



CSR

# The Environment

Addressing environmental issues and energy shortages represent critical issues facing society. A company will not be able to continue as a going concern without addressing these issues.

Through its businesses, the Nomura Real Estate Group is focused on deploying advanced eco-technologies and ICT, implementing passive design and creating energy through harmony with nature, and other initiatives that seek to lessen our environmental impact.

We are also engaged in ongoing efforts to support community development and environmental education through events and town meetings with the goal of achieving a sustainable society together with local communities.

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# Environmental Management

## Environmental Activity Promotion Framework

### ■ The Group Environmental Philosophy

The Group believes that it has a duty to society to help pass the current natural environment down to future generations. In accordance with that belief, we are working to create communities and spaces in harmony with the environment, and we are pursuing the realization of ideal environmental quality. Nomura Real Estate Holdings has formulated the Nomura Real Estate Group Environmental Philosophy and is actively addressing environmental issues at the Group level.

#### **The Nomura Real Estate Group Environmental Philosophy**

The Group has a mission of utilizing the power and blessings of nature to create communities and spaces in harmony with the environment in order to pass down the earth's beauty to future generations. We will pursue the realization of ideal environmental quality with a strong will and increased sensitivity to the environment.

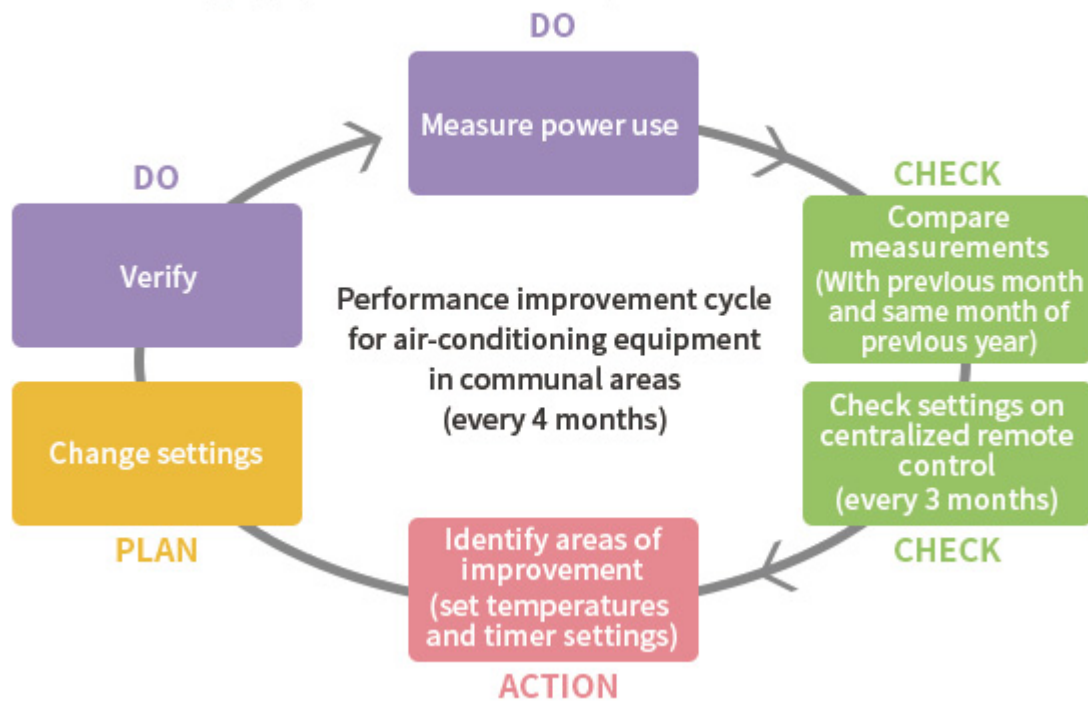
### ■ Environmental Management System ISO 14001 Certification

The Yokohama Office of Nomura Real Estate Partners Co., Ltd. is a model environmental office that has earned ISO 14001 certification, the international standard for environmental management systems. The office is working to advance a wide range of initiatives, including waste reduction, resource recycling, and energy-saving measures.

## Energy Management System ISO 50001 Certification

At PROUD Funabashi Blocks 1&2, FamilyNet Japan Corp., one of our business partners, earned ISO 50001 certification for the development of the facility's energy management system. This marks one of our many efforts to build a sustainable energy management framework.

