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The Paris Agreement, an international framework for action against climate change, has accelerated international movement, and it has become increasingly important for companies to contribute to the sustainable growth of society through their business.

Based on the philosophy of the Mitsui Fudosan " 🗞 "logo, our Group has achieved corporate growth by enriching people's lives and constantly creating new value through the creation of neighborhoods that meets the needs of the era and coexists with society in harmony.

Under our "& EARTH "principle, we have also been proactively addressing climate change for some time.

In December 2020, our Group's greenhouse gas emission reduction targets for FY2030 and FY2050 were announced. In the following year 2021, we raised the reduction target for FY2030 even higher, and formulated Action Plans as comprehensive and specific strategies to achieve the targets.

Mitsui Fudosan Group's Targets



Steadily implement initiatives for FY2030 with supply chain Further promote actions to realize a decarbonized society in FY2050



FY2030

0 t-CO₂ FY2019 etc.

FY2050

FY2022 Initiatives to Realize Decarbonized Society

Toward Realization of Decarbonized Society

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Improve environmental performance of new and existing properties

New properties

Realize ZEB/ZEH level* environmental performance for all properties

* ZEB/ZEH level: BEI level with environmental performance equal to or higher than ZEB/ZEH Oriented, excluding some properties.

Key strategies for building business

- Optimization of air conditioning load
- Optimization of standard lighting illuminance
- Adoption of other energy-saving items

Tokyo Midtown Yaesu—one of the largest office buildings in Japan to have been certified ZEB Ready



In addition to the introduction of LED lighting and motion sensors in common areas, in the private office areas LED lighting, daylight sensors, and high-efficiency outdoor units have been installed and lighting intensity settings have been optimized. These measures have reduced annual primary energy consumption by more than 50% compared to comparable conventional buildings. Solar panels have also been installed on part of the project site to generate the energy the building requires.

* The ZEB Ready certification applies to the office areas of Yaesu Central Tower

Key strategies for commercial facility business

- Optimization of air conditioning load
- Improve lighting efficiency
- Adoption of other energy-saving items
- Installation of solar power generator

Mitsui Shopping Park LaLaport Sakai—the first large-scale commercial facility to receive ZEB Oriented (Retail) certification



Reductions of more than 30% have been achieved for the facility's projected primary energy consumption. A Building and Energy Management System (BEMS) and lighting and air conditioning control systems were installed for efficient energy operation and management. Highly insulated building materials, high-efficiency equipment, and LED lighting enable energy-savings, while cogeneration systems allow energy to be produced and consumed on-site.

*ZEB Oriented certification covers areas of commercial facility buildings used for the sales of goods ("retail"), excluding areas used for food or drink establishments.

Key strategies for logistics business

- Installation of solar power generator
- Considering the adoption of LED lighting in warehouses with dimming

"Mitsui Fudosan Logistics Park Ebina I" (certified as ZEB)



Through a variety of measures designed to generate energy and utilize it efficiently, CO₂ reductions of 122.6% have been achieved compared to reference emission figures for the entire complex. In terms of energy efficiency, the facility features geothermal heat pumps, which use 44 posts (each with a diameter of around 15 cm) driven approximately 100 m underground to make use of the earth's heat, and can achieve energy savings of more than 30% compared to conventional air-cooled air-conditioning systems. Other energy-saving technologies that have been adopted include desiccant air conditioning (which allows for separate adjustment of humidity and temperature and uses around 20% less energy than conventional systems) and LED lighting. For energy generation, rooftop solar power generation equipment with a capacity of 2 MW (for annual generation of approximately 2.2 GWh), has been installed to supply power to both common areas and tenants' private areas.

Key strategies for hotel business

- Optimization of air conditioning load
- Improve lighting efficiency
- Installation of solar power generator

Mitsui Garden Hotel Jingugaien (Improve air conditioning efficiency by adopting balconies that block sunlight)



Mitsui Fudosan Residential

Achieve by FY2030: ZEH-M in all mid- and high-rise units ZEH in all detached units

Mita Garden Hills

(All units are ZEH-Oriented condominiums)

- Plans to acquire ZEH-Oriented certification for all 1,002 units, the largest scale in Japan
- \cdot Service is introduced that virtually eliminates CO_2 emissions for both electricity and gas used
- On-site power generation and MEMS further reduce the environmental impact of common areas
- Create a system that enables residents to enjoy and continuously work on energy conservation and CO₂ reduction, such as by visualizing the amount of electricity consumed in each condominium





Achieve by FY2030 for orders received: 100% ZEH in exclusive housing 50% ZEH/ZEB in rental housing/business buildings

Custom-built house Proposal of environmental design including garden together with ZEH



Existing properties

We will improve energy efficiency through strategic renovation of properties and actively promote the creation of on-site renewable energy.

