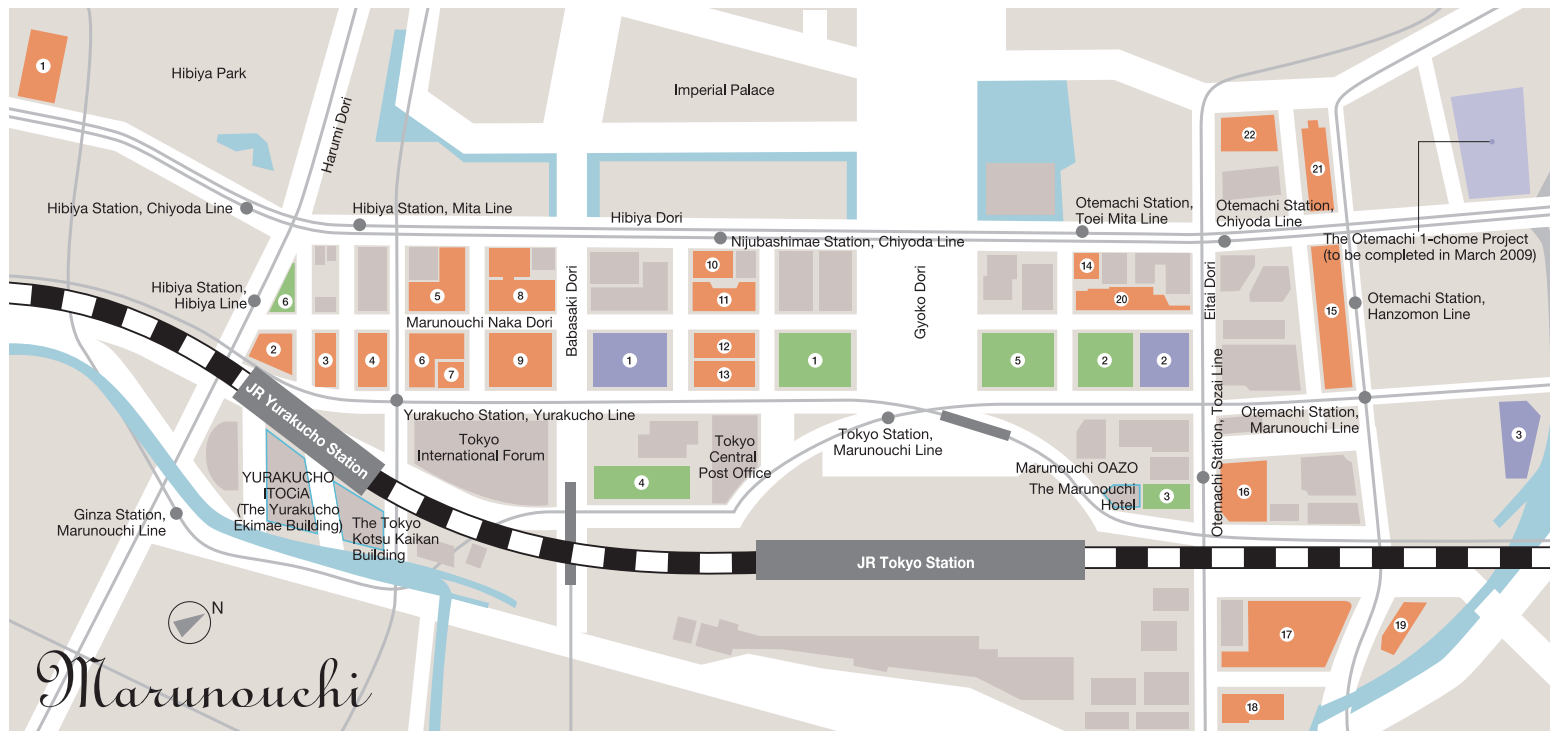


Creating Communities Known for Their Environmental Harmony

Environmental initiatives in the Otemachi, Marunouchi and Yurakucho district to build a community with lower environmental impact

Mitsubishi Estate holds about one-third of the land in the Otemachi, Marunouchi and Yurakucho district, Japan's landmark business center. This area has a history stretching back to the start of the Edo period and is known around the world for its concentration of major Japanese and international companies. Mitsubishi Estate has always looked to the future in its urban development projects in

this district. With today's focus on sustainable cities, the Group is taking a comprehensive, integrated approach to urban development, characterized by the conviction that the needs of the economy and the environment are compatible. Mitsubishi Estate aspires to develop a new urban model where economy and environment come together to change the face of the world's cities.



