SUMITOMO FORESTRY

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For immediate release

Sumitomo Forestry Co., Ltd.

Launch of Environmental Flagship “LCCM Housing”

~ Storing carbon by making use of the advantages of wooden structures and reducing CO_2 across the entire life cycle ~

Sumitomo Forestry Co., Ltd. (President and Representative Director: Toshiro Mitsuyoshi; Headquarters: Chiyoda-ku, Tokyo; hereinafter Sumitomo Forestry) announced it has launched “LCCM Housing”—its environmental flagship model with excellent insulation efficiency that uses high-performance equipment as well as high-capacity solar power systems and other equipment that generates energy—on April 22, 2022. The advantages of wooden houses are used to achieve negative CO_2 emissions across the entire life cycle of homes.

Life cycle carbon minus (LCCM) housing is housing that achieves negative CO_2 emissions across the entire life cycle of homes by reducing CO_2 emissions before and during construction, occupancy, and demolition as well as generating renewable energy such as through solar power generation. As a wooden structure, Sumitomo Forestry’s LCCM Housing not only has low CO_2 emissions from raw material procurement to construction, but also further reduces CO_2 by utilizing domestic timber that uses renewable biomass fuels in the drying process in its structural framework. In addition, LCCM is achieved by using the company’s Big-Frame (BF) Construction Method—which allows layout modifications to be flexibly carried out in the future and suppresses the total CO_2 emissions* in construction, retrofitting, and demolition—and the use of renewable energy from solar power generation as well as designs that control light and heat. The robust structural framework sequesters approximately 20% more carbon compared to traditional construction methods, continuing to store carbon over the long term and contributing toward a decarbonized society. (* Calculated using the LCCM housing basic requirement (LCCO2) compliance assessment tool)

Sumitomo Forestry has announced our long-term vision Mission TREEING 2030 that incorporates our vision toward a decarbonized society in our business concept with a view of 2030, the target year of the Sustainable Development Goals (SDGs). Our construction departments are working on the standardization of carbon neutral designs. In Japan and abroad, the company develops business operations centered on wood, from forest management through to procurement and manufacture of timber and building materials, wooden buildings, and wood biomass power generation. Through Sumitomo Forestry’s wood cycle of harvesting and processing, using, recycling, and planting trees, we increase the CO_2 absorption of forests and utilize wood to continue to store carbon over the long term. As a partner of the global shift toward decarbonization, we will provide unique wood solutions and contribute toward the realization of a sustainable society.

■ Overview of LCCM Housing

(1) Carbon storage over the long term using Sumitomo Forestry's original Big-Frame (BF) Construction Method

As Japan's first wooden beam Rahmen structure, the Big-Frame (BF) construction method is Sumitomo Forestry's original construction method that demonstrates excellent seismic resistance and durability. Large columns with a width of 560 mm directly linked by metal-to-metal joints ("metal touch") are used to a robust structural framework. The carbon storage amount calculated based on the model plan is approximately 18 t-CO_2 per building when converted to CO_2. This is equivalent to the amount of CO_2 absorbed by approximately 0.3 ha of Japanese cedar forest over 50 years. Based on the annual number of custom-built detached houses sold by Sumitomo Forestry, this is estimated to be equivalent to the absorption of approximately 2,600 ha, and the amount of CO_2 absorption is increased by rejuvenating forests through replanting trees commensurate with the amount of timber used.

Ref: Calculation based on model plan (two-story building using BF Construction Method with a total floor area of 114.18 m^2)

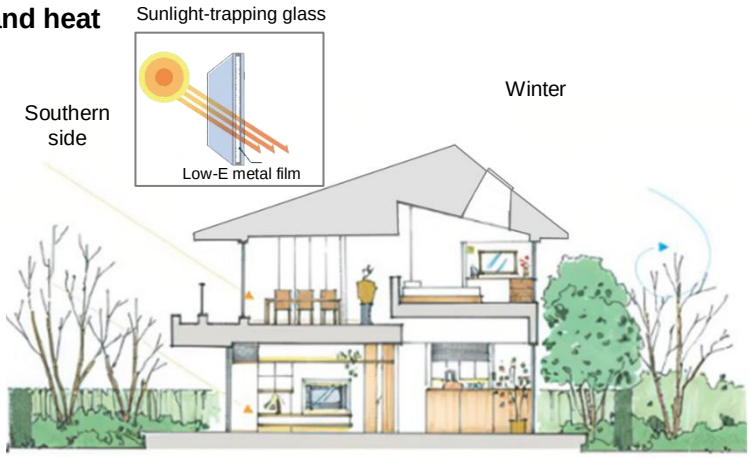
* Carbon storage amount is calculated for structural members and peripheral materials in accordance with the guidelines regarding the labeling of carbon storage amount attributed to timber used in buildings issued by Japan's Forestry Agency.
* The equivalent area of replanted forests is converted from the model plan's structural members and peripheral materials based on the absorption of Japanese cedar forests over 50 years.

(2) BF Construction Method's robust structural framework and flexible response to changes in different life stages

The BF Construction Method separates the structural portion (skeleton) from the interior and equipment portion (infill) that is placed in accordance with the lifestyle, making it possible to create designs based on the skeleton-infill approach. As SI partitions are easier to remove compared to normal partitions, they allow layout modifications to be made in accordance with lifestyle changes such as the birth, growth, and independence of family members and retirement, there adapting to changes into the future. As houses that are passed down to future generations, they continue to store carbon over the long term and reduce CO_2 emissions even when in the retrofitting stage.

(3) Passive design that controls light and heat

Sunlight-trapping double grazing glass is used on the light catchment area on the south while sunlight-shielding vacuum triple glazing glass is used on the remaining sides. The wide canopy and such cut off the strong summer sunlight while letting in light effectively during winter. The entire building is covered with high-performance thermal insulator by



adopting 360° TRIPLE Insulation. By controlling light and heat, it promises to deliver a comfortable and environmentally friendly lifestyle that offers a balance between cozy living spaces and reduction of CO_2 emissions.

(4) Installed with environmentally friendly equipment that has both energy-saving performance and economy

The design of the roof's shape allows the installation of a high-capacity solar power system. With high power-generation efficiency and excellence in economy, it also has the feature of being easy to use together with storage batteries. A high-efficiency water heater that makes hot water using less energy is also adopted in combination with clean energy from solar power generation to be friendly to the environment while reducing utility costs.

(5) Designed with domestic timber specifications using Japanese cypress and Japanese larch

The house is designed with a domestic timber specification for the building's structure that uses Japanese cypress engineered wood for the large columns and post pillars and Japanese larch engineered wood for the beams. This contributes toward revitalizing the Japanese forestry industry.

(6) Timber drying using biomass fuels

The principal structural members such as pillars and beams use renewable biomass fuels in the drying process. This helps to reduce CO_2 emissions in the construction stage.

- **Product name**: LCCM Housing
- **Launch date**: April 22, 2022
- **Sales area**: Nationwide in Japan (excluding Regions 1 to 3 in Japan's heat insulation region classification and Okinawa)
- **Structure**: Big-Frame Construction Method
- **Base price**: 1.03 million yen (including taxes) per 3.3 m^2 (Sumitomo Forestry's model plan)
- **Order target**: 100 units/year