

Responding to Climate Change

Policy, Concept, and System

Signatories to the Paris Agreement agree to keep the global average temperature rise below 2°C compared to the pre-industrial era, requiring efforts to achieve a low-carbon society. The real estate industry as a whole and Tokyo Tatemono must strive to reduce greenhouse gases (GHG) in real estate holdings and business activities.

In addition, climate change is causing more severe natural disasters, including storms and flooding. These disasters have a severe impact on society, and may also lead to a decline in the value of our real estate holdings. Therefore, it is important that we prepare for the impact of climate change.

The Tokyo Tatemono Group Environmental Policy calls for us to lead the community in the prevention of global warming. The group strives to develop real estate that is both superior in environmental performance (e.g., using energy-saving equipment) and resistant to natural disasters, such as those causing wind and flood damage. This falls under the scope of green finance.

* Greenhouse gases are the collective name for gases that exert a greenhouse effect.

→ See Policies and Systems for Environmental Initiatives, P.16

Indicators and Performance

Among all Tokyo Tatemono business activities, the Office Buildings Business, which operates and manages commercial office buildings, uses the most energy. Reducing the amount of energy used in the Office Buildings Business results in a significant reduction of total Tokyo Tatemono greenhouse gas (GHG) emissions.

We have set a quantitative indicator in the form of power consumption per floor area unit to reduce energy consumption. Here, we target a 1% annual unit reduction averaged over five years as a target in accordance with the Energy Conservation Act (this per-unit basis also applies to GHG emissions).

Energy consumption increased in fiscal 2019 due to openings of energy-intensive commercial facilities and hotels. However, overall energy intensity decreased significantly as a result of aggressive adoption of high-efficiency HVAC systems and LED lighting in existing office buildings.

► Energy Consumption and Greenhouse Gas (GHG) Emissions

Category	Unit	2015	2016	2017	2018	2019	2020 Target
Energy Consumption (Crude Oil Equivalent)*	kl	22,822	21,592	22,083*	23,895*	24,165*	—
Unit Load	kl/Thousand m ²	36.3	35.4	34.2	35.0	34.0	34.6
Greenhouse Gas (GHG) Emissions*	t-CO ₂	45,059	44,629	42,147*	48,888*	51,465*	—
Scope 1 (Fuel-Derived)*	t-CO ₂	3,243	2,553	2,402*	3,300*	2,871*	—
Scope 2*	t-CO ₂	41,816	42,076	39,745*	41,259*	41,392*	—
Scope 3*	t-CO ₂				4,329*	7,202*	—
Unit Load (ex-Scope 3)	t-CO ₂ /Thousand m ²	71.6	73.1	65.3	65.2	62.3	67.8
Floor Area in Scope	Thousand m ²	629	611	645	683	710	—

● Data Collection Period: April to March each fiscal year

● Scope of Collection: Facilities subject to the Act on the Rational Use of Energy *Floor area for buildings under reporting scope fluctuates year by year.

● Data for Collection: Energy consumption/unit load, greenhouse gas (GHG) emissions/unit load

Data/categories relating to society and the environment for FY2019 marked with an asterisk (*) indicates that it has received third-party certification by Lloyd's Register Quality Assurance Limited (LRQA) to ensure the integrity of Tokyo Tatemono-reported data.

The third-party quality assurance is included in the ESG Data Book.

Climate Change Initiatives in the Office Buildings Business

Office buildings owned and operated by Tokyo Tatemono have incorporated a variety of initiatives related to reducing greenhouse gas emissions. These initiatives include installing energy-saving equipment and improving operation methods. In particular, we are actively encouraging the use of LED lighting. As of the end of FY2019, 89% of our buildings have already completed or are in the process of converting to LEDs. Below are the actual results of climate change initiatives conducted in FY2019, including LED conversion.

*Data below is from January to December 2019

[Energy-Saving Equipment Adoption and Upgrade Initiatives]

- Conversion to LED lighting, private & common areas: 23%
- Conversion to LED lighting, common areas only: 6%
- Conversion to LED lighting in progress: 60%
- Conversions to high-efficiency air conditioning systems: 3
- Implementations of auto-off air conditioning and lighting functions linked to security: 4

[Initiatives for Operational Method Improvements]

- Comprehensive management of air conditioning temperature in common areas: 21
- Use of BEMS at offices that have introduced BEMS: 6
- Information sharing to enable management maximizing design performance: 2
- Energy diagnostics conducted by external institutions: 2
- Reduced use/density of service area lighting

[Cooperative Initiatives with Tenants (Existing Properties)]

- Distributed informational pamphlets about energy saving
- Power-saving initiatives during the winter and summer seasons: 35
- Annual energy-saving promotion conferences held at offices under scope of total reduction policy: 2
- Inclusion of green lease* provisions in lease agreement

* Building owners and tenants work together to implement voluntary provisions per contracts and memoranda of understanding for energy savings in specific areas and other measures to reduce environmental impact, as well as other working environment improvements.

For more information about the Tokyo Carbon Reduction Reporting Program, see:

<https://www8.kankyo.metro.tokyo.lg.jp/ondanka/>
(Available in Japanese only)

Tokyo Tatemono has submitted Tokyo Carbon Reduction Reports in accordance with the Tokyo Metropolitan Environmental Security Ordinance each year since FY2009, when we submitted data on our actual carbon reduction for that year.