Existing Buildings Owned by Mitsubishi Estate			First Stage (1998 – 2007)		Second Stage (2008 – 2017)	
1. Hibiya Kokusai Building	10. Kishimoto Building	19. JFE Shoji Building	1. Marunouchi Building	Completed in August 2002	1. Marunouchi Park Building and Mitsubishi Ichigokan Building (to be completed in April 2009)	
2. Yurakucho Denki Building	11. Marunouchi Nakadori Building	20. Mizuho Corporate Bank Ltd. Head Office Building (owned by a special-purpose company)	2. The Industry Club of Japan and Mitsubishi UFJ Trust and Banking Building	Completed in March 2003	2. The Marunouchi 1-4 Project (tentative name), a project to reconstruct the Tugin Building (to be completed in April 2009) and other buildings	
3. Yurakucho Building	12. Marunouchi 2-chome Building	21. The Bank of Tokyo-Mitsubishi UFJ Otemachi Building (owned by a special-purpose company)	3. Marunouchi Kitaguchi Building (Marunouchi OAZO)	Completed in August 2004	3. Mitsubishi Soken Building (to be completed in 2011)	
4. Shin-Yurakucho Building	13. Mitsubishi Building	22. Resona Maruha Building (owned by a special-purpose company)	4. Tokyo Building	Completed in October 2005		
5. Kokusai Building	14. Tokyo Ginko Kyokai Building		5. Shin-Marunouchi Building	Completed in April 2007		
6. Shin-Kokusai Building	15. Otemachi Building		6. The Peninsula Tokyo	Completed in May 2007 (opened in September)		
7. Shin-Nisseki Building	16. Shin-Otemachi Building					
8. Fuji Building	17. Nippon Building					
9. Shin-Tokyo Building	18. Nippon Steel Corporation Building					

Building on a heritage of environmental harmony

Mitsubishi Estate's close ties to the Otemachi, Marunouchi and Yurakucho district began in 1890 with the acquisition of Marunouchi from Japan's then-Ministry of War. This was the first step in developing the district that would become the heart of the rapid economic growth Japan experienced as it began to modernize. The area's history of harmony with the environment, however, stretches back almost 400 years to the start of the Edo government.

At the start of the eighteenth century, Edo had a population exceeding 1 million, making it one of the largest urban economic centers, surpassing Paris and London at that time. Simultaneously, it was an eco-city traversed by a network of canals. Man-made facilities and nature thrived side-by-side there, and this legacy still serves as a model for today's environmentally friendly cities. The legacy of Edo lives on in the Otemachi, Marunouchi and Yurakucho district alongside the rich greenery of the Imperial Palace.

The Otemachi, Marunouchi and Yurakucho district has seen dramatic changes over the years. Once the site of feudal estates, after the Meiji Restoration in 1968 the streets were lined with red brick buildings—which gave it the name, “London Block.” Then, after World War II, it became a modern office district. Today, it is Japan's most important business center, covering about 120 hectares and home to approximately 4,100 companies employing 231,000 people. The area's approach to making social contributions and its environmental initiatives have been a beacon for others around the world. As the main property owner in the district, Mitsubishi Estate offers a model for sustainable cities integrating the environment and the economy, promoting its initiatives hand-in-hand with its many stakeholders.

