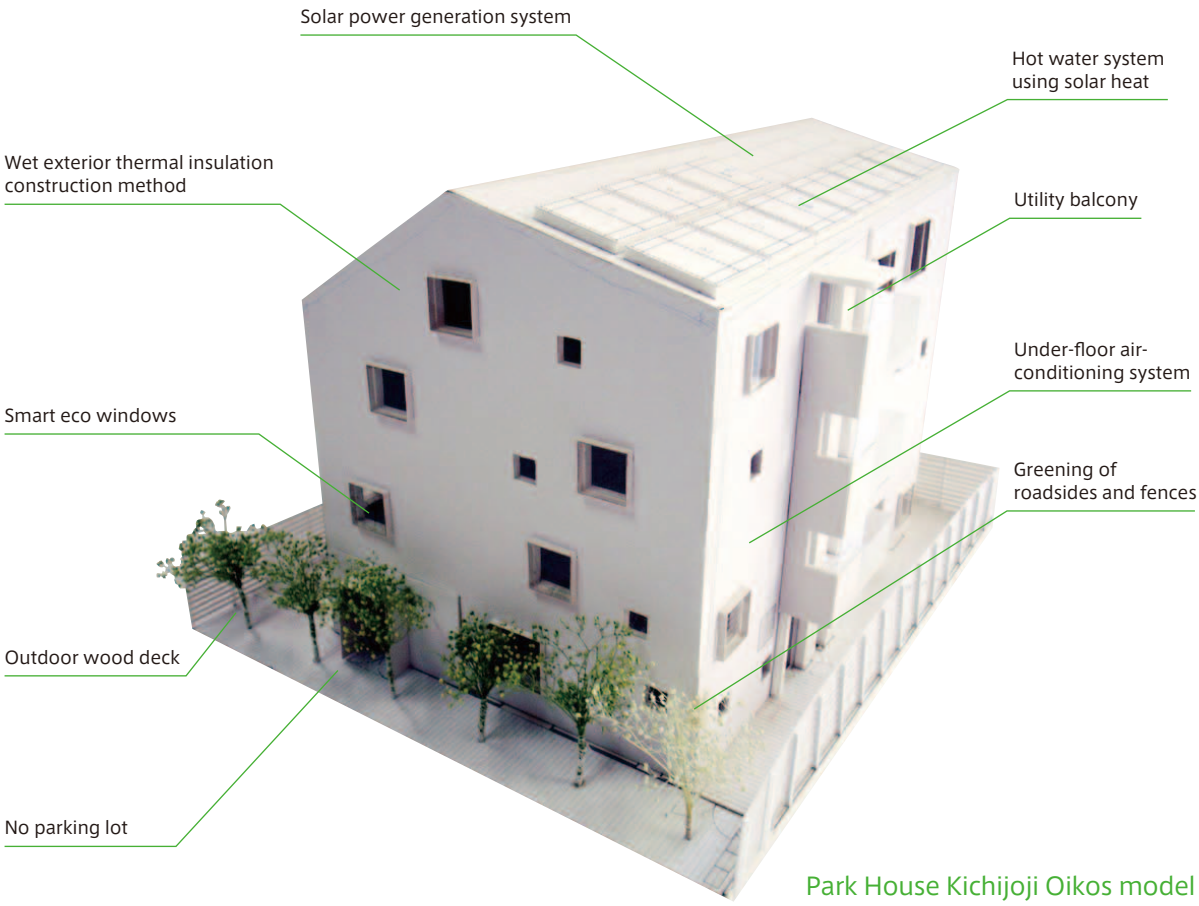
Special Feature 2

Environmental Initiatives in the Residential Business

"Eco living is comfortable living"

Developing comfortable, environmentally friendly homes



Park House Kichijoji Oikos model

Shinji Karasawa
Director, MEC eco LIFE Co., Ltd.

Next-generation eco condominiums equipped with collective-access high-voltage power receiving system and solar power panels

MEC eco LIFE makes recommendations and carries out research on environmentally friendly designs and the utilization of renewable energy in the multi-family units developed by the Mitsubishi Estate Group. Equipping multi-family condominiums with solar power panels was problematic due to the high costs involved and the difficulty of maintaining the generating equipment. To resolve these issues, MEC eco LIFE developed a new condominium model equipped with both a collective-access high-voltage power receiving system and solar power panels. In August 2009, Japan's Ministry of Land, Infrastructure,

Transport and Tourism(MLIT) selected this unique solar power model for a multi-family unit as one of the models for its new greenhouse gas reduction project.