Climate Change Initiatives in the Residence Business

Tokyo Tatemono has set a target for the broader realization of ZEHs (Net Zero Energy Houses) in accordance with the ZEH Roadmap announced by the Ministry of Economy, Trade and Industry. Our aim here is to help build a low energy-consumption society. Tokyo Tatemono was registered under the ZEH Developer Registration Program in May 2018. Since then, we have worked as a ZEH Developer to aid the spread of ZEH-M* apartments.



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* A Net Zero Energy House, or ZEH, is a residence with a ± 0 balance of annual primary energy consumption (from air conditioning, hot water supply, lighting, ventilation) versus energy generated and energy savings (from insulation and power-saving measures).

TOPICS Super-High-Rise ZEH-M: Brillia Tower Seiseki Sakuragaoka Blooming Residence (provisional name)

The provisionally-named Brillia Tower Seiseki Sakuragaoka Blooming Residence has been selected as the first, and so far only, project in the Tokyo metropolitan area for the fiscal 2019 Super-High-Rise ZEH-M Demonstration Project^{*1}, chosen by the Ministry of Economy, Trade and Industry after an open submission process.

This condominium meets the ZEH-M Oriented standard for high-rise apartments with six or more floors due to its improvement in outer wall insulation performance, the adoption of high-insulation doors, the use of high-efficiency hot water supply equipment, etc.

*1 The unofficial English translation of the official Japanese name of this METI project is the "Super-High-Rise ZEH-M Demonstration Project of the 2019 Support Subsidy for Promoting Energy-Saving Investment (Project for Promotion of Innovative Energy-Saving Investment Implementation in Housing/Buildings) (Net Zero Energy House Support Project)." This is a key demonstration project necessary to formulate design guidelines for promoting ZEH for multiple-dwelling residences. The project partially subsidizes expenses for ZEH conversion of shared dwellings incurred by operators who provide design specifications and energy performance-related data.



Conversion to Renewable Energy Sources Through Renewable Energy Certificates

Since May 2016, power used at Tokyo Tatemono Brillia condominium showrooms has been sourced 100% from renewable energy under the renewable energy certificate framework. In 2019, we used renewable energy certificates for approximately 610,000 kWh of power.

Using Solar Power in our Energy Creation Business

Building management company Tokyo Real Estate Management offers energy-saving proposals from the perspective of building management. This company also engages in an energy creation business, using solar power generation facilities in conjunction with the launch of a fixed-price purchasing system for renewable energy. We are expanding our solar power generation, primarily in the northern Kanto region. As of the end of December 2019, we have a total generation capacity of 12,382 kW across eight sites.

Raising Awareness About the Issue of Climate Change

SMARK Isesaki, Kishiwada CanCan Bayside Mall, ABIKO Shopping Plaza, and MALera Gifu, four commercial complexes operated by PRIME PLACE Co., Ltd., held Global Environment Festivals for Parents and Children (sponsored by the New Energy Foundation) to bring awareness to the issue of climate change.

Children and their guardians were entertained and educated on the environment as presenters put on a puppet show, showed participants how to build a solar car, hosted a quiz show, and more.



Oyama Solar Power Plant Iwaki Solar Power Plant Hatoyama Solar Power Plant

► Solar Power Generation Sites

Name (Location)	Electricity Generated	Operation Date
Oyama Solar Power Plant (Oyama City, Tochigi Prefecture)	785kW	January 2013
Iwaki Solar Power Plant (Iwaki City, Fukushima Prefecture)	2,454kW	November 2013
Joso Solar Power Plant (Joso City, Ibaraki Prefecture)	672kW	September 2014
Hatoyama Solar Power Plant (Hatoyama Town, Hiki-Gun, Saitama Prefecture)	1,908kW	March 2015
Tochigi Hirai Solar Power Plant (Tochigi City, Tochigi Prefecture)	1,559kW	March 2015
Tochigi Nishikata Solar Power Plant (Tochigi City, Tochigi Prefecture)	1,884kW	June 2015
Shirakawa Solar Power Plant (Tanagura Town, Shirakawa-Gun, Fukushima Prefecture)	2,034kW	November 2015
Higashi Hiroshima Power Plant (Higashi Hiroshima City, Hiroshima Prefecture)	1,086kW	December 2015

Developing Resilient Real Estate

Climate change and other factors have been causing greater wind and flood damage in recent years. The Tokyo Tatemono Group has applied designs and adopted equipment in our office buildings and residences in preparation for presumed future disasters, including typhoons, floods, and major earthquakes.

【Disaster Mitigation Measures at the Tokyo Tatemono Nihonbashi Building (Completed February 2015)】

- Adopted seismic isolation structure (B1F column base seismic isolation)
- Installed emergency power generators that can operate for up to 72 hours
- Installed tide prevention plates beyond normal flooding expectations to guard against possible flash flooding and/or collapse of the Arakawa embankment
- Established a disaster prevention center on the second floor; the disaster prevention center provides a core building function
- Installed rooftop transformers and emergency power generators (providing uninterrupted power supply enabling ongoing operation even in the event of flooding inside the building)

→ See [Safety & Security Initiatives/Disaster Prevention P.38](#)

【Measures Against Major Earthquakes in Existing Buildings】

- Installed new rooftop emergency power generation equipment for stronger BCP and equipment capable of supplying power to common tenant areas (Tokyo Tatemono Yaesu Building)
- Installed additional oil tanks in locations physically capable of housing tanks to extend length of emergency generator use (primarily for large and medium-sized buildings)
- As part of services for tenant employees and building management, we installed basic saltwater batteries to be used for charging mobile phones; saltwater batteries generate power from stored water and salt