The Environmental Vision for the Otemachi, Marunouchi and Yurakucho district

Companies must work together as one with a shared vision for the future, rather than acting alone, to efficiently reduce environmental impact in the Otemachi, Marunouchi and Yurakucho district, which houses approximately 4,100 companies. In 1988, Mitsubishi Estate and about 60 other companies and organizations joined together to launch the Otemachi Marunouchi Yurakucho District Redevelopment Project Council (OMY Council). In 1996, the OMY Council, the Tokyo Metropolitan Government, Chiyoda Ward and JR East formed the Advisory Committee on Otemachi-Marunouchi-Yurakucho Area Development as a forum

for the private and public sectors to openly debate the district's future. These groups have



Urban development that lasts 1,000 years: Meeting practical local needs while inspiring the world



Tomonari Yashiro

Professor, Ph.D. in Engineering
Deputy Director, Institute of Industrial Science,
The University of Tokyo

The Environmental Vision for the Otemachi, Marunouchi and Yurakucho District, released in May 2007, reflects the voluntary intentions of the various stakeholders involved with this district. I accepted the position of chairman of the study group as an independent facilitator tasked with bringing together diverse views. In preparing the plan, we considered how our current development projects would affect the future over a long time span, such as 100 years or even 1,000 years, just as the decisions made by the Edo and Meiji governments still influence the district today. We thought about how this district could be a sterling example for other cities, so that we could help reduce environmental impact worldwide, not just locally. Moreover, we introduced the concept of “physical exams” for urban areas. This idea represents a new point of view in environmental management: a building's “habits” are identified by monitoring climatic conditions and energy use to enable sharing of heat facilities by neighboring buildings in the future.

accumulated significant amounts of wisdom and knowledge about forming consensus in public-private collaboration.

In May 2007, the OMY Council presented its design for an eco-city model and announced its Environmental Vision for the Otemachi, Marunouchi and Yurakucho District, outlining its reconstruction plan for the district to the wider community. The roadmap for its specific initiatives can be broken down into several themes: (1) Sensing, Storage and Application of Environmental Data; (2) Activities and Information That Extend Beyond OMY; (3) Construction of an Environmental and Energy Management System; (4) Creation of New Transport and Logistics Systems With Low Environmental Impacts; (5) Revitalizing the “Water City” With Bioregion Drainage System; (6) Systematic Use of Outdoor and Public Spaces; (7) Multistage Water Reuse System; (8) Mitigating Environmental Impacts from and Reducing Vulnerability to Major Disasters; and (9) Creating and Developing New Environmental Businesses. Mitsubishi Estate is collaborating with a diverse group of stakeholders in industry, government, academia and the private sector to develop these initiatives sequentially and across sectors.



Entire community adopts measures to address heat island effect

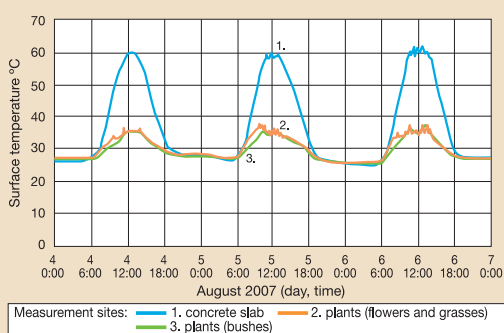
Cities face major environmental problems, including the increase in the CO₂ emissions that cause global warming, and the heat island effect, when temperatures rise due to concrete covering most of the ground and concentrated heat exhaust. Mitsubishi Estate Co., Ltd., has introduced environmental measures both to enhance the environmental features of each building in its individual development projects as well as to improve the overall environment in the Otemachi, Marunouchi and Yurakucho district.

With the completion of the Shin-Marunouchi Building and the Peninsula Tokyo hotel building in 2007, Mitsubishi Estate completed the first stage of its Marunouchi Redevelopment Project, which had gotten off the ground with the Marunouchi Building (completed in 2002). In the process, Mitsubishi Estate helped to reduce environmental impact by introducing cutting-edge environmental technology such as solar energy generation and greening rooftops and walls. The company proactively adopted measures to reduce air-conditioning requirements, such as air barrier systems that create a curtain of air along window glass and Low-E glass (low-emissivity, super-insulated multi-layer glass).