### ISO50001 Energy Management System Example: Air-Conditioning Equipment for Communal Spaces



PROUD Funabashi showcases advanced energy management, especially in air-conditioning and lighting in communal spaces. The power used by each piece of equipment is measured, visualized, and analyzed, and the results are used to improve performance. By repeating this process, we work to optimize energy use in condominiums without overburden, waste, or irregularity.

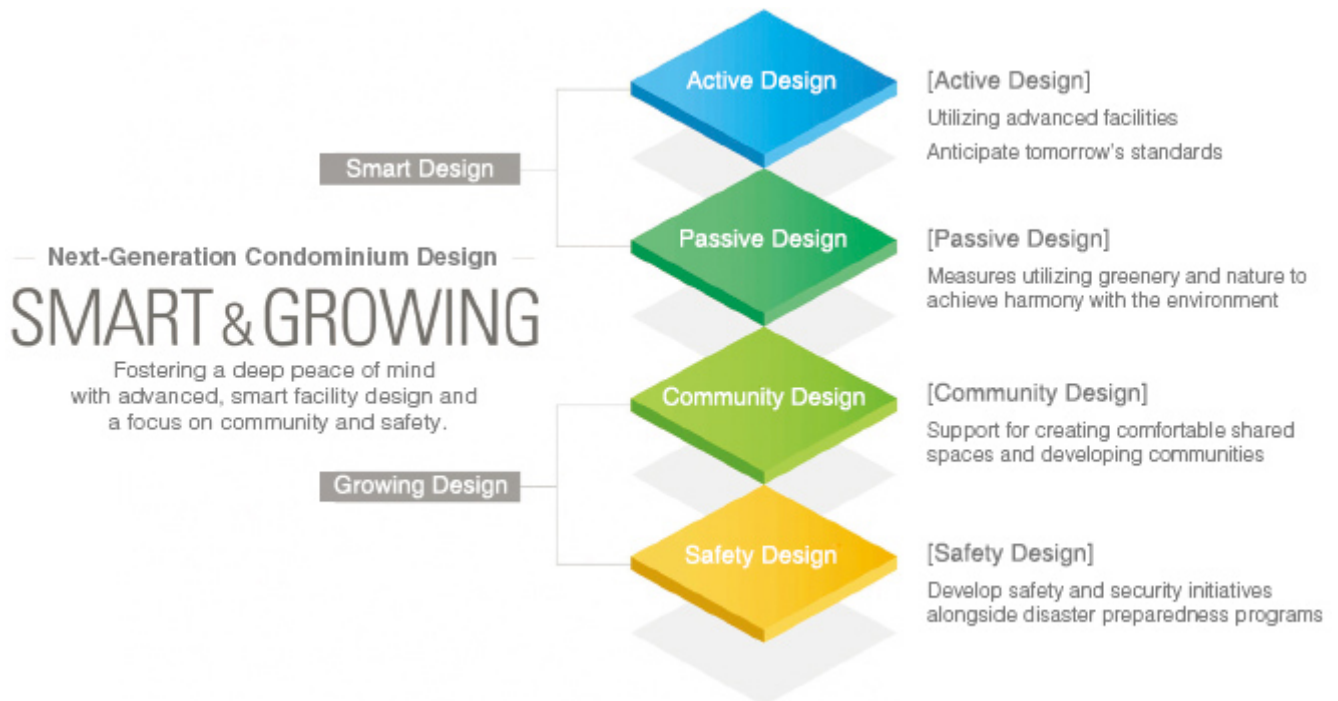
## CSR | The Environment

# Providing Environmentally Conscious Housing and Buildings

## Saving Energy and Reducing CO<sub>2</sub> Emissions

### PROUD Smart Design: SMART & GROWING

Nomura Real Estate Development has formulated its PROUD Smart Design: SMART & GROWING concept in line with its environmental vision focused on creating next-generation condominiums. SMART denotes a commitment to reducing environmental impact through the use of advanced equipment and through harmony with nature, and consists of active design and passive design. GROWING refers to achieving relaxing lifestyles and sustainability and consists of community design and safety design. Through these two concepts, we are focusing efforts on sustainability, providing homes with value that will stand the test of time.



PROUD Smart&GROWING



## ZUTTOCITY Becomes Certified Amagasaki-Version Smart Community

One of the largest train station area redevelopment projects in the Kansai region, ZUTTOCITY (Amagasaki City, Hyogo Prefecture) was opened to the public in April 2016. The city comprises facilities that include PROUD City Tsukaguchi (a 1,200 unit condominium complex) and PROUD Season Tsukaguchi (a detached housing community with 71 units) as well as a train station building and commercial facilities. The city uses a comprehensive EMS (energy management system) to keep track of its energy usage.