A collective-access high-voltage power receiving system provides a method by which the power used in buildings can be bought in bulk. This practice has previously been used in factories and tenant-occupied buildings, but this is the first time it has been adopted for multi-family units. The electricity used by the condominium overall is received en bloc at a high-voltage, and then distributed to the individual units at a lower voltage. Buying electricity for the entire condominium rather than for each individual unit keeps electricity costs down. Shinji Karasawa, a director at MEC eco LIFE, explains, "With a collective-access high-voltage power receiving system, the high-voltage power receiving service provider is responsible for the shared part of the power receiving facility, not the building owner, so the owner does not need to pay for any of the facility's costs. In that case, why can't the money saved be used for a solar power facility? This is how the concept for the system arose."

The system was introduced as Mitsubishi Estate's proprietary eco system, "*soleco*," and was installed in Park House Komagomesomei, the first in the Park House series. Karasawa says, "You can save on electricity charges while also doing good for the environment. This is precisely the kind of environmental concept needed today—one underpinned by good sense and economic efficiency." Mitsubishi Estate will continue to install *soleco* in new condominiums and existing condominiums.

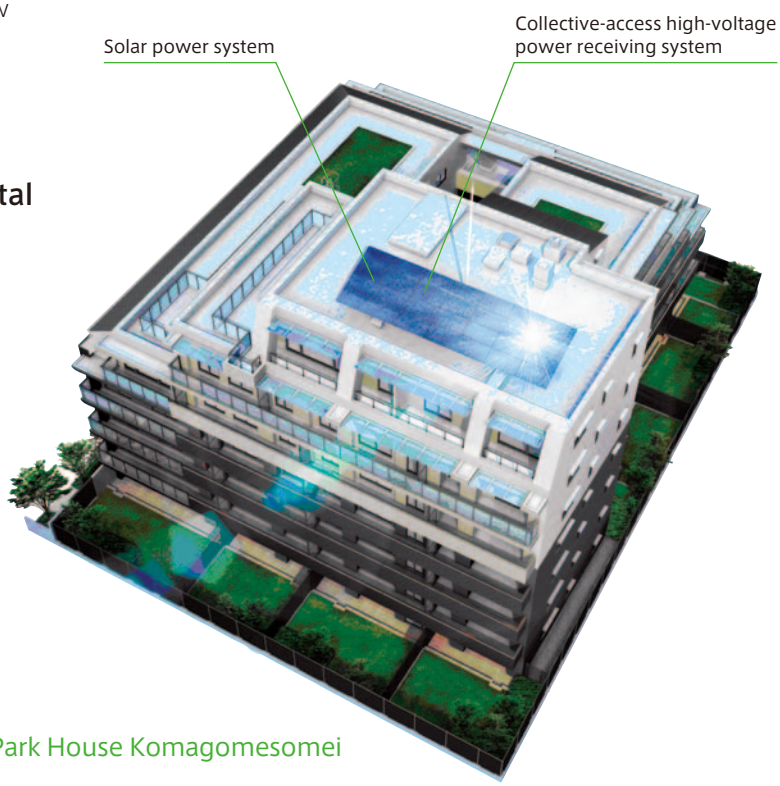
Sales of near-future eco condominiums equipped with cutting-edge environmental technology

Park House Kichijoji Oikos* is a near-future eco condominium in Musashino City that Mitsubishi Estate planned jointly with MEC eco LIFE. The building is equipped with solar power panels and LED lighting, as well as exterior thermal insulation construction methods. A hot water supply system using solar heat has been installed in each unit—a first for a multi-family condominium. In addition, the condominiums provide no parking lots on the assumption that residents will rely on bikes, public buses and rental cars. A balcony is built near the water supply as a design feature. This functional space enables residents to hang up their laundry in the fresh air and makes it easier to get around within the unit. With such features, Park House Kichijoji Oikos offers a new lifestyle in which residents can enjoy a full life that is in harmony with the environment.

In November 2009, Park House Kichijoji Oikos was recognized as an eco-friendly project under the program run by the MLIT to promote the reduction in CO_2 emissions associated with residential and other buildings.

"Going forward, condominiums must not only have the appeal of strong environmental functions, but also convey the inspiring idea that living in this condominium will give the resident an entirely new lifestyle," says Karasawa. The company is even careful about sales methods, so that eco-friendly practices are used in the entire process. At Park House Kichijoji Oikos, instead of building a mockup unit and printing glossy pamphlets, the company marketed the condominiums simply by showing visitors a completed unit.

* *Oikos*, the ancient Greek word for "family, houses, or habitation" is the root for the English words "economy" and "ecology."



Park House Komagomesomei

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External view of Everie model home

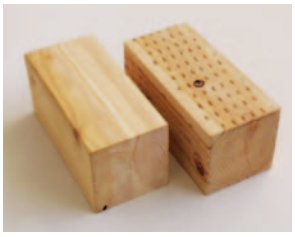
Initiatives in single-unit homes: Homes using Japan-grown timber to support long, healthy lives

In October 2009, a new Eco Life home, Everie, was announced. This house combines the environmental technologies that Mitsubishi Estate Home Co., Ltd, has amassed over the years with passive design methods. The homes adopt the most cutting-edge environmental technology, offering the Aerotech central heating/cooling and ventilation system and a super-insulated, super-airtight design. The passive design method is also leveraged to utilize natural energy and reduce energy use. For example, atriums and conservatories with greenery on the walls are semi-outdoor spaces whose use can change with the seasons. In the winter, the space can be used as a greenhouse where sunlight streams in from large windows, and in the summer, it can become a semi-outdoors terrace by opening and closing the windows.