Measures to prevent heat absorption: Greening roofs to lower the surface temperature by more than 25°C

The Otemachi, Marunouchi and Yurakucho district was designated as one of the model zones under the Ministry of the Environment's Model Projects to Disseminate the Measures of Reducing Urban Heat Island Effects and Greenhouse Gas Emissions from Buildings. These zones call for intensive introduction of measures to combat the heat island effect to improve the outdoor environment. Rooftop greening has been applied to a total of seven buildings in the district: the Peninsula Tokyo (rooftop greening and water features), Marunouchi Building, Yusen Building, Shin-Kokusai Building, Yurakucho Building (rooftop greening), Nippon Building and Nippon Steel Corporation Building (rooftop greening and high-reflectivity paint).

Surface temperature on roofs of commercial buildings in Otemachi, Marunouchi and Yurakucho district in thermal image measurements

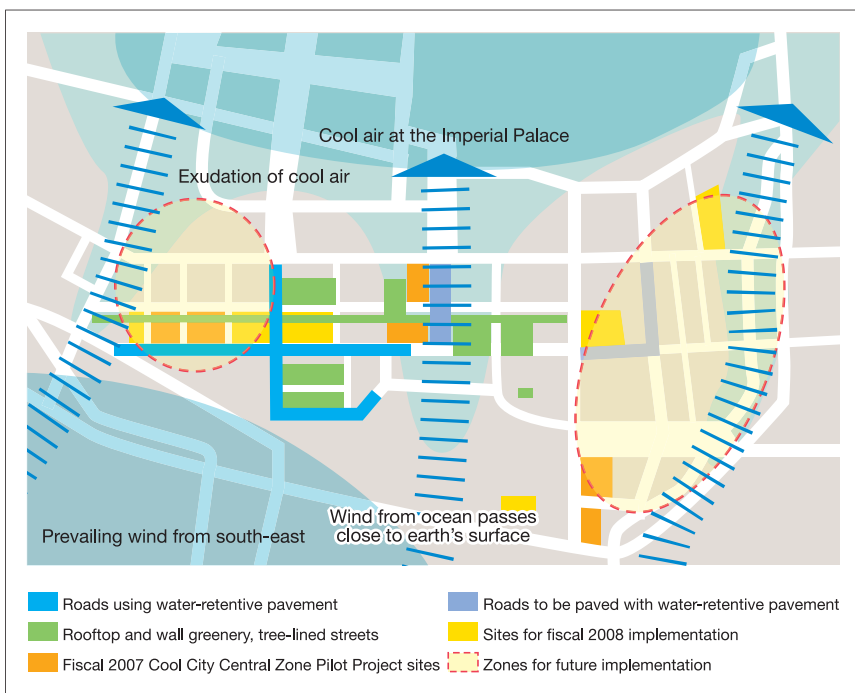


Source: Prepared by Ministry of the Environment using data from Mitsubishi Estate Co., Ltd.

Enhancing energy efficiency with district heating and cooling

Cities consume massive amounts of energy, and for this very reason energy efficiency and environmental conservation can be enhanced by consolidating supply functions in cities. In the Otemachi, Marunouchi and Yurakucho district, 65 buildings are serviced by district heating and cooling systems that supply cold water and steam from central thermal plants to provide cooling and heating as well as hot water, thus reducing energy use.

Transportation and distribution infrastructure has also been made more eco-friendly with the operation of a free Marunouchi shuttle bus that circles through the Marunouchi area every 15 minutes. The bus is Japan's first low-pollutant bus combining electric and micro-gas turbines. In addition, the Marunouchi Building and Shin-Marunouchi Building employ a joint freight distribution system to reduce CO₂ emitted during transport and enhance operational efficiency.



Evaluating this initiative, it was found that the surface temperature of greened rooftops was sometimes more than 25°C lower than that of concrete surfaces with no greenery. Moreover, CO₂ emissions were reduced by 1.60 tons in the Marunouchi Building over the period from July 18 to October 4, 2007 during daytime (8:00 am – 8:00 pm), when the thermal environment study was conducted. In addition to improving the surface coverage, rooftop greening is also expected to cool the air passing through this area.

Measures to release heat: Cooling communities using micro-misters

Mitsubishi Estate has found ways to release stored-up heat and keep urban communities cooler using the cooling effect created through the process of water vaporization. One such method is the micro-mister—a special atomizer that sprays water in an ultra-fine mist into the air, making it easier for vaporization to occur. These micro-misters have been installed in certain locations in the district, and they automatically produce mist once the temperature reaches certain levels.