The city implements "demand response" to curb power usage by visualizing energy usage in real time using digital signage and by encouraging residents to go outside in the middle of summer, winter, and other periods of peak power usage. As an incentive to go outside, the city provides residents with local currency points they can redeem at businesses in Amagasaki City. Efforts are underway to allow these points to be used at stores in the broader area in addition to stores within the city (see figure below).

In recognition of these efforts, ZUTTOCITY has been certified as an Amagasaki-Version Smart Community by Amagasaki City. These efforts to save energy in and stimulate an entire local community by implementing a demand response system in concert with local currency points have never before been done in Japan.



Public opening of  
ZUTTOCITY

### Grant local currency points based on energy conservation performance



## Energy saving solutions for condominiums

At its PROUD facilities, the Nomura Real Estate Group is rolling out its enecoQ service. This service promotes energy-saving and cost reductions through a combination of ICT (information and communications technologies) and a high-voltage bulk electricity supply service for condominiums.

And in December 2015, the Group established NF Power Service Co., Ltd. to handle power purchasing. Leveraging demand prediction models developed over the course of providing our enecoQ service, we can now purchase power much more efficiently.

enecoQ

## PROUD Environmental Assessment Sheet

Nomura Real Estate Development has created the PROUD Environmental Assessment Sheet, a set of in-house standards designed to increase the transparency of environmental initiatives. The PROUD Environmental Assessment Sheet contains key PROUD Smart Design: SMART & GROWING concept design points for use in improving environmental performance.

## Purchasing Green Power at the Nihonbashi Muromachi Nomura Building

The Group is actively promoting environmental initiatives at its Nihonbashi Muromachi Nomura Building, including site landscaping, rooftop gardens, and water reuse. As a part of these initiatives, the building purchases 1 million kWh per year of electricity generated by renewable energy, which is known as green power.



Nihonbashi Muromachi  
Nomura Building

## Energy-Saving Initiatives at PMOs

Nomura Real Estate Development is working to conserve energy at its PMOs through efforts that include using LED lighting and low-e pair glass for its excellent heat insulating properties, conducting rooftop and wall greening, and deploying natural ventilation systems.

## Start of Solar Power Generation Business

Yokohama Business Park Heating and Cooling Supply has installed solar panels on Landport, a large-scale distribution facility developed by the Nomura Real Estate Group, and has begun a solar power generation business. Landport's combined six facilities (as of March 2015) generate 4.74 million kWh of energy a year, equivalent to the annual power consumption of 1,310 ordinary households.\*

\* Assuming each of the 1,310 households uses 3,600 kWh a year. Source:

The Federation of Electric Power Companies of Japan (FEPC), Electricity Statistics Information

## Resource Conservation and Waste Reduction Initiatives

Nomura Real Estate Partners Co., Ltd. practices waste reduction, reuse, and recycling to make effective use of resources and reduce the waste generated through its business activities. With a view to helping create a recycling-based society, the company promotes the recycling of industrial waste while working to reduce regular waste.

### Proposing Energy Efficiency Solutions to Customers

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#### Energy Efficiency and Eco Proposals for Tenants

The Nomura Real Estate Group makes energy efficiency and environmental proposals to tenants of buildings owned and managed by the Group and residents of condominiums and houses developed by the Group.

Nomura Real Estate Partners Co., Ltd. established a committee to respond to restrictions on power consumption. This committee makes proposals to building owners on ways to reduce power consumption in managed buildings. The company also employs an ASP\*-based system that compiles energy data, provides operational support, and conducts awareness-raising activities designed to reduce electricity use. The company makes energy efficiency and electricity conservation proposals to condominium associations and introduces examples of environmental initiatives through "Smile" Online, a housing newsletter that provides useful information about residential living.

\* ASP, or Application Service Provider, is a provider that rents business applications to customers via the Internet.

#### Energy Efficiency Consulting and Renovation Work

Nomura Real Estate Partners Co., Ltd. business activities support energy management and conservation with a system that compiles energy data for use in the creation of reports submitted in compliance with environment-related regulations, an "ecom" system to visualize energy use, and renovation work for greater energy savings.



