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For immediate release

Mitsui Fudosan Residential Co., Ltd.
Kyoto University
EneCoat Technologies Co., Ltd.

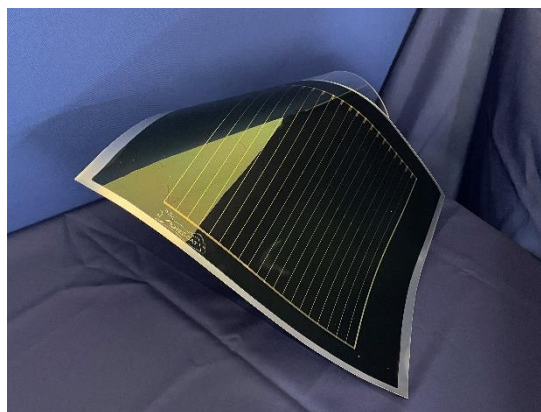
Joint Research Starts on Housing Using Perovskite Solar Cells Easily Generating Electricity in Various Home and Living Spaces Industry-Academia Collaboration Accelerates Practical Use of Perovskite Solar Cells

Tokyo, Japan, October 17, 2023 – Mitsui Fudosan Residential Co., Ltd. and EneCoat Technologies Co., Ltd., a spin-off company from Kyoto University involved in development of Perovskite solar cells, hereby inform that they have recently started joint research related to utilizing Perovskite solar cells for housing. This research will accelerate the practical use of Perovskite solar cells and will be conducted as an industry-academia collaboration with Professor Atsushi Wakamiya of the Wakamiya Lab, Kyoto University.

Perovskite solar cells are next-generation solar cells using compounds with a crystal structure called a Perovskite structure and are being developed for practical use worldwide after being invented in Japan in 2009. Its features include: 1. High power generation efficiency of 20% or more; 2. Thinness, lightweight and bendable; and 3: Capable of being manufactured with few processes. As a result, they can be made with less energy than required for conventional silicon solar cells and are expected to keep costs under control. As they are highly efficient, thin and lightweight, the cells can be used in various home and living spaces, easily generating power that can be utilized for electricity.

This joint research will conduct demonstration tests in environments closer to actual home and living spaces in such ways as utilizing EneCoat Technologies' Perovskite solar cells in Mitsui Fudosan's apartments and other places. In addition, working in collaboration with the Wakamiya Lab, Kyoto University Institute for Chemical Research, which achieved world record Perovskite solar cell power generation efficiency*1, will verify the safety and efficiency of the product and accelerate its practical use. During the current fiscal year, Mitsui Fudosan Residential will install Perovskite solar cells in well-designed lighting and furniture in the common areas as well as in the interiors of condominiums it supplies, storing solar power during the day and planning to use it at nights and other times.

Going forward, maximizing the attributes of Perovskite solar cells will not just utilize renewable energies, but aims to develop design-oriented and convenient ways of using the cells to enrich homes and lifestyles.



Perovskite solar cells

*1 World's highest efficiency rate: "Optimized Carrier Extraction at Interfaces for 23.6% Efficient Tin-Lead Perovskite Solar Cells," Shuaifeng Hu, Atsushi Wakamiya, et al, Energy Environ. Sci. 2022, 15(5), 2096-2017, April 2022. Kyoto University news release (only in Japanese): <https://www.kyoto-u.ac.jp/ja/research-news/2022-04-13-1>. In addition, recently achieved another instance of the world's highest efficiency of 21% for Perovskite solar cell modules using a film substrate.

■ EneCoat Technologies Co., Ltd.

Established in January 2018 as a spin-off company from Kyoto University, based on the results of research on Perovskite solar cells carried out at the Kyoto University Institute for Chemical Research. President and CEO is Naoya Kato.

■ Professor Atsushi Wakamiya

Professor, Institute for Chemical Research, Kyoto University (field of molecular aggregation analysis, multidisciplinary chemistry). Serves as a director and Chief Scientific Officer (CSO) of EneCoat Technologies.

* The initiatives covered in this press release are contributing to three of the UN's SDGs.