In office buildings, promote the use of LED lighting and the optimization of lighting intensity in all properties, while making efforts to reduce the air conditioning load in hotels and commercial facilities.





Improve the environmental performance of existing facilities through strategic renovation

Promote the use of LED lighting in all office buildings

In logistics and commercial facilities, maximize the installation of solar power generators on rooftops and other premises. Realize on-site power generation and supply.



Mitsui Fudosan Logistics Park Hino



Mitsui Outlet Park Kisarazu







Mitsui Outlet Park Kisarazu

Large-scale carport-mounted solar power generation equipment to be introduced at Hiroshima Airport, with one of the highest capacities of any airport in Japan (2.6 MW)

A Power Purchase Agreement (PPA) has been signed between Hiroshima International Airport Co., Ltd. and Mitsui Fudosan, under which we will install, own, and operate carport-mounted solar power generation equipment in the airport's car parks. The power generated will be used in Hiroshima Airport's terminal buildings.



Promote continuous renewal to improve energy-saving performance in other businesses

Greening of power consumption in common areas of properties and areas used by the company

By FY2030, achieve greening of power consumption in common areas of properties owned and areas used by the Group nationwide*

* Electricity equivalent to our share of common areas (including partially owned, excluding electricity equivalent to in-house power generation within each facility). The term "greening" refers to the switching of electricity used to substantially renewable energy sources by using non-fossil certificates, etc.

- By FY2022, we completed the greening of power consumption used in 25 buildings in the Tokyo metropolitan area, including mixed-use core buildings in Tokyo Midtown and Nihonbashi area.
- In March 2022, we started collaborating on the greening of power consumption in the Chubu and Kansai regions. The Chubu and Kansai regions have been added to Mitsui Fudosan's "Green Electricity" expansion in the Tokyo metropolitan area, making it possible to expand into the three major metropolitan areas.
- This expansion will apply to approx. 180 facilities and we will accelerate the rollout of power greening to all facilities owned in Japan by FY2030.
- At Tokyo Midtown Yaesu, completed in 2023, we are adding environmental value to the electricity used in the facility through our five solar generation sites located around Japan—a first for us.



- *1: Solar power plants owned by Mitsui Fudosan, post-FIT power plants contracted by TEPCO Energy Partner, Incorporated residential solar power generators, solar power owned by partner power producers, etc.
- *2: For FIT power sources, acquired via Japan Wholesale Power Exchange (JPEX); for non-FIT power sources, acquired from electric power providers.
- *3: Mitsui Fudosan TG Smart Energy Co., Ltd. in the specified electricity business areas; TEPCO Energy Partner, Incorporated and others in other areas.



Greening of electricity used in common areas of properties owned by Mitsui Fudosan, including Tokyo Dome



Support tenant companies and buyers in their efforts to decarbonize by proposing Green Menu



Tenant companies

- Propose green power supply services to support corporate tenants' efforts toward RE100 and decarbonization.
- In April 2021, we started green power supply services for office building tenants.
- In 2022, through the completion of developments in the three major metropolitan areas, we have put in place a support framework to help customers resolve RE100 or ESG issues.



(abc order)

* Some of companies using the system as of October 31, 2021

Institutional investors

• Support institutional investors in their RE100 and decarbonization efforts by proposing a green power menu at the time of property sale.

RE100 is led by The Climate Group in partnership with CDP, and also operates as part of the We Mean Business coalition. In Japan, the Japan Climate Leaders Partnership (JCLP) has been an official regional partner of RE100 since 2017, supporting the participation and activities of Japanese companies.

Home buyers

• Achieve a 40% reduction in CO₂ emissions (average for medium- and high-rise buildings and detached houses) by FY2030 by adopting methods such as the "bulk high-voltage power receiving × renewable energy" system and greening through the introduction of ENE-FARM in medium- and high-rise sales.



Secure stable renewable energy sources

Further promotion of mega-solar development

New mega-solar development

- In addition to the existing mega-solar project (80 million kWh/year), aim to develop mega-solar power plants with a total power generation capacity of 300 million kWh/year* (Total output: Approx. 175,000 kW) by FY2030. (Total: 380 million kWh/year)
- * Power generation equivalent to our own power use in the Tokyo metropolitan area at the time the action plan was formulated (equivalent to the use of approx. 30 buildings in the common area of Tokyo Midtown Hibiya)



• In FY2022, a total of seven sites were developed for mega-solar to secure annual generation of approximately 23 GWh. This will also enable CO₂ reductions of around 10,000 tonnes. These sites will send power to Tokyo Midtown Hibiya and to our facilities in the Hokkaido and Chugoku regions.

