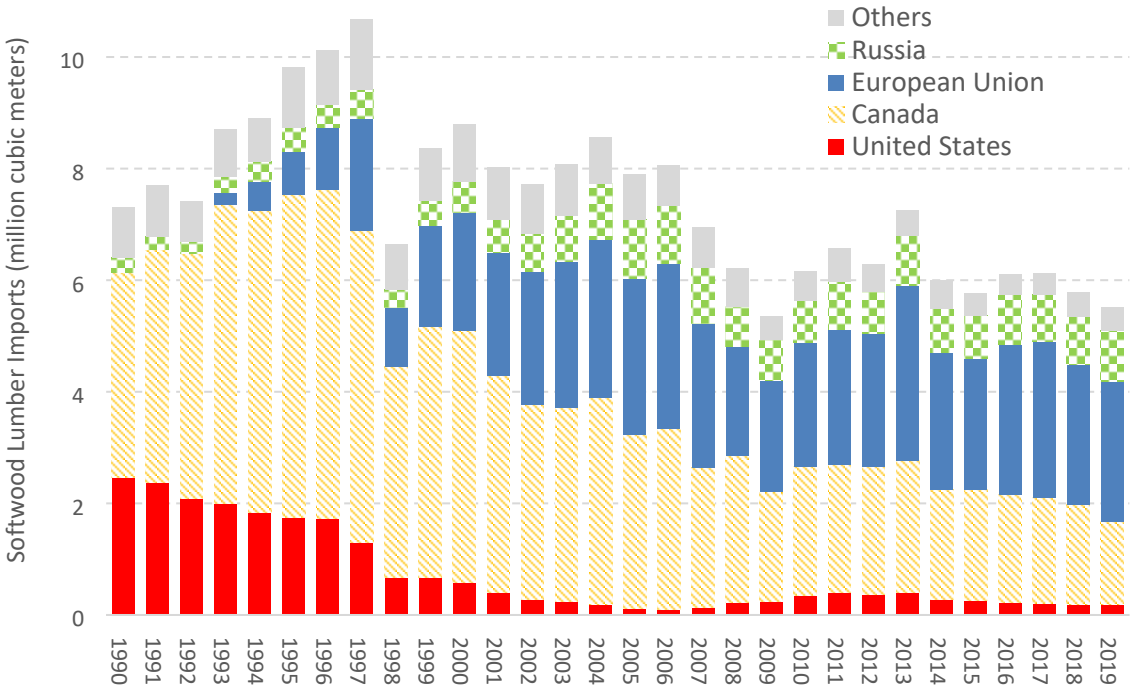
Although historically the United States exported more softwood logs than lumber to Japan, Japan remains a key overseas market for U.S. and Canadian softwood lumber and engineered wood products. Canadian spruce-pine-fir (SPF) dimension lumber has dominated Japan's 2x4 construction market.

As wood-based construction is rare in Europe, EU lumber and glulam exports to Japan rely on JAS or an acceptable North American grader.

[2] The Ministry of Construction merged with other agencies to become MLIT in 2001.

[3] ALSC formulates and enforces lumber grading rules and design values in the United States and Canada. ALSC accredits the Western Wood Products Association (WWPA), the Pacific Lumber Inspection Bureau (PLIB) and the Southern Pine Inspection Bureau (SPIB).

Figure 2. Japan's 1990-2019 Softwood Lumber Imports



Source: Japan Customs

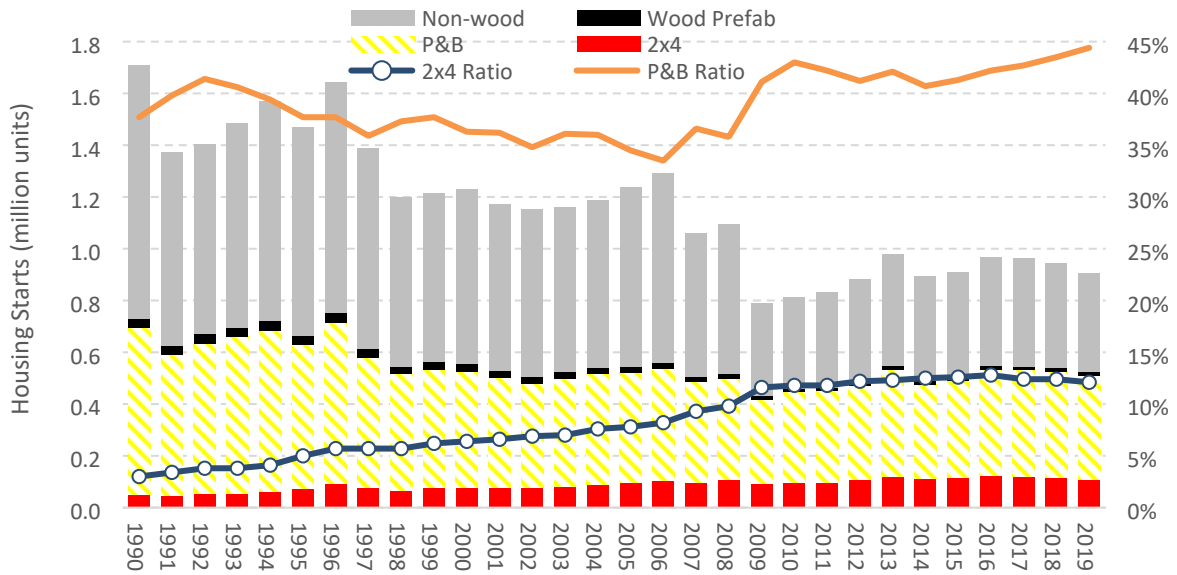
Japan's Housing Market

In 2019, Japan's total housing starts were 905,123 units, including 523,319 units of wooden houses (mainly single-family homes and low-rise apartments) and 381,804 units of non-wooden houses (mainly multi-family homes). Wooden housing starts have been steady since 2000 and are categorized by construction methods (Figure 3).

P&B wooden housing, which is generally limited to two stories, relies on metric-sized lumber and does not require JAS or comparable certification. Domestic lumber (sugi and hinoki) and European glulam are preferred for horizontal members (e.g., studs and posts) of P&B, while hinoki, Japanese larch, Douglas-fir or European glulam are used as horizontal members (e.g., beam). As the use of pre-cut lumber increased in P&B construction, the cost advantage of prefabricated (prefab) wooden houses has dissipated. Presently, prefab wooden houses represent a minor construction method in Japan.

With the 1997 elimination of the costly JAS certification requirement for North American dimension lumber and MLIT's approval of 2x4 construction of four-story or higher buildings, 2x4 construction has quadrupled since 1990s and by 2019 represented 12 percent of all new construction in Japan (Figure 3).

Figure 3. Housing Starts by Construction type



Source: MLIT

MLIT's fire-control area designation is another key criterion for wood-based construction. In collaboration with industry, MLIT revised Japan's fire codes and further expanded the use of 2x4 construction. In 1991, BSL allowed three-story wooden apartments outside of semi-fire control areas (e.g. rural area). In 1996, three-story residential construction was permitted in semi-fire control area (e.g. suburban residential area). In 2004, MLIT allowed three story or higher 2x4 buildings inside of fire control areas (e.g. urban area). These developments further boosted the popularity of 2x4 construction for three-story or higher rental properties.

Attachments:

No Attachments.