In addition, roadbed materials with high water retention have been used in some roads and sidewalks. The water-retentive pavements store up water when it rains, which then evaporates gradually, cooling the air.



Cutting-edge technology reduces air-conditioning requirements

Since using them in the Marunouchi Building, Mitsubishi Estate has actively adopted cutting-edge technologies to lower the energy consumed by air-conditioning its buildings. These measures include a cooling system using external air, where the building's ability to take in external air is reinforced by 250% to actively pull in external air during the winter and intermediate seasons, as well as the Air Barrier System, a method where ventilation is used to discharge the air near the windows to create a curtain of warm or cool air and lessen heat transmission from the outer environment. The use of Low-E glass (low-emissivity, super-insulated multi-layer glass) to improve windows' heat-shield and thermal-insulation functions is also intended to reduce air-conditioning requirements.

Energy consumption cut 12-16% by centralizing the heat source with district heating and cooling system

District heating and cooling systems supply cold water and steam to multiple buildings within a specific area through pipes from a thermal plant to provide cooling and heating as well as hot water. Consolidating management of the heat source dramatically reduces NOx and SOx emissions, which cause air pollution and acid rain, and has reduced energy consumption in the district by 12-16% compared to separate heat sources. Moreover, by using nighttime power and storing cold energy in a thermal storage tank, peak electricity use is equalized for day and night. A cogeneration system has also been adopted, combining the heat and power systems.

In addition, Mitsubishi Estate expects to conserve even more energy through its ongoing efforts with unutilized energy. This approach has substantial merits in protecting the urban environment such as preventing pollution, saving energy, improving the beauty of the urban landscape and effectively using building space.



We cooperate closely on shared concerns such as recycling waste and optimizing room temperature settings

Chitoshi Nakagawa

Manager, Corporate Administration Division
Mitsubishi UFJ Trust and Banking Corporation



In August 2007, Mitsubishi UFJ Trust and Banking Corporation's headquarters building received ISO14001 certification. We are working to lower the environmental impact of our offices by using less copy paper, recycling waste, reducing energy use and purchasing environmentally friendly supplies (green procurement). In addition, the company is carrying out its "Eco Mission for All Employees" campaign in the headquarters building, providing three different types of stickers to employees based on how their divisions are doing in this area. Reducing paper and electricity use is an important issue for the financial industry. In addition to working to achieve carbon neutral status, cutting conference printouts and holding meetings via the Internet, Mitsubishi UFJ Trust and Banking cooperates with Mitsubishi Estate Building Management Co., Ltd., to promote sharing of waste recycling results, reposition garbage cans to raise the recycling rate, and optimize room temperature settings in the headquarters building. As a company with its headquarters in the Otemachi, Marunouchi and Yurakucho district, we look forward to further collaboration with Mitsubishi Estate, for example in publicizing information on the environment.

We fully support the programs to create a model eco-city for the world while remaining true to Tokyo's distinctive personality.

Masashi Ohara

Director for Environmental Policy Division,
Bureau of Environment
Tokyo Metropolitan Government

In its urban strategy "Tokyo in Ten Years," established in December 2006, the Tokyo Metropolitan Government set a target of reducing the city's greenhouse gas emissions by 25% of 2000 levels by 2020. This strategy presents the international community with a versatile urban model for preventing global warming in the form of a package of measures. Urgent measures must be taken to address the real estate that has a long-term impact on cities. In recognition of this, the Tokyo Metropolitan Government plans to introduce mandated CO₂ emissions cuts at large offices in fiscal 2010, while also offering a balanced scheme for emissions trading. The Tokyo Metropolitan Government sees a shared philosophy in the Otemachi, Marunouchi and Yurakucho district's initiatives promoting not only enhanced efficiency but also an attractive urban environment. We endorse the goal of becoming a model eco-city for the world while remaining true to the distinctive personality of the district. The district represents the cutting edge in energy conservation, and we expect to see bold use of reusable energy in the future.