Existing mega-solar business

• Expand mega-solar projects with a total area of 93.9 ha at five locations nationwide. Total output: Approx. 72,000 kW, generating approx. 80 million kWh per year.





Sanyo Onoda Solar Power Station



Oita Solar Power Station

Omuta Solar Power Station



Initiatives to reduce CO₂ emissions during construction

In addition to the development of tools to accurately grasp CO² emissions during construction, require submission of a reduction plan by construction companies, etc. Promote reduction of CO² emissions in the entire supply chain

Accurate understanding of CO₂ emissions during construction

- In March 2022, Mitsui Fudosan and Nikken Sekkei formulated the "Manual for Calculating Greenhouse Gas (GHG) Emissions," an arrangement of the Architectural Institute of Japan's "LCA Guidelines for Buildings*1" making its use easier in practical terms.
- Changing from the conventional simple method of multiplying the total construction cost by a certain unit price to the new method of accumulating each component and material, enables highly accurate calculation of GHG emissions.
- We will proceed with the trial of this manual, and widely share it with related parties such as academic societies, construction companies, and real estate companies. As a result, in 2023 the Real Estate Companies Association of Japan drew up its Construction GHG Emissions Calculation Manual.

*1: LCA guidelines for buildings: Established in 2013 by the Architectural Institute of Japan (AIJ) and is the only academically established guideline in Japan for calculating the life cycle environmental impact (LCA*2) of buildings.

*2: LCA (Life Cycle Assessment): A method for quantitatively assessing the environmental impact of a product or service over its life cycle.





Reduction of emissions during construction

- Revision of design guidelines
 - Design to enhance environmental performance
 - Proper planning on the use of components and equipment without waste
 - \cdot Use of low-carbon materials and means
 - · Submission of "CO2 reduction plan during construction" including the above
- Revision of estimate guidelines
 - · Calculation of emissions during construction using the tools on the left
 - \cdot Reduction of emissions at construction sites
 - Procurement strategy for material
 - · Submission of "CO2 reduction plan during construction" including the above

Utilization of forests

- Actively utilize owned forests for high-rise wooden buildings and houses.
- Realize self-sufficiency in building materials and a sustainable virtuous cycle between forest resources and the local economy.

Forest conservation activities of Mitsui Fudosan Group



Agreement on Promoting the Use of Wood in Buildings with the Hokkaido Government and Two Forestry-Related Organizations

To promote the use of wood from trees grown in Hokkaido, we have signed an agreement with the prefectural government, the Hokkaido Federation of Forestry Cooperatives, and the Hokkaido Federation of Wood Industry Cooperative Associations.

Summary of the agreement:

- The Hokkaido Government will provide technical advice and information on subsidy projects and related programs with respect to promoting the use of timber from Hokkaido, as well as conduct public relations activities based on the agreement.
- The Hokkaido Federation of Forestry Cooperatives will establish a supply network for building materials in advance and will supply legally harvested wood in a timely manner.
- The Hokkaido Federation of Wood Industry Cooperative Associations will work to request fiscal support for promoting the use of local timber and developing related facilities.
- The Mitsui Fudosan Group will endeavor to use timber from Hokkaido in the buildings it plans to construct going forward.

Working closely with the Hokkaido Government, the Mitsui Fudosan Group will contribute to the realization of the agreement's core objectives, which are to realize a decarbonized society by 2050 and spur regional revitalization by energizing the forestry industry and its peripheral sectors.

Mitsui Home's Sustainable Wooden Condominium "MOCXION" for a Decarbonized Society

- Wood, a sustainable building material is used to construct the condominiums significantly reducing CO₂ emissions during construction and contributes to the global environment
- Sustainable condominiums with high thermal insulation, energy efficiency, durability, earthquake resistance, fire resistance and sound insulation

Park Axis Kita-Senzoku MOCXION—scheduled for ZEB-M Ready and LEED certification

A carbon-zero rental condominium building with an all-wood skeleton. The use of wood in this way reduces the amount of CO₂ produced during construction by around half. As a project that utilizes pioneering wooden construction techniques, it was selected for commendation by the Ministry of Land, Infrastructure, Transport and Tourism in FY2022. Wood used in the finishing for the building's entrance lounge actually comes from the Mitsui Fudosan Group's own forests. This Mitsui Fudosan Residential rental condominium is scheduled to be the first to be certified under the LEED (Leadership in Energy and Environmental Design) international environmental certification system. Our MOCXION series of buildings make use of newly developed, high-strength load-bearing walls, which are highly resistant to earthquakes yet relatively slim.



