February 3, 2012

For Immediate Release

Sumitomo Forestry Co., Ltd.

High-performance, durable, high-capacity fixed residential storage battery systems are standard

Sumitomo Forestry Rolls out Smart Solabo Smart House

—Wooden houses that smartly use energy—

Sumitomo Forestry Co., Ltd. (President and Representative Director: Akira Ichikawa; Head Office: Otemachi, Chiyoda-ku, Tokyo) announced the release of Smart Solabo on February 3, 2012. Smart Solabo is a wooden house that utilizes the fruits of nature and takes advantage of its innate energy saving properties, and features smart house technologies.

This product achieves enhanced energy use efficiency, taking advantage of the strengths of Sumitomo Forestry Home houses in leveraging the benefits of wood, a natural material with superior recycling properties. Smart Solabo is equipped with smart house technologies to ensure that energy is used wisely—a solar power generation system to create energy, the home energy management system (HEMS) to visually gauge the amount of energy generated and consumed, and a fixed, 12 kWh large capacity, residential battery system to store electricity. The product reduces the consumption of electricity and CO_2 emissions, while also being economical and reducing environmental impact.

After the Great East Japan Earthquake, the level of interest increased in safety, security, and methods for saving energy. There is a growing importance in the roles and functions expected of homes, including factors such as family protection, building closer ties, and the wise use of energy in consideration of the environment. In addition, given concern over securing stable electrical power supply, smart houses, which save electricity, have been gaining attention, reflecting efficient energy usage while maintaining comfort, and because they are eco-friendly. The global market for smart house-related systems and services, according to an analysis by Fuji Keizai, is expected to be worth approximately ¥11.9431 trillion in 2020 (441% growth versus 2011), with the Japanese market accounting for ¥3.4755 trillion (279% growth versus 2011) (Source: Reality and Future Prospect of Smart House Related Technology and Market 2012). As this suggests, the smart house-related market is expected to expand.

■ Product Profile

Product Smart Solabo

Release date February 3, 2012

Sales Area Japan-wide (excluding Okinawa and some other areas)

Structure Multi-Balance Construction Method, Big-Frame Construction Method, Two-by-Four Construction Method Systems

(1) Solar power generation system

(2) Residential storage battery system

・12 kWh storage capacity (continued usage of 200 W refrigerator, 150 W LCD TV, 100 W lighting for nearly 24 hours)

(3) Home energy management system (HEMS)

Price Starting from ¥680,000 per 3.3 square meters (tax included)

Sales target for first year 300 houses

■ Development chronology

In its development of houses that utilize wood, a recyclable natural resource, Sumitomo Forestry has been moving forward with the research and development of a Life Cycle Carbon Minus (LCCM) house, which will achieve negative CO_2 emissions throughout the life cycle of the home via efficient energy consumption in daily life and optimal management of energy use.

In 2008, Sumitomo Forestry commenced an examination into and R&D related to a residential storage battery system. From 2010, the company, in collaboration with 4R Energy Corporation (a Nissan Motor Co., Ltd. and Sumitomo

Corporation joint venture), embarked of field tests for a fixed residential storage battery using the lithium-ion battery that is installed in Nissan Leaf.
In 2011, 10 monitors were recruited to test homes using this fixed residential storage battery system. Now the company is collecting survey data on charging/discharging and electric power consumption, and has begun to accumulate survey information on usage trends in ordinary homes.
Sumitomo Forestry aims to achieve the development of an LCCM house by moving forward with the development of proprietary smart house technologies that will expand and improve its lineup of optimal control systems and housing fixtures and equipment used in conjunction with HEMS. In turn, this will contribute to the creation of a low-carbon society.

■ Product features

(1) Creates energy

Using a solar power generation system to create electrical power without emitting CO_2 during the day will positively contribute to the environment and will also lower grid power consumption, making it possible to reduce the amount of electrical power purchased from an electric power company. Two types of solar panels are used, ones that are aesthetically designed and built into the roofing tiles, and fixed solar panels that conform easily to the shape of the roof. This achieves an eco-friendly home that is energy self-sufficient and has an appealing exterior design.

(2) Stores energy

The storage battery used in Smart Solabo homes is a high performance lithium-ion battery, which is also used in electric vehicles. The storage battery for the home has one of the largest storage capacities available, a maximum of 12 kWh (rated capacity). This makes it feasible to control usage, storing electric power, which was not before possible, using it when needed, and then storing it up again. The average household uses between 8 –10 kWh per day. The Smart Solabo storage battery harnesses enough electric power for roughly 24 hours of continued usage or for about two days if electric power is used conservatively. During periods of peak electric power demand, mainly due to the use of air conditioners in the summer and heaters in the winter, the system enables residents to reduce their electric power costs by tapping and storing electricity during the midnight power service. Also, this realizes a reduction in environmental impact, mainly by contributing to cutting energy consumption in peak periods.

Potential use as an emergency power source

During power outages, the stored electric power can be used as an emergency power source. The storage battery can be charged using the solar power generation system facilitating longer usage. In light of this, it can also be used to deal with prolonged power outages.

(3) Uses energy wisely

The Smart Solabo allows users to do a real-time check of electric power consumption in the home, including a breakdown of electricity being used from the power grid, solar power generation system, and storage battery. Energy consumption is believed to be reduced by 15% just by being able to visualize the electric power being consumed*. HEMS, which was developed in conjunction with Toshiba Lighting & Technology Corporation, helps to save on electricity bills by managing daily electric power use. The system makes it easy to identify energy wastage, helps to efficiently save electricity, and enhances environmental awareness.

*Based on the results of the Ministry of Economy, Trade and Industry's 2009 smart house demonstration project report

(4) Electric vehicle and plug-in hybrid vehicle dedicated battery charger socket is a standard feature

A 200 V dedicated socket to charge up an EV or PHV is a standard feature of the Smart Solabo house. This supports a lifestyle that includes a new connection between car and home, and also supports a "driving lifestyle" that emits zero CO_2 while on the road. The dedicated socket comes in the standard outdoor socket type or the stand type.

(5) Energy-saving homes that take advantage of nature's blessings by utilizing wood, a recyclable natural resource

Domestic timber is actively used in building Sumitomo Forestry Home houses, which utilize wood, a recyclable natural resource. In contrast to steel frame or concrete structure housing, the level of CO_2 emissions is substantially reduced from the material procurement stage to the construction stage. The insulation and airtightness of these houses surpasses next-generation energy conservation standards. Through the *Ryouonbou* design concept, which utilizes natural blessings

including the wind, sun, trees, and plants, Sumitomo Forestry creates homes that allow residents to live comfortably year-round
without having to rely excessively on heating and cooling systems.