Providing a venue for networking and developing environmental initiatives

Otemachi Café Linking people, the community and the environment

Mitsubishi Estate Co., Ltd., is also involved with initiatives to raise the environmental awareness of the people who work in the Otemachi, Marunouchi and Yurakucho district and the people who gather there for fun and information. The Otemachi Café, which closed on April 25, 2008, fulfilled this role as one of the pioneering programs for two years and eight months.

The Otemachi Café opened on the first floor of the Otemachi Building, and was designed by the landscape designer Shigechiyo Suzuki with advice from the environmental journalist Manabu Akaike and the cultural anthropologist Shinichi Takemura. The café was decorated with plants that can grow indoors and the walls covered with greenery, with the hope that the café's free interaction would create an eco-community and appealing schemes. The café was also home to a model for a subcritical water treatment plant whereby high-pressure, high-temperature subcritical conditions broke down kitchen garbage, and the methane gases emitted in this process were used to generate electricity. During the decomposition process, lactic acid and liquid fertilizers were also extracted. The café's leftover food could be used to generate electricity, and the café offered vegetables that had been grown using the extracted liquid fertilizer. The café thus attracted attention for its empirical demonstration of the waste cycle. The café's menu featured domestically-produced, organic foods that are good for the environment and its customers' health. The total of 307 seminars and exhibits that it hosted stimulated the creation of a wide variety of networks.



Ecozzeria Environmental strategy monitoring center for the Otemachi, Marunouchi and Yurakucho district



Otemachi Café's initiatives are being continued by Ecozzeria, a hub for environmental strategy that opened on the tenth floor of the Shin-Marunouchi Building in May 2007. This will expand the scope of activities from the café to the entire district. Ecozzeria is a space in which everyone can think together to devise environmental measures for the future.

Ecozzeria's major initiatives include reusing and recycling the materials used in rebuilding the Shin-Marunouchi building in which Ecozzeria is located, as well as promoting the district's rooftop and wall greening and water-retentive pavements that ameliorate the heat island effect, the district heating and cooling systems, the intermediate water network to recycle used water, and mechanisms to monitor building energy management. Ecozzeria also hosts a

variety of events. These include: the Morning Expo, a series of workshops and talk shows held at various venues in the district on the theme of designing your own morning time; Eco Kids Expedition for children to learn about environmental issues during their summer vacations; and the Watering Project, which adopts the Edo practice of sprinkling the streets with water to lower the temperature.

In addition, in October 2007 the Otemachi, Marunouchi, Yurakucho Eco Point was tested. This system allows those working and visiting the district and using the Suica rechargeable fare card on a daily basis to accumulate Eco Points. Once participants register, a portion of their payments go to the Eco Fund every time they use their Suica card. Ecozzeria also prepared the *Community Social Responsibility Report 2008*, a CSR report for the entire district that provides detailed information on the contributions made by the district to tomorrow's global environment and their results, as well as future plans.



The Marunouchi Club for Global Sustainability



丸の内池袋環境
倶楽部

The Marunouchi Club for Global Sustainability is a "think and do tank" that aims to make the Otemachi, Marunouchi and Yurakucho district, one of the world's premier business centers, a sustainable eco-city that will lead Asia and the rest of the world. A loose-knit collective of environment-conscious people and companies, the club thinks and learns about promoting environmental and socially responsible activities as well as technology development, and then puts what it learns into action in the community. With



Ecozzeria as its hub, this interdisciplinary, organic network serves as the basis for efforts to translate environmental measures into reality in urban development, and supports efforts to protect the environment for everyone.



It is important to change people's thoughts and actions, by bringing people together to share their thoughts.