Plans for the largest and tallest wooden rental office building in Japan in Nihonbashi, Tokyo

- The largest and tallest existing wooden high-rise building in Japan, with 17 floors above ground, a height of approx. 70 m, and a total floor area of approx. 26,000 m²
- Lumber volume used for structural materials is expected to exceed 1,000 m³, the largest in Japan
- Actively utilize timber from forests owned by the Mitsui Fudosan Group in Hokkaido.
 The goal is to achieve self-sufficiency in building materials and a sustainable virtuous cycle between forest resources and the local economy.



Acquisition of external certifications

• In addition to improving the environmental performance of all facilities, we will actively acquire external certifications in Japan and overseas to promote ESG, including decarbonization. (Quantitative target: Acquire 100% certification for newly built environment efficiency.)



Examples of certified facilities

Refer to the ESG data page and environment-related data for the status of environmental real estate certifications. \Rightarrow https://www.mitsuifudosan.co.jp/esg_csr/esg_data/environment/

Open innovation that will lead to new technologies

• Through proactive efforts—such as joint research between academia and construction companies, and investment in startups (including providing demonstration testing facilities)—we aim to help decarbonize society as a whole.

Investment in three venture capital funds for startups that specialize in decarbonization

In 2022, we formulated a new strategic limited-partnership investment budget for venture capital funds that comprise startups with strengths in the decarbonization field, and invested in three such funds. Through strategic limited-partnership investments, we can grasp trends in technical innovations related to decarbonization, and discover—and co-create with—startups in those fields.







The Creation of neighborhoods initiatives

Kashiwanoha Area Energy Management System (AEMS)

AEMS has been installed to centrally manage the energy of the entire area. Efficient use of energy has been achieved, and some energy savings have been achieved using solar panels.



Also promoting new initiatives that utilize area venues and communities

Demonstration fields for new technologies

Providing a demonstration field to venture companies with new decarbonization technologies, such as Girasol Energy Inc. and Exergy Power Systems Inc.



Solar panels on the roof of LaLaport Kashiwanoha

Environmental activities participated in by local residents

Develop a participatory environmental platform involving local residents and users in the area. Those who participate in the activities will be able to receive points and privileges.



Expand environmental activities with local residents

Energy conservation promotion initiative in the area

Smart Energy Project (Nihonbashi/Toyosu/Yaesu)

Through the stable supply of electricity and heat to the surrounding area, including existing buildings, we have realized eco-friendly neighborhoods development that improves energy resilience* and achieved energy conservation and CO₂ reduction, even in times of emergency. Following Nihonbashi and Toyosu, energy supply started in Yaesu in September 2022.



* Energy resilience: Enhance resilience of energy supply networks. This is based on the concept that it is important to be prepared not only for emergencies, but also for a variety of situations during normal times.

Initiatives with residential tenants

Mitsui Fudosan Residential runs a series of activities as part of the Sustainable Living Program ("Sus-katsu Program"), which promote enjoyable, sustainable decarbonization efforts. In 2023, one such activity involved starting a circular-action service to recycle unwanted goods through a permanent recycling station that aims to match clothes and other items no longer wanted by residents with new owners. Items are sorted and redistributed as a resource, which can help to reduce the amount of CO_2 emissions produced by approximately 70% compared to incinerating them



Unwanted item recycling/reuse flow

創業15年で培ってきた"週川ノウハウ"と"販売ネットワーク"に加え、自社開発のトレーサビリティシステムを活用することで、 回収から再進過まで"モノの消れ"をデータ化し、回収した物の経済的価値を最大開生かす補高を実現しています。

Internal Systems for Promoting Action Plans

Introduction of Internal Carbon Pricing (ICP) System

• From FY2022, we will introduce the Internal Carbon Pricing System, a mechanism to encourage decarbonization efforts by pricing CO₂ emissions in newly developed properties. Environmental impact is quantified and visualized to manage progress. Raising awareness within the company to reduce CO₂ emissions and accelerate efforts to decarbonize.

Structure for promoting Action Plans

• Established the Sustainability Promotion Division in 2022 to accelerate efforts related to ESG and SDGs. The Sustainability Promotion Department was established in October 2021 with responsibility for overall functions related to ESG and SDGs, including promotion of action plans, and the Environment & Energy Business Department responsible for green energy management and mega solar business, will promote initiatives in cooperation with company-wide divisions.