The "ecom" system  
visualized energy use

## Initiatives for Biodiversity

### PROUD Kokubunji Receives ABINC Certification

Nomura Real Estate Development has acquired Biodiversity-Promoting Office Certification from ABINC (Association for Business Innovation in Harmony with Nature and Community ) for the PROUD Kokubunji facility being planned in Tokyo Prefecture's Kokubunji City.

The project has been recognized for efforts including the preservation of 2,700 m<sup>2</sup> of existing forest to preserve local ecosystems, and conservation and development projects—including "wild flower viewings"—involving participation by residents will be planned and carried out after construction is completed.

### Yokohama Business Park Receives ABINC Certification (Urban/SC Ver.)

Yokohama Business Park (YBP) received ABINC (Association for Business Innovation in Harmony with Nature and Community) certification (urban/SC ver.)\* for its consideration given to conserving biodiversity. YBP regularly holds the Exhibit of Urban Design for Firefly Habitats, rice-harvesting lessons, and biotope tours, where tenant companies and the surrounding community together think and learn about biodiversity and environmental issues.

\* ABINC (Association for Business Innovation in Harmony with Nature and Community) certification:

A certification program created to promote harmony between people and nature in corporate activities. Under the program, ABINC—as an independent party—evaluates and certifies office buildings and commercial facilities considerate of biodiversity in accordance with the JBIB Guidelines for Sustainable Business Sites published by the Japan Business Initiative for Biodiversity (JBIB).



Exhibit of Urban Design  
for Firefly Habitats 2015

### Promoting Green Design in Business Activities

The Nomura Real Estate Group actively conducts green space design with landscaping and trees, and maintains and manages landscaping at condominiums and office buildings.

Nomura Real Estate Development's PROUD condominiums use passive design strategies based on the PROUD Smart Design: SMART & GROWING concept. These include improving the visibility of vegetation from the street through the effective use of different sized trees, creating cool spots with tall trees, and taking into account continuity with surrounding green spaces.

## Environmental Certification

### Nihonbashi Muromachi Nomura Building Certified as Top-Level Facility under the Tokyo Metropolitan Ordinance on Environmental Preservation

The Nihonbashi Muromachi Nomura Building (located in Tokyo's Chuo Ward), which is owned by Nomura Real Estate Development, was certified as Top-Level Facility in connection with the Total Greenhouse Gas Emission Reduction Mandate and Emissions Trading Scheme\* under the Tokyo Metropolitan Ordinance on Environmental Preservation.

In addition to the use of equipment including a water-cooling packaged air conditioner and high performance air conditioner, the building has introduced a BEMS (building energy management system) to centrally manage energy usage and the operational state of building equipment. The building has also been recognized for initiatives that include holding conferences with building tenants aimed at reducing CO2 emissions.

\* Total Greenhouse Gas Emission Reduction Mandate and Emissions Trading Scheme:

A program whereby CO2 emission requirements are relaxed for high-performing facilities based on their contribution with regard to Tokyo Prefecture's mandate on reducing CO2 emissions. Facilities that score 80 points or higher across 228 evaluation categories are certified as Top-Level Facilities.

### Acquisition of CASBEE Certification

The Nomura Real Estate Group actively works to reduce environmental impact with the goal of acquiring CASBEE\* certification.

The Group's policy is to acquire A-Rank or higher CASBEE certification for its premium midsize offices (PMO) and Landport building developed by NREG TOSHIBA BUILDING.

\* CASBEE, or Comprehensive Assessment System for Built Environment Efficiency, includes the certification program administered by the Institute for Building Environment and Energy Conservation (IBEC) and programs such as CASBEE Kawasaki, which are administered by local governments.

#### CASBEE Certified Properties

Building	Rank	System
PMO Hirakawacho	A	CASBEE
PMO Nihonbashi Mitsukoshimae	A	CASBEE
Landport Komaki	A	CASBEE Aichi
Landport Iwatsuki	A	CASBEE Saitama
Landport Kashiwa-Shonan I	A	CASBEE Kashiwa
Landport Kashiwa-Shonan II	A	CASBEE Kashiwa

\* Only major properties certified in FY 2015 are shown









## Acquisition of Green Building Certification

Nomura Real Estate Development has acquired DBJ Green Building certification for its Landport logistics facility and for office buildings that include the Nihonbashi Muromachi Nomura Building and PMOs, which we developed. This certification recognizes these facilities' regard for the environment in deploying the latest equipment, their efforts to visualize energy usage, and the measures in place to ensure comfortable working environments for tenants. Newly acquired certifications in fiscal 2015 are shown at right.