In addition, Mitsubishi Estate Home has proposed a new space called a "car studio," where electric vehicles that do not emit any CO_2 or harmful emissions can be kept in an area directly connected to the living quarters. The company began taking measurements at Everie homes on the effect of temperature, humidity and natural light in winter 2009 with the aim of developing and introducing new environmental technology in its three-year plan.

Mitsubishi Estate Home is also utilizing Japan-grown timber. The company uses Japan-grown cypress for foundations and floor beams, and plywood made with Japan-grown coniferous trees. By 2009, Japan-grown timber accounted for 35% of the timber used by the company. The company is working to boost its usage rate to 50% by using engineered wood made with Japan-grown thinned timber such as larch in flooring.

The ideal eco housing does not involve forcing residents to make trade-offs or bear unreasonable sacrifice for the sake of the environment. Mitsubishi Estate Home envisions people enjoying a healthy lifetime in their eco-friendly homes, and is constantly pursuing research and development to reduce environmental impact even further.



Floor beams made of Japan-grown cypress

Everie conservatory

● Voice ●

Travelling the nation searching for Japan-grown timber that could be used for 2x4s

Almost all of the 2x4s in Japan are made from foreign-grown timber. So I went to lumber mills throughout the country looking for Japan-grown timber that could be used for 2x4s. Cypress has been used for a long time in Japan, and it is generally thought to be good lumber. However, the lumber must be strong to meet the criteria for 2x4 construction. After trial and error, we resolved the strength problems by using cypress in a bonded wood. We will continue to develop building materials using Japan-grown thinned timber such as larch and cedar.

Shintaro Onuma
Manager, Order Management Section, Construction Center, Mitsubishi Estate Home Co., Ltd.

Stakeholder Meeting

Mitsubishi Estate and MEC eco LIFE's initiatives

We held a discussion with stakeholders on the Mitsubishi Estate Group's efforts to pursue environmental responsibility, with a particular focus on initiatives such as Mitsubishi Estate Home's new Eco Life home Everie and MEC eco Life's multi-family units.

■Time and place

4:00-6:00 pm, March 11, 2010
Akasaka Housing Gallery
The Living Laboratory Akasaka
(7-chome, Akasaka, Minato-ku, Tokyo)

■Member

(affiliation and position are as of time of writing)

Stakeholder representatives

Mariko Kawaguchi
General Manager, Management Strategy Research Department, Daiwa Institute of Research Ltd.

Kikuko Tatsumi
Board Member, and Chairperson, Environmental Committee, Nippon Association of Consumer Specialists

Nobuo Taniguchi
Assistant Division Chief in charge of Renewable Energy, Urban and Global Environment Division, Bureau of the Environment, Tokyo Metropolitan Government

Nakanishi Kiyotaka
Assistant Chief Editor, *Nikkei Ecology*, Nikkei Business Publications Inc.

Mitsubishi Estate Group

Takashi Tokita, General Manager, Residential Design Planning and Marketing Department, Mitsubishi Estate Co., Ltd.

Shinichi Hirao, President, MEC eco LIFE Co., Ltd.

Shinji Karasawa, Director, MEC eco LIFE Co., Ltd.

Tooru Tsukida, Corporate Officer and Design Center Manager, Mitsubishi Estate Home Co., Ltd.

Noboru Nishigai, General Manager, CSR Department, Mitsubishi Estate Co., Ltd.

■Excerpts of conversation

(Ms. Kawaguchi)
I encourage cooperation with household equipment manufacturers, because both environmental and functional aspects of the home can be streamlined and improved. I would like to see thoughtful attention to detail, for example avoiding long hot water supply pipes which waste too much water before it comes out hot at the tap.

(Ms. Tatsumi)
Greening should be a major consideration, not just resources and energy. Greenery and the aromas of nature have a powerful effect on people's emotional well-being. Restoring older condominiums to make them more attractive to live in is also an environmentally friendly approach. I think more resources should be devoted to this issue in the future.

(Mr. Taniguchi)
I am impressed that initial costs and operating costs are clarified in a condominium that combines a collective-access high-voltage power receiving system and solar power panels. Perhaps Mitsubishi Estate could look into the feasibility of building a condominium powered by Fresh Green Energy in the future.

(Mr. Nakanishi)
It is not enough to simply live in an environmentally friendly condominium. It is also important to look at how the unit is maintained and consider ways to build community among residents. The mass media is featuring stories like these, so I would like to see Mitsubishi Estate develop a cutting-edge model.