Naka Inoue

Publicity and PR, Environmental Events Director
Ecozzeria Association

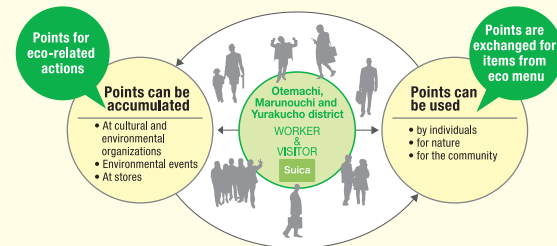
I plan and administer events at Ecozzeria and direct public relations. Changing people's thinking and actions is crucial to spurring environmental measures in the Otemachi, Marunouchi and Yurakucho district. The Morning Expo, in which people working in Marunouchi design their mornings, the Eco-kids Exploration Party for children on summer vacation, and the Water Sprinkling Project, which adopts Edo practices, are different in content, but they are all intended to invite the participation of as many people as possible and create opportunities for them to really wake up to environmental issues. The Otemachi Café, whose role ended in April 2008, and Ecozzeria are very well known among environmental activists, and are thriving forums for the exchange of information through communication with no lack of new ideas. I hope to involve artists and cultural figures active in fields other than the environment in the future, while creating a network among environmentally aware women and getting more information out to the public.

Education activities through environmental events

Otemachi, Marunouchi, Yurakucho Eco Points

People working and visiting this community help to create an eco-city

Otemachi, Marunouchi, Yurakucho Eco Points is a new system that started in the Otemachi, Marunouchi and Yurakucho district to promote the development of an eco-city. In this scheme to create an eco-city in a joint effort made by all those who visit or work in the area, points accumulate when the Suica rechargeable fare card is used at participating stores, institutions and events. The accumulated points can then be used for nature conservation activities and the community through an exchange menu. The participating organizations and point exchange menu will be expanded in the future with the aim of increasing the number of registrants.



Approximately 31,000 kWh in energy consumption for illumination changed into green energy

The illumination that beautifies the Marunouchi area delights the eye, but it consumes electricity and is one cause of global warming. For this reason, green electricity was used for approximately 31,000 kWh of the total electricity consumed in the events that took place during the period from November 16, 2007 to February 17, 2008, namely Marunouchi Illumination 2007, Shining City Tokyo: LIGHTOPIA 2007 and Harmonia 2007-2008: TIF Harmony of Illumination and Music. A green power certificate



Shining City Tokyo: LIGHTOPIA 2007
Approximately 6,700kWh

HARMONIA
Approximately 4,500kWh

Marunouchi Illumination 2007
Approximately 19,800kWh

Total of about 31,000kWh



▲ Solar version
PV Owner Network
Non-Profit Organization



▲ Wind power version
Energy Green, Inc.

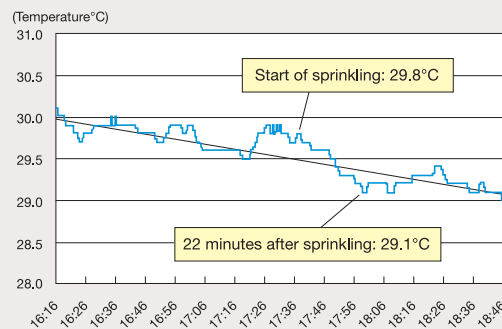
is issued with the purchase of the “environmental value” of power generated from natural energy sources such as solar, wind power, water power and biomass; the amount of electricity stated on the certificate is deemed to have been provided through natural energy sources. With their participation in the program to purchase green power certificates, the people who work and visit the district as well as the companies located here have succeeded in changing the power source used to light up the streets into green power from natural energy sources.

Water Sprinkling Project

Sprinkling water on pavement on hot summer days lowers the surface temperature by releasing heat through water vaporization, and can even lower the air's temperature. Differences in air temperature create a breeze, making the air feel cooler than the actual temperature. In the Water Sprinkling Project, anybody in the Otemachi, Marunouchi and Yurakucho district can join in and sprinkle water to lower the temperature, easing the heat island phenomenon specific to urban areas.



Temperature changes before and after water sprinkling event on Nakadori Road (August 1, 2007)



Eco-kids Exploration Party

A program offering real experiences to city children, representing the hopes of the next generation

Children living in urban areas who will be the leaders of the next generation are invited to participate in various activities in the Otemachi, Marunouchi and Yurakucho district, which has one of the highest densities of corporations in Japan. These include workshops on participating companies' environmental conservation projects and visits to companies taking on cutting-edge environmental projects and facilities that function harmoniously with the environment. Programs give real-life experiences to children, who enjoy themselves while learning about the heat island phenomenon confronting urban areas with large energy demands, global warming and resource recycling.