**\*1 DBJ Green Building Certification System:**  
A ranking system employed by the Development Bank of Japan. The system is designed to promote real estate development planning that considers environmental performance, disaster preparedness, and security as well as social needs from a diverse range of stakeholder.

**\*2 Plan Certification:**  
The Development Bank of Japan's Green Building Certification Program utilizes a model to score real estate development projects in the planning stage for their environmental performance and tenant user friendliness and rank them accordingly.

### Properties with Green Building Certification

Building Name	Rank
Landport Kashiwa Shonan I	2015 Plan 
Landport Kashiwa Shonan II	2015 Plan 
Landport Takatsuki	2015 Plan 
Landport Hachioji II	2015 Plan 
Landport Iwatsuki	2015 Plan 
Landport Komaki	2015 Plan 

\* Only major properties certified in FY 2015-2016 are shown

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# Environmental Considerations during Construction and Demolition

## Policy and Standards

### PROUD Environmental Guidelines

We created the PROUD Environmental Guidelines for construction partners to help reduce environmental impacts from construction sites. These guidelines include design consideration, such as greenery and use of recycled materials, and the promotion of the 3Rs (Reduce, Reuse, Recycle).

#### Summary

- Improve environmental awareness
- Reduce waste emissions and increase recycling rate
- Reduce impacts on the natural environment and surrounding environment
- Reduce greenhouse gas emissions
- Promote the use of products, technologies and methods with fewer environmental impacts
- Proper management and reduced usage of chemicals

## Initiatives to Reduce Hazardous Materials and Prevent Pollution

### Asbestos: Proper Handling and Continuous Monitoring

The Nomura Real Estate Group handles asbestos found during demolition work with the utmost caution and care by cordoning off affected areas and ensuring regular third-party testing to determine presence and concentration. We also conduct continuous monitoring to ensure that no problems exist.

## ■ Initiatives against Soil Contamination

The Nomura Real Estate Group thoroughly investigates the history of land use prior to the purchase of any site for development and hires specialists to conduct soil surveys when prior soil contamination is suspected. If soil contamination is found, we initiate measures required under the Soil Contamination Countermeasures Law and other related laws, which include the removal or containment of substances.

## ■ Initiatives for Reducing Chemicals used in Construction Materials

The Nomura Real Estate Group is firmly committed to the proper management of chemical substances and is working to reduce the amounts it uses.

Nomura Real Estate Development Condominium Design Standards require that materials used in construction have a four star\* formaldehyde emission rating. At the time of completion, we also measure the levels of formaldehyde, toluene, xylene, ethylbenzene, and styrene, the five substances designated in the Housing Quality Assurance Promotion Act.

To ensure the proper handling and reduced usage of VOCs, PCBs and other chemicals, we require our construction partners to follow the PROUD Environmental Guidelines during construction. Construction partners are also required to submit a Quality Control Check Sheet.

\* Four star formaldehyde rating:

The highest rating against formaldehyde emissions

## ■ Initiatives for Reducing Chlorofluorocarbon

The Nomura Real Estate Development Condominium Design Manual requires the use of chlorofluorocarbon-free insulation and refrigerants used in air conditioners to prevent emissions of ozone-damaging chlorofluorocarbon. Construction partners are also required to submit a Quality Control Check Sheet during construction to confirm that only chlorofluorocarbon-free materials have been used.

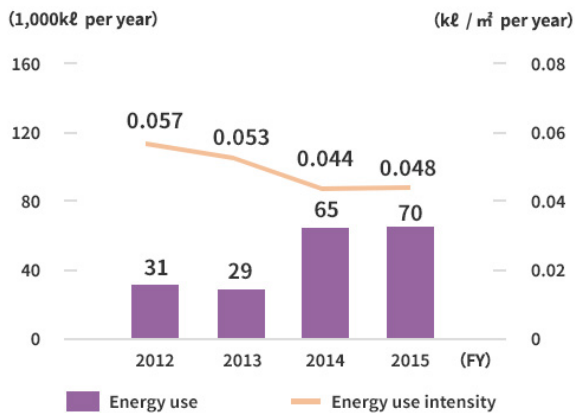
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# Environmental Data

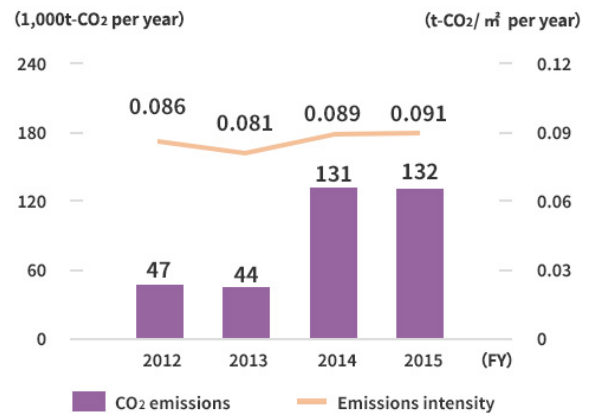
## Environmental Data

The Nomura Real Estate Group gathers environment-related data for the major facilities that must be registered under the Energy Saving Act.

Crude Oil-Equivalent Energy and Intensity



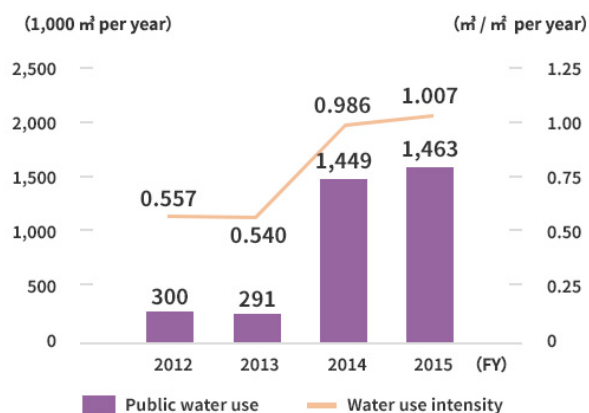
CO<sub>2</sub> Emissions and Intensity



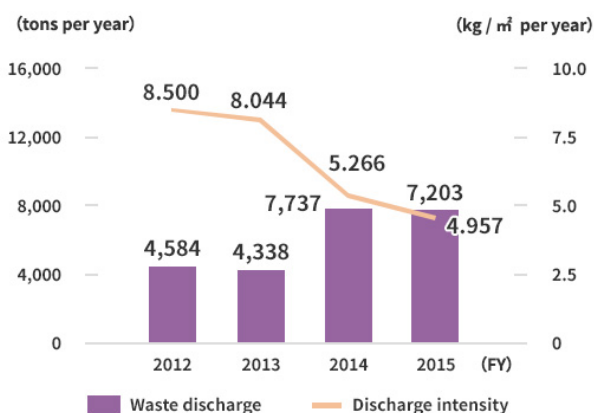
	2012	2013	2014	2015
<b>Energy use</b> (1,000kℓ per year)	31	29	65	70
<b>Energy use intensity</b> (kℓ / m² per year)	0.057	0.053	0.044	0.048

	2012	2013	2014	2015
<b>CO<sub>2</sub>emissions</b> (1,000t-CO <sub>2</sub> per year)	47	44	131	132
<b>Emissions intensity</b> (t-CO <sub>2</sub> /m² per year)	0.086	0.081	0.089	0.091

## Public Water Use and Intensity



## Waste Discharge and Intensity



	2012	2013	2014	2015
<b>Public water use (1,000m³ per year)</b>	300	291	1,449	1,463
<b>Water use intensity (m³/m² per year)</b>	0.557	0.540	0.986	1.007

	2012	2013	2014	2015
<b>Waste discharge (tons per year)</b>	4,584	4,338	7,737	7,203
<b>Discharge intensity (kg/m² per year)</b>	8.500	8.044	5.266	4.957

\* Until fiscal 2013, this included seven buildings (primarily used for office space) that were subject to the Tokyo Metropolitan Ordinance on Environmental preservation and that had a Nomura Real Estate Group floor area ownership of 50,000 m² or more.

\* For fiscal 2014, this included 143 facilities requiring registration under the Energy Saving Act (including some waterworks, sewerage, and waste facilities), excluding condominium sales centers. (There were a total of 201 facilities.)

\* For fiscal 2015, this included 142 facilities requiring registration under the Act on the Rational Use of Energy (including some waste facilities), with the exception of condominium sales centers. (There were 210 facilities in total.)

\* CO<sub>2</sub> emissions are calculated using the coefficient stipulated in the Tokyo Metropolitan Ordinance on Environmental Preservation.